TOWN OF ATHERTON
PLANNING COMMISSION APPLICATION

	TYPE OF APPLICATION	FEE
	Appeal	$814.79
	Special Structure Permit	$2,822.82
	Conditional Use Permit	$2,822.82
	Environmental Impact Report	Actual cost
	Final Parcel Map	$2,822.82
	General Plan Amendment	$5,428.50
X	Heritage Tree Removal Permit / TPZ Exception	~~$2,171.40~~ → $2,325.82
	Initial Review/Negative Declaration	$2,171.40
	Lot Line Adjustment	$1,628.55
	Lot Line Redesignation	$2,822.82
	School Master Plan	$814.79
	Tentative Parcel Map	$2,822.82
	Variance	$2,822.82
	Zoning Ordinance Amendment	$5,428.50

SITE ADDRESS: 173 Hawthorn Drive APN: 061-161-020

Provide a brief description of the proposed project: ADU encroachment in Tree Protection Zone, with mitigation from exploratory excavation/root location, and drilled pier/grade beam foundation solution.

PROPERTY OWNER:

Name: Rod & Joanne Sockolov
Mailing Address: 173 Hawthorn Dr., Atherton, CA 94207
Phone: 650-814-9323
Email: Rod.Sockolov@newfront.com
Signature: Rod Sockolov
DocuSigned by: 9B03B5A6FF6D4A1...

APPLICANT:

Name: Charles Blank
Mailing Address: 550 Stanyan St. #1
Phone: 415-271-4860
Email: cblank@cfbarch.com
Signature: C. F. Blank

FOR COMPLETION BY TOWN OF ATHERTON:

Amount Paid: $2,325.82 Received by: Helen Luo Date Submitted: 7/22/2022

Project #: HTR 22-00008

DATE: **PLANNING COMMISSION MEETING OF AUGUST 24, 2022**

TO: **THE PLANNING COMMISSION**

FROM: **STEPHANIE B. DAVIS, AICP, PRINCIPAL PLANNER**

SUBJECT: **REQUEST FOR TREE PROTECTION ZONE (TPZ) EXCEPTIONS AT 173 HAWTHORNE DRIVE (APN 061-161-020)**

RECOMMENDATION:

Staff recommends that the Planning Commission approve a Tree Protection Zone (TPZ) Exception to six times (6x) the trees diameter for four heritage trees: (1) Tree #108, a 22.6" inch deodar cedar tree, (2) Tree #110, a 39.5" coast redwood tree, (3) Tree #113, a 44" coast redwood tree, and (4) Tree #115, a 60" coast redwood tree, at 173 Hawthorne Drive in Atherton based on the following finding and for the reasons outlined in this report.

1. The requested TPZ exception would not be contrary to the purpose and intent of the Atherton General Plan.

   Basis for finding: The requested 6x TPZ exceptions for all four trees are found to result in a designated protection area sufficiently large enough to protect all trees and their roots from Disturbance and/or Damage, based upon the specific conditions the tree, the nature of the proposed future construction, and supporting arboricultural industry standards, as professionally opined by the Town Arborist. The request is found to meet the applicable criteria of the Town's adopted Heritage Tree Guidelines and Standards Document.

BACKGROUND:

The subject site at 173 Hawthorne Drive is 0.92 acre (40,320 square foot) interior lot located in the R1-A Zoning District and is surrounded on all sides by other low-density, single-family homes. The property contains an existing main residence, detached garage and swimming pool. The applicants have proposed plans that include the construction of a new, detached Accessory Dwelling Unit (ADU).

Associated with the proposed construction of a new detached ADU, a total of four trees are requesting TPZ exceptions less than the otherwise required 10 times (10x) the tree's diameter down to 6.0x. The scope of the requested TPZ exceptions less than 8x requires consideration by the Planning Commission in accordance with the Town's adopted *Heritage Tree Guidelines and Standards* ("Heritage Tree Guidelines") document.

ANALYSIS:

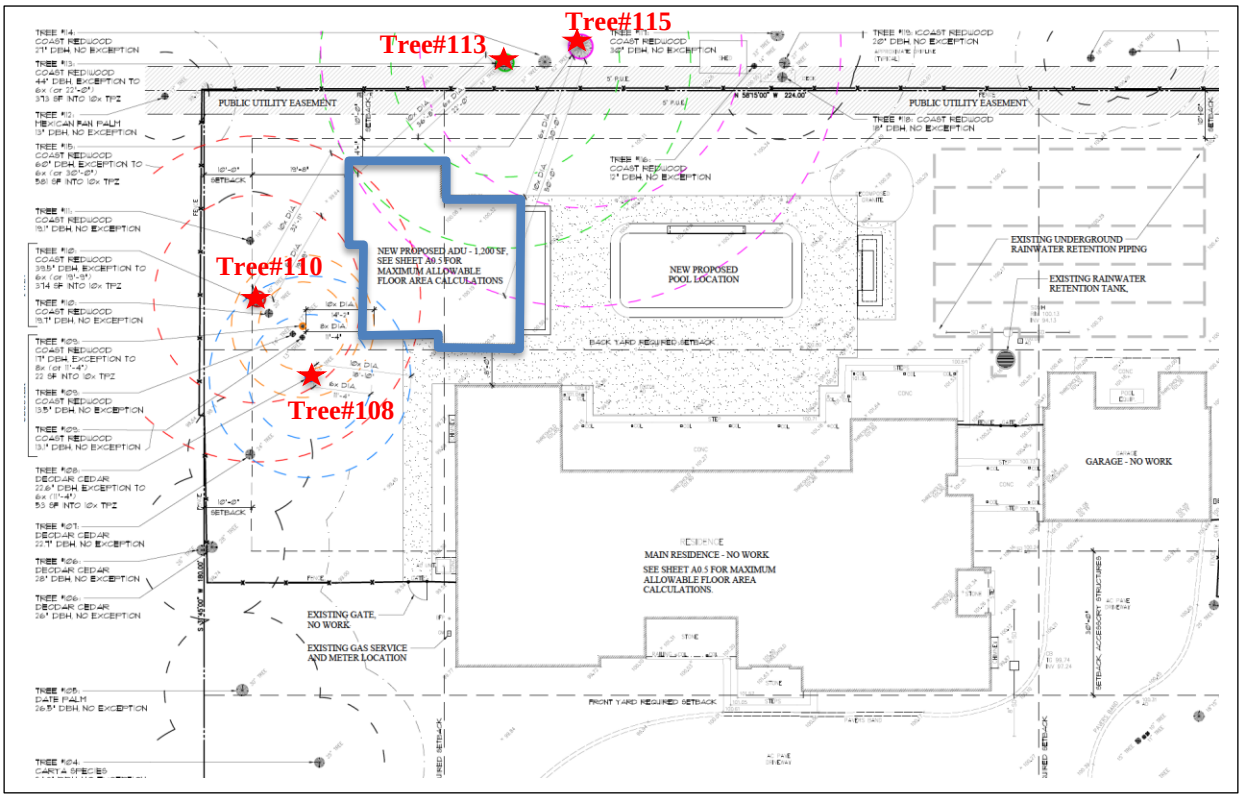
The Heritage Tree Ordinance Guidelines defines a Tree Protection Zone (TPZ) as, *"…the designated protection area sufficiently large enough to protect a Heritage tree and its roots from Disturbance and/or Damage."* The guidelines further specify the TPZ radius shall be 10 times (10x) the diameter at breast height. An exception request of a reduced TPZ down to 8x would be processed at the staff level by the Town Arborist. An exception request of an even further reduced TPZ is required to be considered by the Planning Commission.

Associated with the request to construct a new, detached ADU the applicant is requesting and has been approved for a staff-level (Town Arborist) TPZ exception down to 8x the trees diameter for Tree #109, a 17" coast redwood situated in the rear left side yard. Additionally, the applicant is further requesting a Planning Commission TPZ exception down to 6x the trees diameters for four heritage trees, two of which are located on the subject site and two of which are located on the neighboring property. Please see the summary below.

1. Tree #108, a 22.6" inch deodar cedar tree, situated in the rear left side yard.
2. Tree #110, a 39.5" coast redwood tree, situated in the rear left side yard.
3. Tree #113, a 44" coast redwood tree, situated in the rear yard of 99 Linden Avenue.
4. Tree #115, a 60" coast redwood tree, situated in the rear yard of 99 Linden Avenue.

See Figure 1 below. The blue outline indicates the proposed location of the new detached ADU. Trees #108, 110, 113 and 115 are marked with a red star.

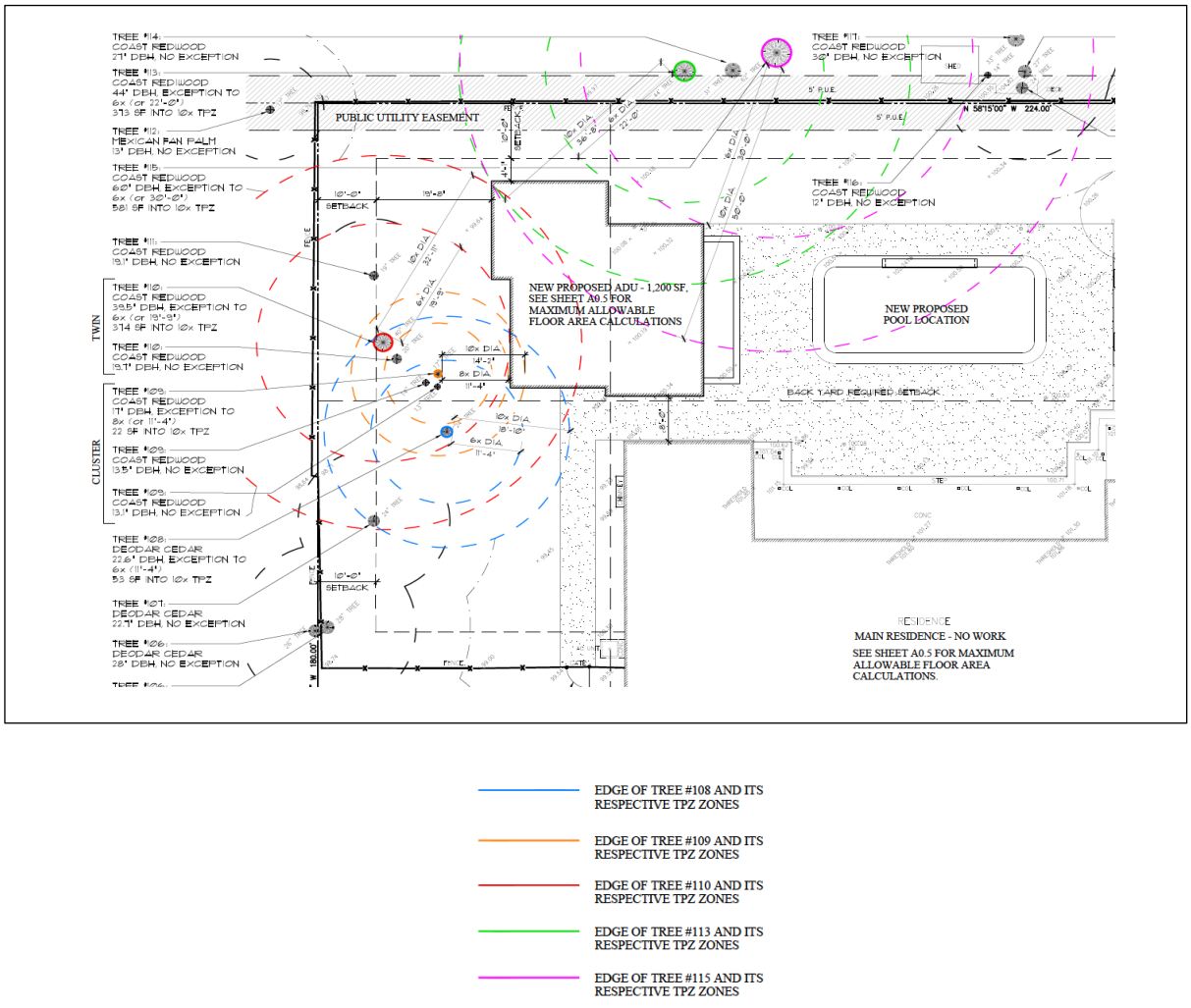
Figure 1: Existing & Proposed Conditions – Partial Site Plan



The applicant's note that while evaluating possible locations to situate a new detached ADU in the allowable rear half of the lot, opportunities were constrained by existing physical improvements, including a swimming pool, outdoor kitchen and large storm water retention system which occupies a large portion of the rear right yard area. The applicant's further note that the left rear yard area appeared the only other reasonable location on the lot to possibly situate an ADU, but that this portion of the lot is also encumbered by existing heritage trees both on the subject site and neighboring properties, and their associated TPZs. The applicants also retained the services of a Project Arborist in the early design stages to evaluate all heritage trees, TPZs and more detailed exploratory trenching to evaluate individual tree root systems. Combined with the applicant's goal to retain all heritage trees while at the same time avoiding any disturbance and/or damage to such trees, the proposed ADU location was developed for proposal. (See Attachment 3, Applicant's Letter of Request and Attachment 4, Proposed Plans).

See Figure 2 below, an excerpt of Sheet A0.2 from Attachment 4. The four (4) proposed trees requesting TPZ exceptions are noted.

Figure 2: Proposed TPZ Encroachment – Site Plan Excerpt



A Project Arborist report was prepared to evaluate any potential impacts to the various on-site and off-site heritage trees as a result of the proposed site improvements (Attachment 5). Please see the following summary of the Project Arborist's evaluation of each of the four (4) trees requesting Planning Commission TPZ Exceptions.

1. Tree #108, a 22.6" inch deodar cedar tree: fair health, fair/good structure, co-dominant leader, "B" disposition*, with a slight lean towards house, recommended pruning to remove weight from limbs and to remove dead wood.
2. Tree #110, a 39.5" coast redwood tree, fair health, fair/good structure, co-dominant leader, "B" disposition*, with a slight lean towards house, recommended pruning to remove weight from limbs and to remove dead wood.
3. Tree #113, a 44" coast redwood tree, fair health, fair/poor structure, neighbor's tree, co-dominant, "B" disposition*, recommended pruning to remove weight from limbs and to remove dead wood, recommends a steel cable(s) be installed to help support a weakly attached limb(s).
4. Tree #115, a 60" coast redwood tree, fair health, fair/poor structure, neighbor's tree, co-dominant, "B" disposition*, recommended pruning to remove weight from limbs and to remove dead wood, recommends a steel cable(s) be installed to help support a weakly attached limb(s).

**Disposition Rating Table*
A = Retain, condition warrants long-term preservation
B = Preservable, tree is a benefit and may be worthy of extensive effort or design accommodation.
C = May be preservable, but is not worthy of extensive effort or design accommodation

The Project Arborist notes that exploratory trenching was conducted to assess potential impacts to the protected trees in proximity to the proposed ADU location and that all significant roots were located anywhere from two inches to 2 feet below grade and that no other significant roots were found during the exploratory trenching operation. Additionally, combined with the proposed ADU construction design of a pier and grade beam system for the ADU to circumvent the significant roots and a series of other recommended mitigations to be met before and/or during construction, were able to support the proposed design and associated 6x TPZ exceptions for all four (4) trees. Such mitigations have been incorporated into Attachment 1 as recommended conditions of approval.

The Town Arborist has reviewed the Project Arborist's report and site plan diagrams prepared by the applicant showing the requested TPZ exceptions, all application materials, and prepared a memorandum (Attachment 2). The Town Arborist notes that the applicant did work previously work with the Town to come up with the least intrusive design and foundation, and due to the presence of several on-site and surrounding heritage trees to be preserved, this area of the property appears the only possible location for a detached ADU. She notes that both Deodar Cedar and Coastal Redwood trees are rated as having good or high tolerance to construction per industry standards and that the proposed pier and grade beam system construction proposed for the ADU in an attempt to circumvent the significant roots. And the proposed mitigation as recommended by the Project Arborist both before and during construction.

The Town Arborist opines that due to the construction tolerance of the trees, that no significant roots were found during exploratory trenching, the site conditions, the proposed foundation type and the neighbor's acknowledgement of the application, support can be given for the requested 6x TPZ exception for Tree #113 and #115. For Tree #108, she notes the impact into the 10x zone is very minimal at only 53 square feet and that the proposed pier and grade beam construction positioned where there are no significant roots allows for support of the requested 6x TPZ exception. Similarly for Tree, #110 the proposed grade beam and piers positioned where there are no significant roots allows for support of the requested 6x TPZ exception.

The Town Arborist concludes that she finds the request to meet the following listed criteria Section 2.2 B as below:

b. The probability of failure which is a function of heritage tree and site conditions such as, but not limited to, structural defects, presence of disease, species history, age or remaining life span, and varying weather conditions.

c. The number, species, size and location of existing trees in the area and the effect of the requested removal upon shade, noise buffers, protection from wind damage, air pollution, historic value, scenic beauty, health, safety and general welfare of the area and town as a whole.

The Town Arborist is recommending approval of the requested TPZ exception at the proposed 6x with recommended conditions, given the species high construction tolerance, some minimal amount of encroachment, and proposed construction type. As such, the application is found to meet the listed criteria in the Town's Heritage Tree Guidelines in order to support the requested exception.

Notice of this application was mailed to all property owners within 500 feet of the subject property. To-date, no public comment has been received. The applicants have conducted their own outreach as well to the neighboring property at 99 Linden Avenue, in which Trees #113 and #115 are located.

CONCLUSION:

The Town's Heritage Tree Preservation Standards and Specifications, implemented through the Municipal Code, allows the Planning Commission to consider requests for a Tree Protection Zone (TPZ) exception based on a series of specified criteria. The TPZ exception requests for the four (4) heritage trees; (1) Tree #108, a 22.6" inch deodar cedar tree, (2) Tree #110, a 39.5" coast redwood tree, (3) Tree #113, a 44" coast redwood tree, and (4) Tree #115, a 60" coast redwood tree, are found to have a designated protection area sufficiently large enough to protect both the trees and their roots from Disturbance and/or Damage combined with related mitigation, as supported by the Town Arborist.

ALTERNATIVES:

The Planning Commission could approve or modify the request to approve the requested TPZ exception.

FISCAL IMPACT:

All costs covering the processing of this application are paid for by the applicants.

ENVIRONMENTAL IMPACT:

The proposal has been determined to be exempt from the provisions of the California Environmental Quality Act (CEQA) to CEQA Section 15304, Minor Alterations to Land.

FORMAL MOTION:

I move that the Planning Commission find the Exception to the Tree Protection Zones (TPZs) for four heritage trees; (1) Tree #108, a 22.6" inch deodar cedar tree, (2) Tree #110, a 39.5" coast redwood tree, (3) Tree #113, a 44" coast redwood tree, and (4) Tree #115, a 60" coast redwood tree, to six times (6x) the trees diameter for all four (4) trees to allow for the construction of a new detached Accessory Dwelling Unit (ADU) at 173 Hawthorne Drive would not be contrary to the purpose and intent of the General Plan, for the reasons outlined in the Staff Report, and that the Commission approve the TPZ exception subject to the conditions as listed in the draft TPZ Exception Certificate.

Stephanie B. Davis, AICP, Principal Planner

Attachments:
1. Draft Tree Protection Zone (TPZ) Exception Certificate
2. Town Arborist Memo, dated August 9, 2022
3. Applicant's Letter of Request, dated July 22, 2022
4. Proposed Plans
5. Project Arborist Report, prepared by Urban Tree Management, July 6, 2022

Town of Atherton
Planning Department
80 Fair Oaks Lane
Atherton, California 94027
Phone: (650) 752-0544
Fax: (650) 614-1224

TOWN OF ATHERTON
PLANNING COMMISSION
***DRAFT* TREE PROTECTION ZONE (TPZ) EXCEPTION PERMIT**

THIS IS TO CERTIFY THAT the Atherton Planning Commission at a regular meeting thereof held on Wednesday, August 24, 2022 did grant a Tree Protection Zone (TPZ) Exception Permit to allow for four heritage trees; (1) Tree #108, a 22.6" inch deodar cedar tree, (2) Tree #110, a 39.5" coast redwood tree, (3) Tree #113, a 44" coast redwood tree, and (4) Tree #115, a 60" coast redwood tree to six times (6x) TPZ to allow for the construction of a proposed detached Accessory Dwelling Unit (ADU) to Charles Blank, applicant on behalf of property owners Rod and Joanne Sockolov, pursuant to Atherton Municipal Code Section 8.10, at 173 Hawthorne Drive (Assessor's Parcel Number 061-161- 020). The Permit was approved subject to the following conditions:

1. Construction shall be in strict compliance with the plans prepared by Charles Blank Architecture, as attached to the staff report, and as reviewed by the Planning Commission, on August 24, 2022. Any changes determined to be substantive shall require re-review by the Planning Commission.

2. As part of the plans submitted to the Building Department, all recommendations and mitigations as included in the project arborist report prepared by Urban Tree Management, dated July 6, 2022, shall also be carried out to the satisfaction of the Town Arborist.

3. As part of the plans submitted to the Building Department, all recommendations and mitigations as included in the Town Arborist's Memo, dated August 8, 2022, and as included as an attachment to the August 24, 2022 Planning Commission staff report, shall also be carried out to the satisfaction of the Town Arborist.

4. Any other mitigation measures as may be applicable per the Town's adopted Tree Preservations Guidelines Standards and Specifications document shall be met, to the satisfaction of the Town Arborist.

5. It is unlawful for any person to damage or harm a HERITAGE TREE by any means whatsoever, including, and without limitation, vehicles, machinery, or building supplies or material (including fluids) during any construction or renovation of structures on the parcel.

6. This and all other present and future improvements to the property shall comply with R-1A zoning provisions and other applicable ordinances.

7. Applicant shall defend, indemnify, and hold harmless the Town of Atherton and its agents, officers and employees from any claim, action or proceeding against the Town, or its agents, officers and employees to attach, set aside, void, or annul, an approval of the Planning Commission, or City Council concerning this project.

_____

Lisa Costa Sanders
Town Planner

Effective Date: _____, 2022
Atherton, CA

Memo

To: The Atherton Planning Commission

From: Sally D Bentz, Town Arborist

CC: Stephanie B Davis, Principal Planner

Date: 8/9/22

Re: Tree Protection Zone (TPZ) Exceptions – 173 Hawthorne Drive

I have reviewed the application at 173 Hawthorne Drive and offer the following observations and recommendation for your review:

The applicant hired Urban Tree Management and submitted a report on July 6th, 2022.

#108 – Deodar Cedar – 22.6"dbh – Fair health, slight lean
#110- Coast Redwood 39.5" dbh Fair with codominant
#113- Coast Redwood – est 44" dbh neighbor's tree- Fair
#115- Coast Redwood – est 60"dbh neighbor's tree – Fair

Exploratory trenching was done on both sides of the proposed ADU and no roots were found near tree #113 and #115. Roots in the size of 1" to 4" were found near the proposed ADU by tree #108 and #110.

The applicant wishes to have the following TPZ exceptions for a proposed ADU:

Tag #	Common Name	DBH	Lot Location	TPZ Exception Requested	ADU's encroachment into 10x TPZ
108	Deodar cedar	22.6″	north corner	6x (or 11′-4″)	53 SF
109	Coast redwood	17″ *	north corner	8x (or 11′-4″)	22 SF
110	Coast redwood	39.5″ **	north corner	6x (or 19′-9″)	374 SF
113	Coast redwood	44″	neighbor's Lot	6x (or 22′-0″)	373 SF
115	Coast redwood	60″	neighbor's Lot	6x (or 30′-0″)	581 SF

If the applicant applies, I can allow the staff exception for #109 at 8x.

Deodar Cedar and Coastal Redwood are rated as having good or high tolerance to construction.

Table 1. Guidelines for determining tree protection zones of healthy, structurally sound trees (adapted from Matheny and Clark, 1998 and the British Standards Institute).

Species Tolerance to Construction Damage	Relative Tree Age	Distance from Trunk to TPZ Boundary		
		in multiples of Trunk Dia.	in feet per inch of Trunk Dia.	in meters per cm of Trunk Dia.
High	Young	6	0.50	0.06
	Mature	8	0.75	0.09
	Overmature	12	1.00	0.12
Medium	Young	8	0.75	0.09
	Mature	12	1.00	0.12
	Overmature	15	1.25	0.15
Low	Young	12	1.00	0.12
	Mature	15	1.25	0.15
	Overmature	18	1.50	0.18

The applicant has stated they will use a pier and grade beam system for the ADU to circumvent the significant roots in the property's Northwest corner. During construction, no roots greater than two (2") inches in diameter will be cut. Great care shall be taken to avoid damaging the significant roots while installing the ADU foundation.

The applicant states that utilizing continuous shallow concrete grade beams resting on compacted earth for portions of the ADU's foundation is an industry standard. However, those sections particularly identified by the Project Arborist where larger roots were found should offer a lighter grade beam foundation design approach. Drilled piers strategically aimed at locations between tree roots will anchor the ADU's structure. Concrete grade beams bearing on the concrete piers can be partially raised or fully "up-turned" with the bottom of the up-turned beams crossing over existing root structures by 6" or more. Finally, instead of shallow concrete grade beams bearing on unpredictable soil to transfer gravity loads, drilled piers can extend downward to a more competent bearing layer of gravel.

They stated that all trenching inside 10x the DBH shall be dug by hand per the project arborist recommendations. Per the Project Arborist recommendations, no existing tree roots 2" or greater are to be cut. The services of the Project Arborist will be ongoing through construction, and for a period to follow, to help ensure all Heritage Trees are protected as recommended by the Projects Arborist's report.

Reviewing neighbor's tree #113 and #115 I saw that the applicant received verbal okay for the project from the neighbor. It was also found that no significant roots were found in the exploratory trenches for these two trees. I feel because of the tolerance, that no significant roots were found, the site conditions, foundation type and neighbor's okay I can recommend the 6x TPZ exception for tree #113 and #115.

For tree #108 the impact into the 10x zone is only 53 square feet. This is a very minimal amount. However, roots were found so the pier and grade beam are necessary. A lighter grade beam and piers positioned where there are no significant roots will be required for me to recommend the 6x TPZ.

For tree #110 roots were found so the pier and grade beam are necessary. A lighter grade beam and piers positioned where there are no significant roots will be required for me to recommend the 6x TPZ
The applicant worked with the Town to come up with a less intrusive design and foundation. The site does have many heritage trees and constraints, and this is the only location for an ADU.

In summary I can approve the applicants request for:

#108 – Deodar Cedar – 6x
#110- Coast Redwood – 6x
#113- Coast Redwood – 6x
#115- Coast Redwood – 6x

A certified arborist must be on site when foundation work is being done and shown on the monthly arborist report. No roots over 2" can be cut and the tree will need to be protected with metal fencing. The cut can be no further than the above exceptions.

I can recommend the above exceptions based on the criteria below from
Section 2.2 B. 2.

The probability of failure which is a function of heritage tree and site conditions such as, but not limited to, structural defects, presence of disease, species history, age or remaining life span, and varying weather conditions.

The number, species, size and location of existing trees in the area and the effect of the requested removal upon shade, noise buffers, protection from wind damage, air pollution, historic value, scenic beauty, health, safety and general welfare of the area and town as a whole;

The information included in this memo is believed to be true and based on sound arboricultural principles and practices.

Sincerely,

Sally Bentz
Town Arborist
Certified Arborist WE#9238AM

Charles Blank | Architecture | Design
550 Stanyan Street #1, San Francisco, CA 94117

July 22, 2022

Attn: Building Department
80 Fair Oaks Lane
Atherton, CA 94027

RE: Rod and Joann Sockolov Residence
Proposed ADU Design and Construction
173 Hawthorne Drive, Atherton, CA

Planning Commission Application and
TPZ Exception Staff Exception Request Application

To Who it may concern:

My team and I are anxiously awaiting an opportunity to collaborate with the Atherton Planning Commission and the Town Arborist. Our proposed ADU siting coupled with a Staff Exception request and a more sensitive/flexible structural system is submitted for the Planning Commission's consideration. Our team has pushed, pulled, tweaked, and then repeated this sequence and now we believe there is a design worth sharing.

Our team has been working hard seeking a balance between nature's most majestic life forms and the constraints of a man-made domicile. Proposing that both can exist in harmony, we set out to define typical constraints for a residential ADU while meeting with the Town Arborist and a Project Arborist, Urban Tree Management, Inc. Attached to this cover letter are the following exhibits:

- Project Narrative that defines the proposed ADU design, its constraints, construction impact on existing Heritage Trees, and proposed mitigation to reduce the risk of damage to selected Heritage trees;
- List of Subject Heritage Trees in order by number (table included in Narrative);
- Arborist Report produced by the Project Arborist, Urban Tree Management, Inc. with tree list, photos, additional written narrative, etc.;
- Mitigation Proposals to further consideration (included in Narrative);
- Full-size Concept Drawings that begin defining the ADU, its location on the site, Lot data, other existing buildings and hardscapes, Heritage Tree locations per Project Arborist, and any other accessory structures, etc.

Should you have any additional concerns, please call me at (415) 271-4860 or email at cblank@cfbarch.com.

Sincerely,

C. F. Blank

Charles F. Blank, AIA
CA License No. 27353

PROJECT NARRATIVE, 173 HAWTHORN

Planning Commission Application for Heritage Tree Protection Zone Staff Exception Request
July 22, 2022

ADU Considerations

About mid-April this year, the Owners of 173 Hawthorn, Atherton, began to consider adding an Accessory Dwelling Unit (ADU) in the north corner of their one-acre parcel/Lot. The design and planning process began with a research phase and over-the-counter meetings with Atherton's Building Department and Planning Department. An ADU is an accessory building and thus cannot be located in the front portion of the Lot. Please refer to the full-size exhibit 24" x 36" drawings attached for reference at the end of this Exception Request package.

Moving on to the rear of the Lot, there is an existing swimming pool, outdoor grill/kitchen, and a storm-water retention system. The storm-water retention field is an array of sub-surface perforated piping that drains to a cistern-like structure. The piping array covers most of the east corner of the lot. Please refer to the full-size exhibit 24" x 36" drawings attached for reference at the end of this Exception Request package.

Given the lack of un-used open areas, the Owner elected to pursue the north corner of the Lot as the location for the ADU. Also, this location is home to half a dozen Heritage Trees.

When complete, the proposed ADU will be inhabited by family members. It is the Owner's preference to have the ADU gross area maximized so long as the site location of the ADU, its size and proximity to existing heritage trees do not conflict with one another. Here is where problems are discovered. As one reviews Town of Atherton Heritage Tree Standards and Specifications, Section 2.2 B, there are a series of findings that apply.

Due to the number, size, and location of existing heritage trees inside the Lot and on adjacent properties, the proposed ADU location and corresponding TPZ exception requests are the only reasonable option given to the Owner by the existing conditions of the property, while preserving the natural beauty, safety and general health of the property and neighborhood. A major goal of this project is to retain all Heritage Trees with a strong program involving hand excavation, avoidance of cutting ANY existing roots, and ongoing site reviews of each impacted tree's status through the life of the project.

Heritage Tree Considerations

Around mid-May this year, schematic layouts were developed for the ADU, all of which had the ADU's main entrance facing the existing pool. Measurements were taken with standard tape measurers. As the timeline progressed, sub-consultants were added to the project. First, a surveyor for current topography and tree locations, and of course, better measurements. Next, arborists were interviewed. The arborists were quick to point out the distances required for protecting the roots of Heritage trees at the north corner of the Lot. Additionally, some Heritage trees were on the neighbor's parcel to the east. Near the beginning of June, the Owners added a Project Arborist, Urban Tree Management, Inc. for a complete survey of existing trees on the Lot. The Project Arborist produced a thorough report which is attached to this Narrative.

Though many of the existing trees were not in conflict with the available ADU area, some of the trees with very large diameters caught the team's attention right away. Below is a short list of tagged trees with root systems and large tree protection zones that will require some form of mitigation:

Tag #	Common Name	DBH	Lot Location	TPZ Exception Requested	ADU's encroachment into 10x TPZ
108	Deodar cedar	22.6"	north corner	6x (or 11'-4")	53 SF
109	Coast redwood	17" *	north corner	8x (or 11'-4")	22 SF
110	Coast redwood	39.5" **	north corner	6x (or 19'-9")	374 SF
113	Coast redwood	44"	neighbor's Lot	6x (or 22'-0")	373 SF
115	Coast redwood	60"	neighbor's Lot	6x (or 30'-0")	581 SF

* largest within cluster, ** largest twin

Exploratory trenching was performed. Trenching at trees 108, 109 and 110 uncovered roots exceeding 2" in diameter, and Trees 113 and 115 did not uncover any roots. The Arborist Report offers a wider response and more in-depth presentation complete with photos and partial plans where proposed ADU is superimposed on north corner of Lot.

Root Damage Mitigation

Exploratory trenching mentioned earlier in this Narrative will be of great benefit moving forward. This trenching will provide more information for inclusion into the design of the foundation elements and their locations. It is recommended to continue with all exploratory trenching to be done by hand. Since the trees and their root structures cannot be moved or disturbed, proposed ADU foundations should be flexible and installed with care.

Utilizing continuous shallow concrete grade beams resting on compacted earth for portions of the ADU's foundation is an industry standard. However, those sections particularly identified by the Project Arborist (see photos) where larger roots were found should offer a lighter grade beam foundation design approach. Drilled piers strategically aimed at locations between tree roots will anchor the ADU's structure. Concrete grade beams bearing on the concrete piers can be partially raised or fully "up-turned" with the bottom of the up-turned beams crossing over existing root structures by 6" or more. Finally, instead of shallow concrete grade beams bearing on unpredictable soil to transfer gravity loads, drilled piers can extend downward to a more competent bearing layer of gravel.

All future trenching shall be located a minimum of 10x the DBH unless specifically approved by project arborist. All trenching inside 10x the DBH shall be dug by hand per the project arborist recommendations. Per the Project Arborist recommendations, no existing tree roots 2" or greater are to be cut. The services of the Project Arborist will be ongoing through construction, and for a period to follow, in order to help ensure all Heritage Trees are protected as recommended by the Projects Arborist's report (see attached).

Miscellaneous

In addition to neighborhood notification by the Atherton Planning Commission, the Owner of the Lot with its proposed ADU location is currently engaged in their own in-person communication outreach. Dialog with the neighbor to the rear of the Lot began last month and continues through today (see attached e-mail at the end of this Section).

All site utilities are existing to remain. There is an existing utility easement the full length of the rear property line of the Lot. Letters from PG&E and California Water Company are expected by the Owner shortly.

At the time of distributing this narrative, the disposition of the existing pool is to shift the pool basin so that the pool itself is centered on the new ADU entrance to the north and the main house to the west. This pool relocation concept will position the pool further away from existing Heritage trees. At this time, the moving/reconstruction of the pool will likely be a separate building permit from the ADU building permit.

The Project Arborist's report has addressed his recommended Tree Protection Plan, see page 11 of the Arborist's Report.

The full-size 24" x 36" drawings attached as part of the Staff Exception review contain Sheets 5269-TOPT, A0.1, A0.2, A0.3, A0.4, A0.5, A2.0 and A2.1.

cblank cfbarch.com

From: Rod Sockolov <Rod.Sockolov@newfront.com>
Sent: Thursday, August 04, 2022 8:09 PM
To: cblank cfbarch.com
Cc: Jo-Ann Sockolov
Subject: Re: Heritage Tree Preservation
Attachments: image003.png; first review comments2.pdf; 3-173 Hawthorne Dr, Atherton, Arborist Report.pdf

Hi Charles,

With regard to item 3 in the review comments, we can confirm a discussion took place with our neighbor regarding our intent to build an ADU. Due to the proximity of the ADU to heritage trees in our neighbors rear years, we reviewed this with our neighbors and obtained approval for our arborist to enter their property to survey the trees.

Additionally, I stopped by our neighbor's home this evening to get written acknowledgment and leaned they are out of town for a week. I spoke to their adult son and was was able to get verbal acknowledgment from the homeowners but won't have written acknowledgment until they return from their travels next week.

Thank you,

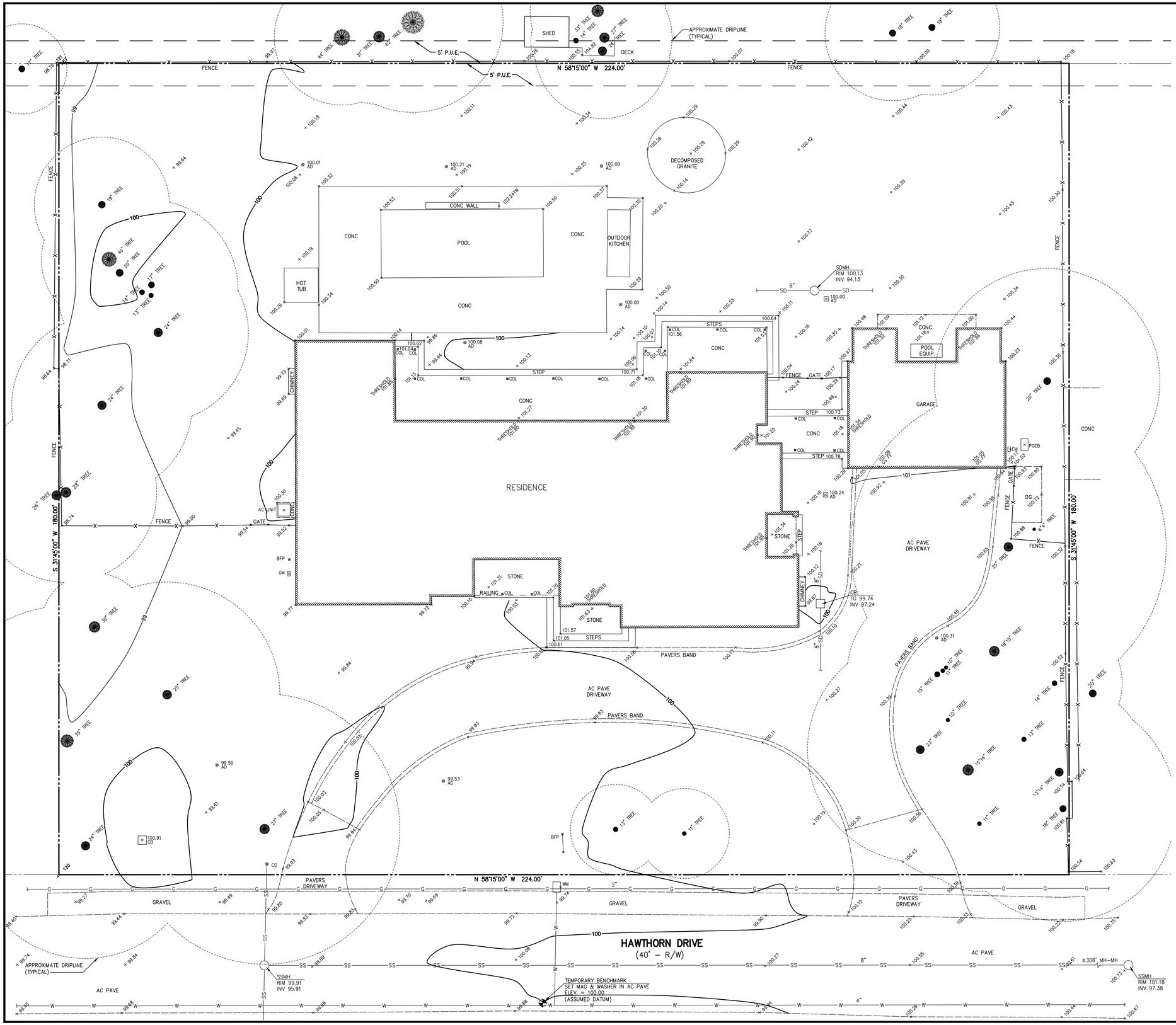
Rod

Rod Sockolov
EVP and P&C Practice Leader
650) 488-8517 wk
(650) 814-9323 cell (preferred)
Rod.Sockolov@Newfront.com

Sent from my iPhone

> On Aug 3, 2022, at 4:01 PM, cblank cfbarch.com <cblank@cfbarch.com> wrote:
>
> [EXTERNAL]
>
> Rod/Jo-ann, Atherton plan-check comments + arborist reports. Arborist report, hand dug trenches, no tree roots from neighbor's property discovered.
>
> PS: we need to return acknowledgement from your neighbor CB
>
> **Charles F. Blank, AIA**

ATTACHMENT 4



VICINITY MAP

(NOT TO SCALE)

LEGEND

———	PROPERTY LINE
AC PAVE	ASPHALT CONCRETE PAVEMENT
AD	AREA DRAIN
BFP	BACKFLOW PREVENTER
CB	CATCH BASIN
CO	CLEANOUT
COL	COLUMN
CONC	CONCRETE
EM	ELECTRIC METER
EP	EDGE OF PAVEMENT
FH	FIRE HYDRANT
GM	GAS METER
GS FF	GARAGE SLAB FINISH FLOOR
INV	INVERT
PGEB	PG&E BOX
P.U.E.	PUBLIC UTILITY EASEMENT
SDMH	STORM DRAIN MANHOLE
SSMH	SANITARY SEWER MANHOLE
TG	TOP OF GRATE
TW	TOP OF WALL
WM	WATER METER
12" TREE	TREE W/ SIZE
X—X	FENCE
G	GAS LINE
SS	SANITARY SEWER LINE
SD	STORM DRAIN LINE
W	WATER LINE

LOT AREA:

= 40,320 SQ. FT. ±
= 0.926 ACRES ±

UTILITY NOTE:

THE UTILITIES EXISTING ON THE SURFACE AND SHOWN ON THIS DRAWING HAVE BEEN LOCATED BY FIELD SURVEY. ALL UNDERGROUND UTILITIES SHOWN ON THIS DRAWING ARE FROM RECORDS OF THE VARIOUS UTILITY COMPANIES AND THE SURVEYOR/ENGINEER DOES NOT ASSUME RESPONSIBILITY FOR THEIR COMPLETENESS, INDICATED LOCATION, OR SIZE. RECORD UTILITY LOCATION SHOULD BE CONFIRMED BY EXPOSING THE UTILITY.

EASEMENT NOTE:

EASEMENTS SHOWN ARE PER 24 MAPS 71–72 AND 21 MAPS 37–39, OTHER EASEMENTS, IF ANY, ARE NOT INDICATED HEREON.

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

REV.	DESCRIPTION	BY:	DATE:

LICENSED LAND SURVEYOR
DANIEL G. MacLEOD
No. 5304
STATE OF CALIFORNIA

MacLEOD AND ASSOCIATES
CIVIL ENGINEERING • LAND SURVEYING
965 CENTER STREET • SAN CARLOS • CA 94070 • (650) 593-8580

PREPARED FOR:
CHARLES BLANK

TOPOGRAPHIC SURVEY PLAN
173 HAWTHORN DRIVE
A.P.N. 061-161-020
LOT 11, BLOCK 7, 24 MAPS 71-72
ATHERTON SAN MATEO COUNTY CALIFORNIA

DRAWN BY:	MDL
DESIGNED BY:	---
CHECKED BY:	DGM
SCALE:	1"=10'
DATE:	06-06-22
DRAWING NO.	5269-TOPO
SHEET	1 OF 1

PUBLIC UTILITY EASEMENT

5' P.U.E.

N 58°15'00" W 224.00'

APPROXIMATE DRIPLINE (TYPICAL)

SHED

DECK

FENCE

DECOMPOSED GRANITE

CONC WALL

POOL

EXISTING POOL LOCATION

CONC

OUTDOOR KITCHEN

HOT TUB

BACK YARD REQUIRED SETBACK

EXISTING UNDERGROUND RAINWATER RETENTION PIPING

SDMH
RIM 100.13
INV 94.13

EXISTING RAINWATER RETENTION TANK, NO WORK

POOL EQUIP.

GARAGE

GARAGE - NO WORK

(E) PG&E SERVICE

RESIDENCE

MAIN RESIDENCE - NO WORK

SEE SHEET A0.5 FOR MAXIMUM ALLOWABLE FLOOR AREA CALCULATIONS.

STEPS

STEP

STONE

RAILING

AC PAVE DRIVEWAY

PAVERS BAND

EXISTING GATE, NO WORK

EXISTING GAS SERVICE AND METER LOCATION

AC UNIT

S 31°45'00" W 180.00'

FRONT YARD REQUIRED SETBACK

SIDE YARD REQUIRED SETBACK

SIDE YARD REQUIRED SETBACK

N 58°15'00" W 224.00'

PAVERS DRIVEWAY

GRAVEL

HAWTHORN DRIVE
(40' – R/W)

APPROXIMATE DRIPLINE (TYPICAL)

AC PAVE

SSMH
RIM 99.91
INV 95.91

TEMPORARY BENCHMARK
SET MAG & WASHER IN AC PAVE
ELEV. = 100.00
(ASSUMED DATUM)

±306' MH–MH

SSMH
RIM 101.18
INV 97.38

CB
TG 99.74
INV 97.24

NORTH

1" = 10'

1 A0.1 OVERALL EXISTING SITE PLAN

INDEX OF DRAWINGS

PROJECT TEAM

BUILDING OWNER:
ROD AND JOANN SOCKOLOV
173 HAWTHORNE DRIVE
ATHERTON, CA 94027

ARCHITECT:
CHARLES BLANK | ARCHITECTURE | DESIGN
550 STANYAN ST #1
SAN FRANCISCO, CA 94117
CONTACT: CHARLES BLANK
415-271-4860

CERTIFIED ARBORIST:
URBAN TREE MANAGEMENT
P.O. BOX 971
LOS GATOS, CA 95031
MICHAEL YOUNG
650-321-0202
408-399-8063 FAX

CIVIL AND STRUCTURAL ENGINEER:
HOHBACH-EWIN, INC.
909 MONTGOMERY STREET, SUITE 260
SANFRANCISCO, CA 94133
ANDREW E. ARNOLD, P.E.
415-786-9622

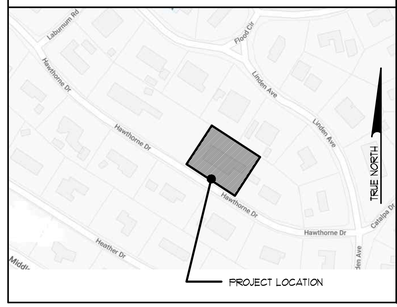
SURVEYOR:
McLEOD AND ASSOCIATES
965 CENTER STREET,
SAN CARLOS, CA 94070
DANIEL McLEOD
650-593-8580

SOILS ENGINEER:
ROMIG ENGINEERING, INC.
1390 EL MACIMNO REAL, 2ND FL.
SAN CARLOS, CA 94070
WILLIAM CLARK
650-591-5224

PROJECT INFORMATION

PROJECT LOCATION:	173 HAWTHORNE DRIVE ATHERTON, CA
ASSESSOR'S PARCEL:	BLOCK 7, LOT 11, APN #061-161-020
SCOPE OF WORK:	NEW ACCESSORY DWELLING UNIT
APPLICABLE CODES:	2019 CALIFORNIA BUILDING CODE 2021 TOWN OF ATHERTON MUNICIPAL CODE
GENERAL BUILDING DESCRIPTION:	ZONING DISTRICT: R-1A OCCUPANCY CLASSIFICATION: R-3 NUMBER OF STORIES: 1 EXISTING USE: RESIDENCE PROPOSED USE: RESIDENCE TYPE OF CONSTRUCTION: TYPE 5, NR
ALTERATION AREA:	1,200 GROSS SF

LOCATION MAP



Charles Blank | Architecture | Design
550 Stanyan Street #1, San Francisco, CA 94117

LICENSED ARCHITECT
CHARLES F. BLANK
C 27353
REN. 02/23
STATE OF CALIFORNIA

SOCKOLOV RESIDENCE
173 HAWTHORNE DRIVE
ATHERTON, CA

TPZ APPLICATION 7/22/22

A0.1

TREE #114:
COAST REDWOOD
27" DBH, NO EXCEPTION

TREE #113:
COAST REDWOOD
44" DBH, EXCEPTION TO
6x (or 22'-0")
373 SF INTO 10x TPZ

TREE #112:
MEXICAN FAN PALM
13" DBH, NO EXCEPTION

TREE #115:
COAST REDWOOD
60" DBH, EXCEPTION TO
6x (or 30'-0")
581 SF INTO 10x TPZ

TREE #111:
COAST REDWOOD
19.1" DBH, NO EXCEPTION

TWIN

TREE #110:
COAST REDWOOD
39.5" DBH, EXCEPTION TO
6x (or 18'-9")
374 SF INTO 10x TPZ

TREE #110:
COAST REDWOOD
19.7" DBH, NO EXCEPTION

CLUSTER

TREE #109:
COAST REDWOOD
17" DBH, EXCEPTION TO
8x (or 11'-4")
22 SF INTO 10x TPZ

TREE #109:
COAST REDWOOD
13.5" DBH, NO EXCEPTION

TREE #109:
COAST REDWOOD
13.1" DBH, NO EXCEPTION

TREE #108:
DEODAR CEDAR
22.6" DBH, EXCEPTION TO
6x (11'-4")
53 SF INTO 10x TPZ

TREE #107:
DEODAR CEDAR
22.7" DBH, NO EXCEPTION

TREE #106:
DEODAR CEDAR
28" DBH, NO EXCEPTION

TREE #106:
DEODAR CEDAR
26" DBH, NO EXCEPTION

TREE #105:
DATE PALM
26.5" DBH, NO EXCEPTION

TREE #104:
CARYA SPECIES
24.8" DBH, NO EXCEPTION

TREE #103:
COAST LIVE OAK
32.8" DBH, NO EXCEPTION

TREE #101:
COAST LIVE OAK
26.8" DBH, NO EXCEPTION

TREE #102:
COAST LIVE OAK
24.6" DBH, NO EXCEPTION

TREE #117:
COAST REDWOOD
30" DBH, NO EXCEPTION

TREE #119: COAST REDWOOD
20" DBH, NO EXCEPTION

TREE #120: BIRCH SPECIES
16" DBH, NO EXCEPTION

TREE #121: BIRCH SPECIES
12" DBH, NO EXCEPTION

TREE #118: COAST REDWOOD
18" DBH, NO EXCEPTION

TREE #116:
COAST REDWOOD
12" DBH, NO EXCEPTION

PUBLIC UTILITY EASEMENT

5' P.U.E.

N 58°15'00" W 224.00'

S 31°45'00" W 180.00'

10'-0" SETBACK

NEW PROPOSED ADU - 1,200 SF,
SEE SHEET A0.5 FOR
MAXIMUM ALLOWABLE
FLOOR AREA CALCULATIONS

NEW PROPOSED
POOL LOCATION

BACK YARD REQUIRED SETBACK

FRONT YARD REQUIRED SETBACK

SIDE YARD REQUIRED SETBACK

EXISTING UNDERGROUND
RAINWATER RETENTION PIPING

EXISTING RAINWATER
RETENTION TANK,

SDMH
RIM 100.13
INV 94.13

RESIDENCE

MAIN RESIDENCE - NO WORK

SEE SHEET A0.5 FOR MAXIMUM
ALLOWABLE FLOOR AREA
CALCULATIONS.

GARAGE

GARAGE - NO WORK

(E) PG&E
SERVICE

EXISTING GATE,
NO WORK

EXISTING GAS SERVICE
AND METER LOCATION

DECOMPOSED
GRANITE

SHED

DECK

POOL
EQUIP.

AC PAVE
DRIVEWAY

PAVERS
DRIVEWAY

PAVERS BAND

GRAVEL

CONC

STEPS

STEP

STONE

RAILING

FENCE

GATE

DG

HAWTHORN DRIVE
(40' – R/W)

SSMH
RIM 99.91
INV 95.91

SSMH
RIM 101.18
INV 97.38

±306' MH-MH

TEMPORARY BENCHMARK
SET MAG & WASHER IN AC PAVE
ELEV. = 100.00
(ASSUMED DATUM)

APPROXIMATE DRIPLINE
(TYPICAL)

NORTH

1" = 10'

1 A0.2 OVERALL TREE PROTECTION ZONE PLAN

GENERAL NOTES:

1. SEE ARBORIST REPORT FOR TREE SURVEY DATA, INCLUDING SPECIES, TRUNK DIAMETER, HEALTH, AND OTHER EXISTING SITE CONDITIONS.
2. DBH USED FOR TPZ DISTANCE CALCULATIONS ARE TAKEN FROM THE PROJECT ARBORIST'S TREE SURVEY DATA.
3. ALL TRENCHING SHALL BE LOCATED A MINIMUM DISTANCE OF 10x DBH FROM HERITAGE TREES UNLESS SPECIFICALLY APPROVED BY PROJECT ARBORIST. ALL TRENCHING INSIDE 10x DBH, SHALL BE DUG BY HAND.

SYMBOLS LEGEND

- EDGE OF TREE PROTECTION ZONE AT 6x THE DIAMETER AT BREAST HEIGHT (DBH)
- EDGE OF TREE PROTECTION ZONE AT 10x THE DIAMETER AT BREAST HEIGHT (DBH)
- FENCE
- PROPERTY LINE
- EDGE OF TREE #108 AND ITS RESPECTIVE TPZ ZONES
- EDGE OF TREE #109 AND ITS RESPECTIVE TPZ ZONES
- EDGE OF TREE #110 AND ITS RESPECTIVE TPZ ZONES
- EDGE OF TREE #113 AND ITS RESPECTIVE TPZ ZONES
- EDGE OF TREE #115 AND ITS RESPECTIVE TPZ ZONES

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550 Stanyan Street #1, San Francisco, CA 94117

LICENSED ARCHITECT
CHARLES F. BLANK
C 27353
REN. 02/23
STATE OF CALIFORNIA

SOCKOLOV RESIDENCE
173 HAWTHORNE DRIVE
ATHERTON, CA

TPZ APPLICATION 7/22/22

A0.2

TEMPORARY FENCE PROTECTION

NEW PROPOSED ADU - 1,200 SF, SEE SHEET A0.5 FOR MAXIMUM ALLOWABLE FLOOR AREA CALCULATIONS

EXISTING UNDERGROUND RAINWATER RETENTION PIPING

EXISTING RAINWATER RETENTION TANK,

RESIDENCE

MAIN RESIDENCE - NO WORK

SEE SHEET A0.5 FOR MAXIMUM ALLOWABLE FLOOR AREA CALCULATIONS.

GARAGE - NO WORK

(E) PG&E SERVICE

EXISTING GATE, NO WORK

EXISTING GAS SERVICE AND METER LOCATION

TEMPORARY FENCE PROTECTION

HAWTHORN DRIVE
(40' - R/W)

APPROXIMATE DRIPLINE (TYPICAL)

SSMH
RIM 99.91
INV 95.91

TEMPORARY BENCHMARK
SET MAG & WASHER IN AC PAVE
ELEV. = 100.00
(ASSUMED DATUM)

SSMH
RIM 101.18
INV 97.38

GENERAL NOTES:

1. SEE ARBORIST REPORT FOR TREE SURVEY DATA, INCLUDING SPECIES, TRUNK DIAMETER, HEALTH, AND OTHER EXISTING SITE CONDITIONS.
2. ALL TEMPORARY PROTECTIVE FENCING LOCATION TO BE APPROVED BY PROJECT'S ARBORIST PRIOR TO INSTALLATION.

SYMBOLS LEGEND

- EDGE OF TREE PROTECTION ZONE AT 6x THE DIAMETER AT BREAST HEIGHT (DBH)
- EDGE OF TREE PROTECTION ZONE AT 10x THE DIAMETER AT BREAST HEIGHT (DBH)
- FENCE
- PROPERTY LINE
- TEMPORARY FENCE PROTECTION AT 8x THE DIAMETER BREAST HEIGHT (DBH) MINIMUM,OR AS INSTRUCTED BY ARBORIST.

1 A0.3 OVERALL TREE PROTECTION PRESERVATION PLAN

1" = 10'

NORTH

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550 Stanyan Street #1, San Francisco, CA 94117

LICENSED ARCHITECT
CHARLES F. BLANK
C 27353
REN. 02/23
STATE OF CALIFORNIA

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173 HAWTHORNE DRIVE
ATHERTON, CA

TPZ APPLICATION 7/22/22

A0.3

APPENDIX I

TOWN OF ATHERTON
STANDARD TREE PROTECTION INSTRUCTIONS

Prior to Issuance of a Demolition, Grading or Building Permit, this sheet shall appear on grading, demolition and/or improvement plans. Subject to site specific changes as required.

I. Fencing - Protected Trees, Street Trees, or Designated Trees

Fenced enclosures shall be erected around trees to be protected to achieve three primary functions, 1) to keep the foliage canopy and branching structure clear from contact by equipment, materials and activities; 2) to preserve roots and soil conditions in an intact and noncompacted state and 3) to identify the **Tree Protection Zone (TPZ)** in which no soil disturbance is permitted and activities are restricted, unless otherwise approved.

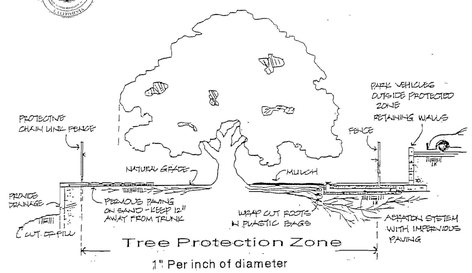
- Size, type and area to be fenced. *All trees to be preserved shall be protected with six-foot high* chain link fences. Fences are to be mounted on 2-inch diameter galvanized iron posts, driven into the ground to a depth of at least 2-feet at no more than 10-foot spacing. (See Appendix III)
- *The fences shall enclose the area of the* ***Tree Protection Zone (TPZ)*** *of the tree(s) to be saved* throughout the life of the project. Tree fencing shall be erected before demolition, grading or construction begins and remain in place until final inspection of the project, except for work specifically allowed in the **TPZ**, which requires approval by the Project Arborist or Town Arborist.
- 'Warning' Sign. A warning sign shall be prominently displayed on each fence at 20-foot intervals. (See Appendix IV)

II. During Construction

- No storage of material, topsoil, vehicles or equipment shall be permitted within the **TPZ**.
- *All neighbors' trees that overhang the project site and trees in the right-of-way shall be* protected from impact of any kind.
- The applicant shall be responsible for the repair or replacement of any publicly owned trees that are damaged during the course of construction, including those in the public right-of-way.
- The natural grade under and around the tree canopy area shall not be altered.

Appendix III

HERITAGE TREE PROTECTION



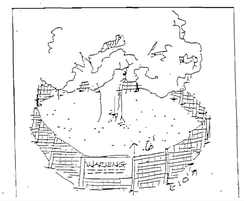
To minimize tree injury within the protected zone:

DO:

- Park and store materials outside the protective fencing
- Design retaining walls or major grade changes outside the dripline of trees
- Locate utilities, drains and other lines to avoid the protected zone
- Use directional boring or tunnel when installing utility lines
- Excavate by hand and cut roots cleanly with a sharp saw or shearers
- Use porous paving such as brick or stone on sand, or gravel. Use deck material on post and pier foundation
- If impervious paving cannot be avoided install aeration devices where located in the protected zone

DO NOT:

- Compact soil with heavy machinery, parked vehicles, equipment, materials
- Change soil level, such as raise or lower the natural grade with cut and/or fill
- Machine trench or excavate
- Rototill or mechanically till or disc
- Change drainage patterns
- Install impervious paving such as concrete or asphalt
- Remove natural leaf mulch
- Use spray irrigation or water-loving plants under native oaks



APPENDIX V

TREE NOTES

CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION

George Deukmejian, Governor, State of California
Richard J. Ernest, Director
Gordon K. Van Vleck, Secretary for Resources, The Resources Agency

NUMBER: 1 APRIL 1989

Protecting Trees From Construction Impacts

Sherburn R. Sanborn
Forester, Forest Pest Management Program, P.O. Box 820, Santa Rosa, CA 95402-0820

Why Should We Protect Trees

An important benefit of trees to society is their aesthetic value. Our parks, streets, homes and businesses would seem sterile without them. Trees also have monetary value. Residential and commercial properties with established trees have a greater market value than those without them. Trees provide other benefits which include: shade, noise abatement, wind breaks, erosion control and air pollution reduction. Like all green plants, trees convert carbon dioxide into oxygen during photosynthesis. This process contributes significantly to the recycling of the atmospheric gases we breath. Unfortunately trees are often irreversibly damaged or killed during construction and/or landscaping.

Understanding a Tree's Root System

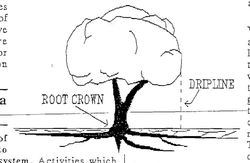
The primary impact of construction around a tree is to the unseen portion, the root system. Activities which disturb or alter the soil in which roots grow can injure or kill a tree. To reduce or prevent adverse impacts, we must understand how roots function and how they develop in the soil.

The greatest proportion (90%) of tree roots is found within the first three feet of soil. Roots function to support and anchor the tree. In addition, specialized (absorbing) roots function to exchange gases and to absorb water and minerals. Most absorbing roots are found in the first 8-12 inches of soil where water and oxygen can readily penetrate. Roots require both water and oxygen to grow and function. A network of supporting roots and absorbing roots grows well beyond the trunk. Depending on soil conditions they may extend two to three times the radius of the crown.

The roots of most tree species are associated with beneficial fungi called mycorrhizae. These fungi increase the roots ability to absorb water and minerals. Soil disturbance during construction can permanently disrupt this association.

How Construction Affects Roots

By understanding where roots grow and how they function, we can begin to see how construction activities such as trenching, slope cuts, soil compaction, soil grade changes and paving can affect roots.



When trenching for utilities and foundations or where grade lowering is done close to a tree, there is a likelihood that roots will be cut. The closer the trench is to the trunk the greater the damage. Each root that is cut reduces the tree's capacity to supply water and nutrients to the leaves. Trenching within just a few feet of a trunk can reduce the functional root system by as much as 50%.

Soil is compacted during construction by heavy equipment which squeezes out the air spaces making it more dense and stable. Unfortunately, this process greatly reduces the infiltration of water and oxygen into the soil. As a result roots cease to function and eventually die. In addition, root penetration is decreased.

Soil grade changes alter the natural soil level around a tree. The addition of fill soil in particular, can have an effect similar to soil compaction. The depth and porosity of the fill soil are the most important factors affecting the tree. If the depth is significant or the porosity is low, root death can occur. For some tree species, a grade change of two inches can be significant. Soil fill that is compacted or has lower porosity than the native soil will restrict root activity.

If roots cannot develop or grow into the fill, recovery by the tree after construction may be impaired or prevented.

Fill soil around the root collar (the flared part of the trunk at or just above soil grade) and trunk will result in death and decay of the bark tissue. This can cause the death of all or part of the root system including the supporting roots. Often this results in a "Hazardous" tree.

Grade changes that require the removal of soil often remove absorbing roots and expose and injure other roots.

Concrete or asphalt paved over soil where roots are present will seal the surface, reducing water availability and gas exchange to the roots beneath. Usually soils are compacted prior to installing pavement which compounds these problems.

Symptoms Of Construction Impacts

An injured tree may take several months to many years to exhibit symptoms of construction impacts. These can include: slow decline, insect or disease attack, sparse foliage, significant branch dieback and wilting or yellowing of leaves.

Reducing Construction Impacts

The following techniques can be used to prevent or reduce the impacts of construction on trees:

- **Fence around the area within the dripline to protect it from construction activities. Because roots often grow beyond the dripline, enclosing a larger area is desirable.**
- **Dig trenches by hand or tunnel under the tree if underground utilities must be installed within the tree's drip line.**
- **Prune roots that must be removed, do not rip them out with a trencher or back hoe.**
- **Bridge over roots when trenches for new foundations will damage them.**
- **Construct wells around trunks and root collars to keep soil away and install aeration systems when the soil grade must be raised. Use a coarser fill soil than the soil being covered and do not compact. Add fill in the late fall or winter when roots are less active. Avoid working on wet soils.**

What To Do After The Damage Is Done

- **Soil aeration (vertical or hydrojet mulching) can be effective where soils have been compacted.**
- **Only remove dead, hazardous or obstructive branches. Never remove more than 20% of the foliage during a single year. Leaves produce carbohydrates and buds produce hormones - both are necessary for root growth.**
- **Where appropriate, apply pesticides to reduce attacks by insects or other pests until the tree's vigor is restored.**
- **Place organic mulch over bare soil.**
- **Restore soil grade by removing fill.**
- **Restore irrigation regime that existed before construction took place.**

Summary

Construction around trees can be done successfully. However, this requires planning before construction or landscaping. Not all trees on a site are worth saving. Each tree should be evaluated by a consulting arborist to determine its condition and value in the landscape. It may be more desirable in the long run to plant new trees after construction is completed. The value of a tree should be used as a guide to determining the measures used to save it from construction impacts. Where trees of high value are present the effort and expense to save them is worthwhile. Mature trees take years to grow and their beauty and aesthetics are irreplaceable.

Further Reading

Caprile, Janet L. *Guidlines For Development Around Old Oaks*. Cooperative Extension, University Of California, San Joaquin County.

Harris, Richard W. 1983. *Arboriculture*. Prentice-Hall, Inc.

Tree Protection Manual For Builders And Developers. 1980. Florida Department Of Agriculture And Consumer Services, Division Of Forestry.

Protecting Shade Trees During Home Construction. 1965. U.S. Department Of Agriculture, Home And Garden Bulletin No. 104.

Charles Blank | Architecture | Design
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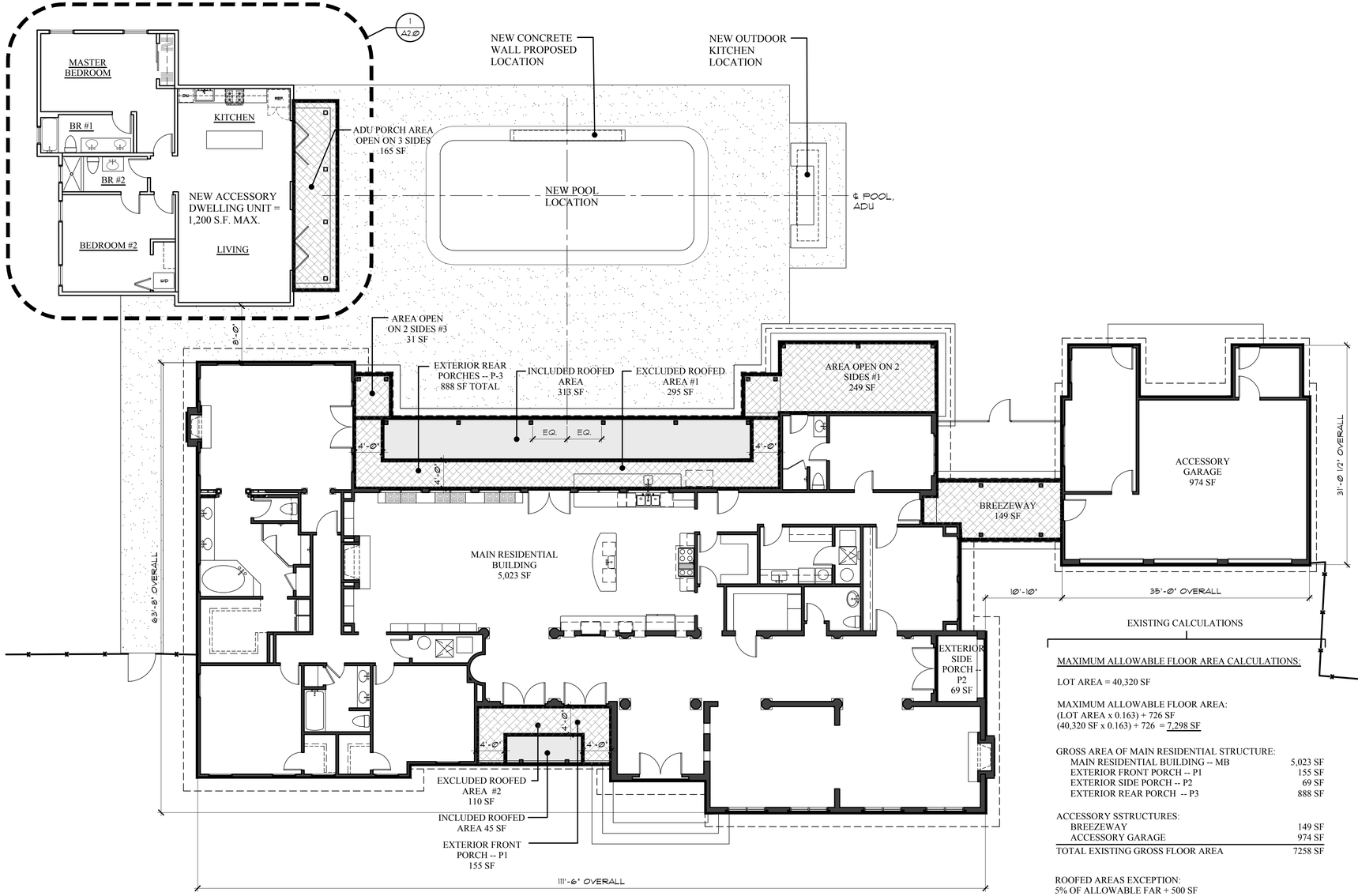
TPZ APPLICATION 7/22/22

A0.4



1 / A0.5 BUILDLING AREA CALCULATION PLAN

1/8" = 1'-0"

EXISTING CALCULATIONS

MAXIMUM ALLOWABLE FLOOR AREA CALCULATIONS:

LOT AREA = 40,320 SF

MAXIMUM ALLOWABLE FLOOR AREA:
(LOT AREA x 0.163) + 726 SF
(40,320 SF x 0.163) + 726 = 7,298 SF

GROSS AREA OF MAIN RESIDENTIAL STRUCTURE:

MAIN RESIDENTIAL BUILDING -- MB	5,023 SF
EXTERIOR FRONT PORCH -- P1	155 SF
EXTERIOR SIDE PORCH -- P2	69 SF
EXTERIOR REAR PORCH -- P3	888 SF

ACCESSORY SSTRUCTURES:

BREEZEWAY	149 SF
ACCESSORY GARAGE	974 SF
TOTAL EXISTING GROSS FLOOR AREA	7258 SF

ROOFED AREAS EXCEPTION:
5% OF ALLOWABLE FAR + 500 SF
(7,258 SF x .05) + 500 SF = 862 SF

ROOFED AREAS OPEN ON 2 SIDES:

BREEZEWAY	149 SF
AREA OPEN ON 2 SIDES #1	249 SF
AREA OPEN ON 2 SIDES #2	31 SF
TOTAL ROOFED AREAS OPEN ON 2 SIDES	429 SF

ADDITIONAL ROOFED AREAS 4 FT. FROM MAIN BUILDING:

EXCLUDED AREA #1	313 SF
EXCLUDED AREA #2	110 SF
TOTAL ADDITIONAL EXCLUDED ROOFED AREAS	423 SF

TOTAL EXISTING ROOFED AREAS TO BE EXCLUDED:
429 SF + 423 SF = 852 SF OF 862 SF ALLOWED

TOTAL EXISTING GROSS FLOOR AREA	7,258 SF
TOTAL EXISTING ROOFED AREAS TO BE EXCLUDED	- 852 SF
MAIN RESIDENCE TOTAL NET AREA	6,406 SF

MAXIMUM ALLOWABLE FLOOR AREA	7,298 SF
MAIN RESIDENCE TOTAL NET AREA	- 6,406 SF
REMAINING TOTAL ALLOWABLE FLOOR AREA:	892 SF

PROPOSED NEW CONSTRUCTION CALCULATIONS

PROPOSED NEW ACCESSORY DWELLING UNIT:	1,200 SF

NOTE: (ADU's 1,200 SF TO BE EXCEMPT FROM MAXIMUM ALLOWABLE FLOOR AREA PER ATHERTON'S MUNICIPAL CODE 17.52.040)

ADU PORCH AREA OPEN ON 3 SIDES:	165 SF
MAXIMUM ALLOWABLE FLOOR AREA	7,298 SF
MAIN RESIDENCE TOTAL NET AREA	- 6,406 SF
ADU PORCH AREA OPEN ON 2 SIDES	- 165 SF
REMAINING TOTAL ALLOWABLE FLOOR AREA:	727 SF

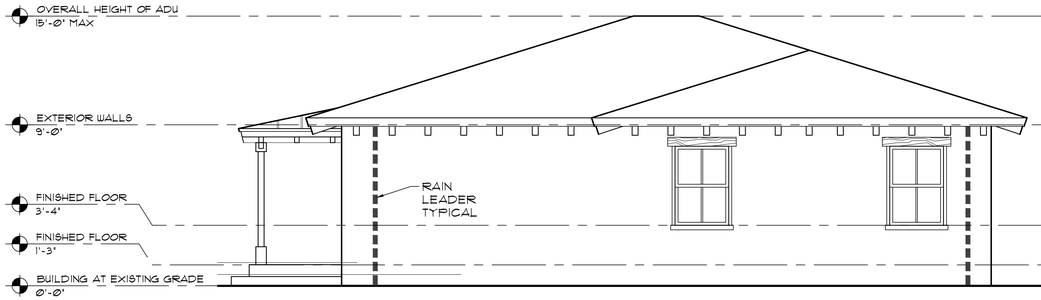
Charles Blank | Architecture | Design
550 Stanyan Street #1, San Francisco, CA 94117

LICENSED ARCHITECT
CHARLES F. BLANK
C 27353
REN. 02/23
STATE OF CALIFORNIA

SOCKOLOV RESIDENCE
173 HAWTHORNE DRIVE
ATHERTON, CA

TPZ APPLICATION 7/22/22

A0.5

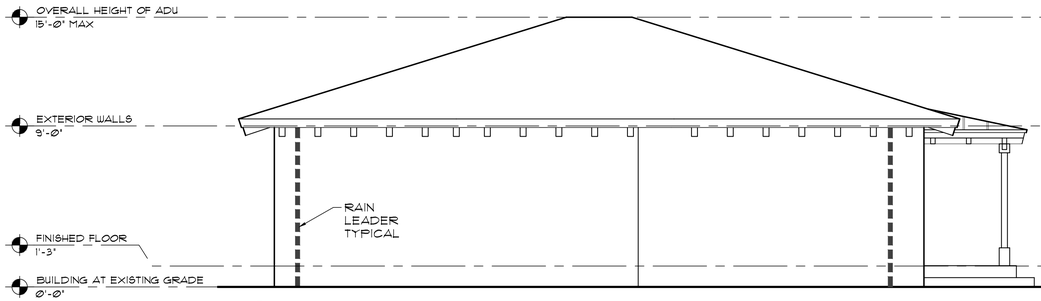


6 A2.0 ADU NORTH EXTERIOR ELEVATION

1/4" = 1'-0"

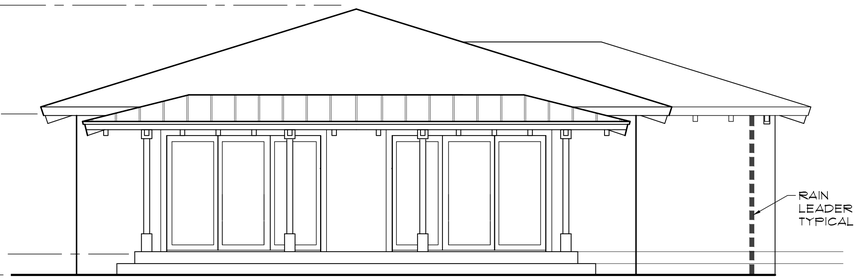
5 A2.0 ADU WEST EXTERIOR ELEVATION

1/4" = 1'-0"



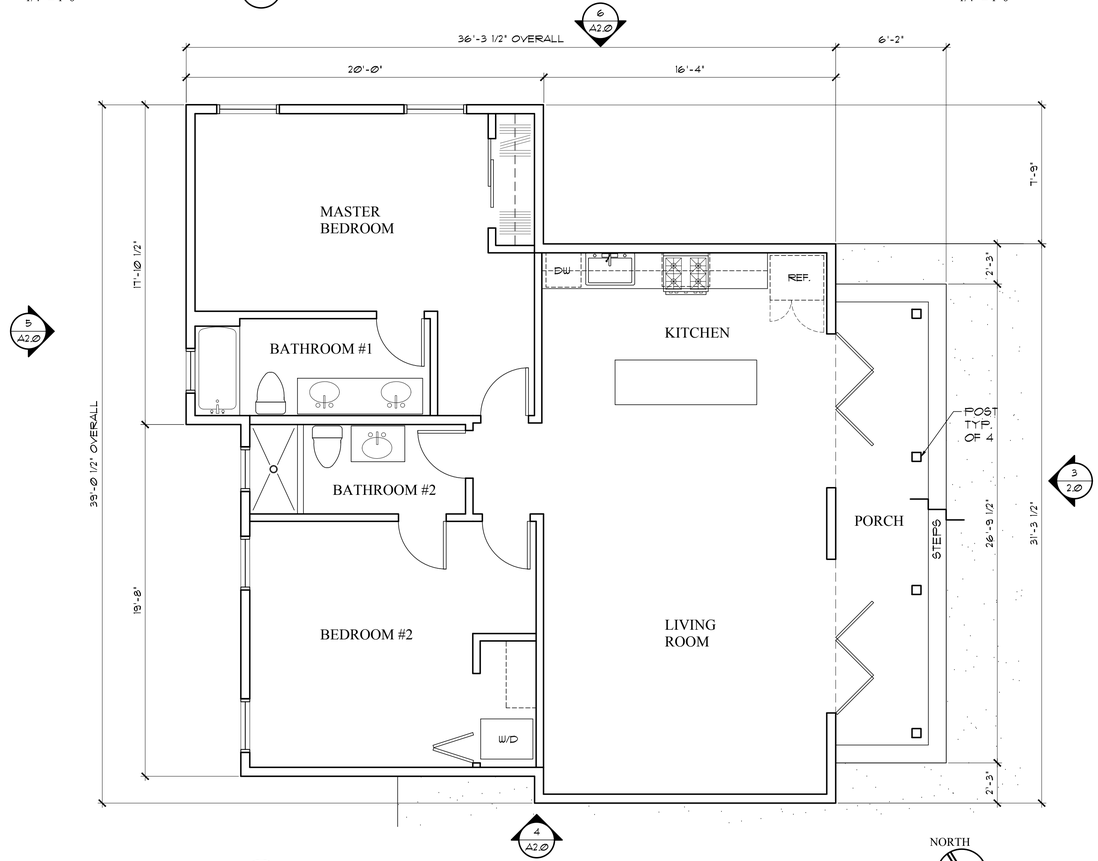
4 A2.0 ADU SOUTH EXTERIOR ELEVATION

1/4" = 1'-0"



3 A2.0 ADU EAST EXTERIOR ELEVATION

1/4" = 1'-0"



1 A2.0 PLAN OF NEW ACCESSORY DWELLING UNIT (ADU)

1/4" = 1'-0"

NORTH

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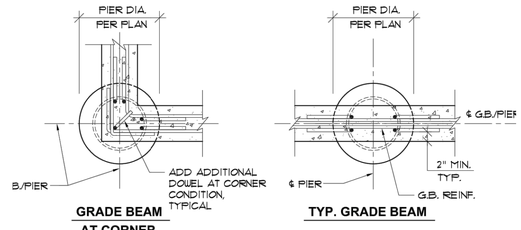
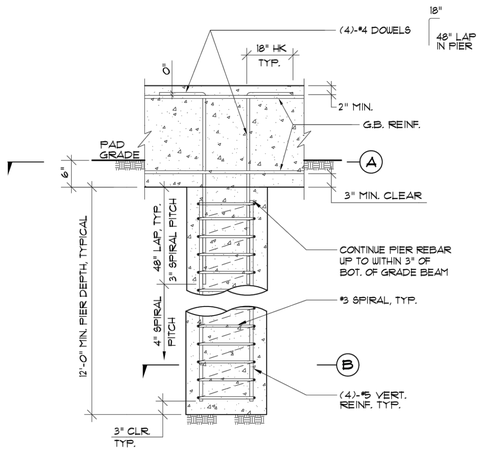


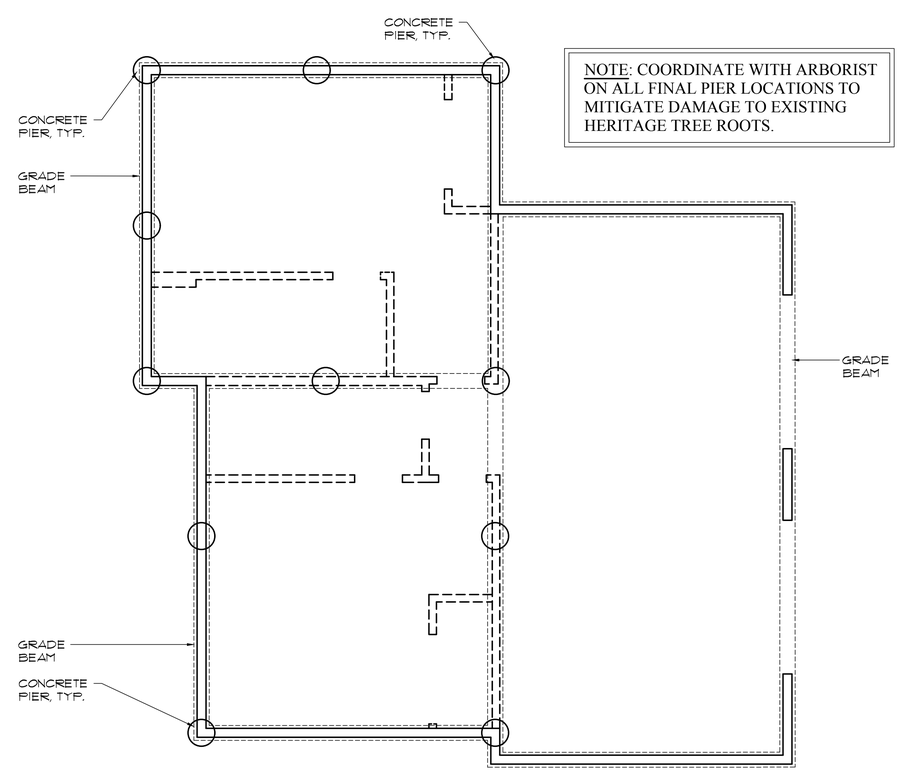
3 A2.1 GRADE BEAM TO PIER TRANSITION

3/4" = 1'-0"



2 A2.1 DRILLED PIER AT GRADE BEAM

3/4" = 1'-0"



1 A2.1 PROPOSED PIER LOCATIONS - ADU FOUNDATION PLAN

1/4" = 1'-0"

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CHARLES F. BLANK
C 27353
REN. 02/23
STATE OF CALIFORNIA

SOCKOLOV RESIDENCE
173 HAWTHORNE DRIVE
ATHERTON, CA

TPZ APPLICATION 7/22/22

A2.1

urbantreemanagement inc.

Arborist Report

173 Hawthorne Dr,
Atherton, CA 94027

Inspection Date:
July 6, 2022

Prepared by: Colin Blackie
Project Arborist: Michael Young/Colin Blackie
contractor's license # 755989
ISA Certified Arborist #WE-12996A
ISA Qualified Tree Risk Assessor

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Assignment

It was our assignment to physically inspect all trees on the West and North sides of the property based on a topographic map and proposed ADU and pool development plan provided by the architect. We were to map, tag, and compile data for each tree and write an inventory/survey report documenting our observations and potential impacts construction may have on the trees. Additionally, we were to conduct exploratory trenching around portions of the perimeters of a proposed ADU and pool on the property to assess the presence of significant, large roots affecting the proposed design.

Summary

This survey provides a numbered map and complete and detailed information for all trees surveyed. There are twenty-one (21) trees included in this report with eighteen (18) being protected under the Town of Atherton's tree protection ordinance. During our survey, none (0) of the trees were rated "A" condition, fifteen (15) trees were rated "B" condition, six (6) trees were rated "C" condition, and none (0) of the trees were rated "D" condition.
A - Retain, condition warrants long-term preservation.
B - Preservable, tree is a benefit and may be worthy of extensive effort or design accommodation.
C- May be preservable but is not worthy of extensive effort or design accommodation.
D – Recommend removal due to existing condition and/or structure.

The valuation of the trees in the survey area using the 10th edition of the Guide for Plant Appraisal is $290,440.

There is a proposed ADU development and pool location adjustment in the Northwest corner and Northern section of the property's backyard. The proposed ADU and pool locations encroach within six times (6x) the trunk diameters at breast height (DBH) of protected trees both on and directly adjacent to the property. Exploratory trenching was conducted to assess potential impacts to the protected trees. Based on our findings, we approve of the proposed design and request a Tree Protection Zone exception be granted. Further details are discussed in the Impacts to Trees section below.

Discussion

All trees surveyed were examined and then rated based on their individual health and structure according to the following table. For example, a tree may be rated "good" under the health column for excellent/vigorous appearance and growth, while the same tree may be rated "fair/poor" in the structure column if structural mitigation is needed. More complete descriptions of how health and structure are rated can be found under the "Methods" section of this report. The complete list of trees and all relevant information, including their health and structure ratings, their "protected/significant" status, a map and recommendations for their care can be found in the data sheet that accompanies this report.

Rating	Health	Structure
Good	excellent/vigorous	flawless
Fair/good	no significant health concerns	very stable
Fair	showing initial or temporary disease, pests, or lack of vitality. measures should be taken to improve health and appearance.	routine maintenance needed such as pruning or end weight reduction as tree grows
Fair/poor	in decline, significant health issues	significant structural weakness(es), mitigation needed, mitigation may or may not preserve the tree
Poor	dead or near dead	hazard

Tree Disposition Categories

Each tree onsite has been categorized for its suitability for preservation relative to its existing condition. Factors such as tree health, condition, age, planting location, species, and structure are all considered to determine if each tree is suitable for preservation. Each tree in the survey (Tree Data Table) has been assigned one of the following categories:

A - Retain, condition warrants long-term preservation.
B - Preservable, tree is a benefit and may be worthy of extensive effort or design accommodation.
C- May be preservable but is not worthy of extensive effort or design accommodation.
D – Recommend removal due to existing condition and/or structure.

If trees with poor structure or less than ideal conditions are retained, they may require further assessments, monitoring, access restrictions, maintenance, or eventual removal. More thorough conversations about impacts and specific preservation plans can be reported as the project evolves.

Survey Methods

The trunks of the trees are measured using an arborist's diameter tape at 54" above soil grade. In cases where the main trunk divides below 54", the tree is measured (per the Town of Atherton's protected tree ordinance) at the smallest diameter below this point. In this case, the height of that measurement is given in the note's column on the attached data sheet. The canopy height and spread are estimated using visual references only.

The condition of each tree is assessed by visual observation only from a standing position without climbing or using aerial equipment. No invasive equipment is used. Consequently, it is possible that individual tree(s) may have internal (or underground) health problems or

structural defects, which are not detectable by visual inspection. In cases where it is thought further investigation is warranted, a “full tree risk assessment” is recommended. This assessment may be inclusive of drilling or using sonar equipment to detect internal decay and include climbing or the use of aerial equipment to assess higher portions of the tree.

The health of an individual tree is rated based on leaf color and size, canopy density, new shoot growth and the absence or presence of pests or disease.

Individual tree structure is rated based on the growth pattern of the tree (including whether it is leaning); the presence or absence of poor limb attachments (such as co-dominant leaders); the length and weight of limbs and the extent and location of apparent decay. For each tree, a structural rating of “fair” or above indicates that the structure can be maintained with routine pruning such as removing dead branches and reducing end weight as the tree grows. A “fair/poor” rating indicates that the tree has significant structural weaknesses and corrective action is warranted. The notes section for that tree will then recommend a strategy/technique to improve the structure or mitigate structural stresses. A “poor” structural rating indicates that the tree or portions of the tree are likely to fail and that there is little that can constructively be done about the problem other than removal of the tree or large portions of the tree. Very large trees that are rated “fair/poor” for structure AND that are near structures or in an area frequently traveled by cars or people, receive an additional **CONSIDER REMOVAL” notation under recommendations. This is included because structural mitigation techniques do not guarantee against structural failure, especially in very large trees. Property owners may or may not choose to remove this type of tree but should be aware that if a very large tree experiences a major structural failure, the danger to nearby people or property is significant.

Survey Area Observations

This property is in the Lindenwood neighborhood in the Town of Atherton. The surveyed lot is rectangular in shape and entirely flat. The property is comprised of a variety of species with coast redwoods and coast live oaks being most prevalent on the property. Ten (10) trees from neighboring properties were included in this survey as they are located within ten feet (10’) of the property line.

Tree Health in the Surveyed Area

The health of the trees in the survey area ranges from “fair/good” to “fair/poor” with the majority receiving “fair” ratings. Overall tree health would greatly benefit from the installation of mulch around all specimens. The soil was mostly bare and lacking a layer of organic matter to increase nutrient cycling and availability in the soil. Additionally, this property would benefit from a pruning rotation to improve tree health via hygienic pruning and enhance the natural form and beauty of trees on the property. Individual issues and recommendations for each tree are listed under the “Notes” column on the accompanying data sheet.

Tree Structure in the Surveyed Area

Tree structure in the survey area ranges from “good” to “fair/poor”. The majority of trees surveyed received “fair/poor” structural ratings due to the presence of codominant leaders and branching habits resulting from a lack of developmental structure pruning at a young age. There are some exceptions, however, with a variety of coast redwoods, Deodar cedars, and palms receiving structural ratings from “fair” to “good”.

Ideally, trees are pruned for structure when young and are properly maintained to reduce end-weight and correct structural weaknesses as they grow. This practice prevents the growth of codominant leaders, epicormic sprouts, and excessively long, lateral branches that are prone to breakage. As mentioned above, the property would benefit from a pruning rotation to help correct the structure of the trees, reduce dead and diseased wood accumulation, and prevent future limb or codominant leader failures.

Recommended Removals Based on Health/ Structure/Species

There are no trees recommended for removal at this time.

Site Images

Tree #101

Tree #102

Tree #103

Tree #104

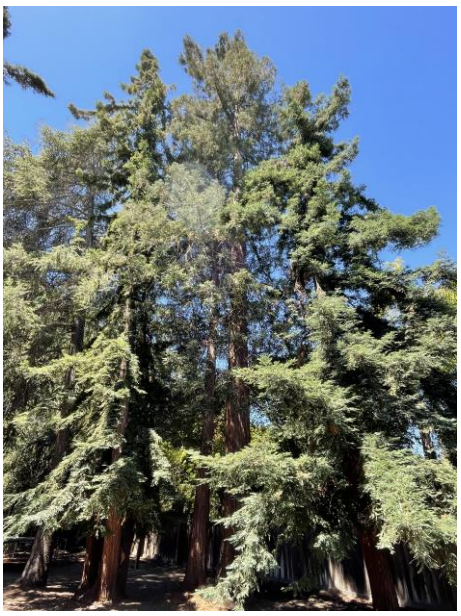
Tree #105

Tree #106

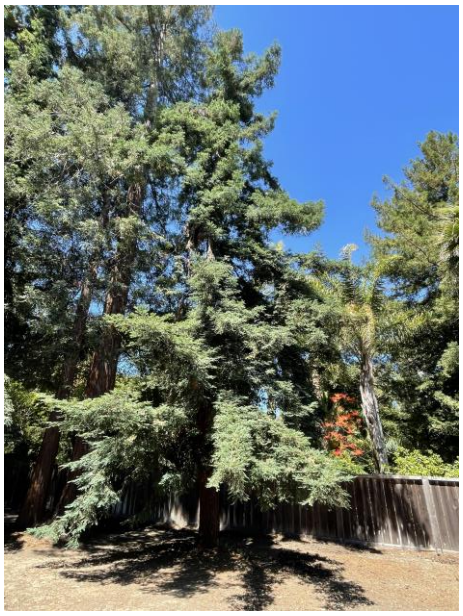
Tree #107

Tree #108

Tree #109



Tree #110



Tree #111

Trees #113-#115

Trees #116-#119

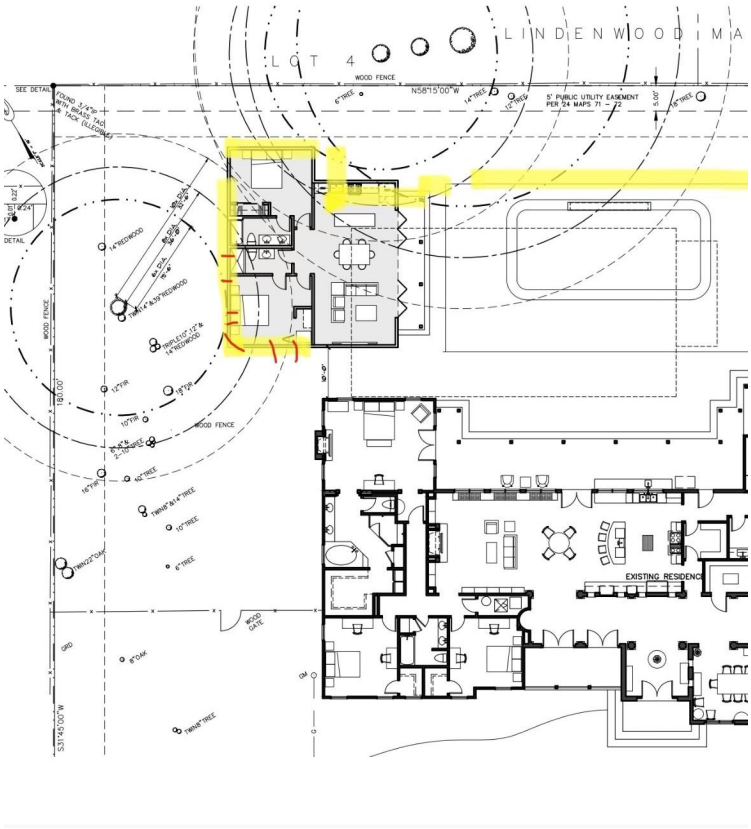
Tree #120

Local Regulations Governing Trees

Heritage Trees

Means a tree 48 inches or more in circumference (15.2 inches DBH), measured at 48 inches above natural grade, located outside of the Buildable Area on the parcel AND any native oak (Quercus agrifolia, Q. lobata, Q. kellogii) greater than 48 inches in circumference located anywhere on the parcel.

Exploratory Trenching Images



Exploratory Trenching Locations (Yellow) and Significant Roots (Red)

Significant roots in Southern and Western portion of the ADU exploratory trench



Significant roots in lower portion of Westernmost trench

1”-2” roots in lower portion of Westernmost trench

No significant roots in upper portion of Westernmost trench

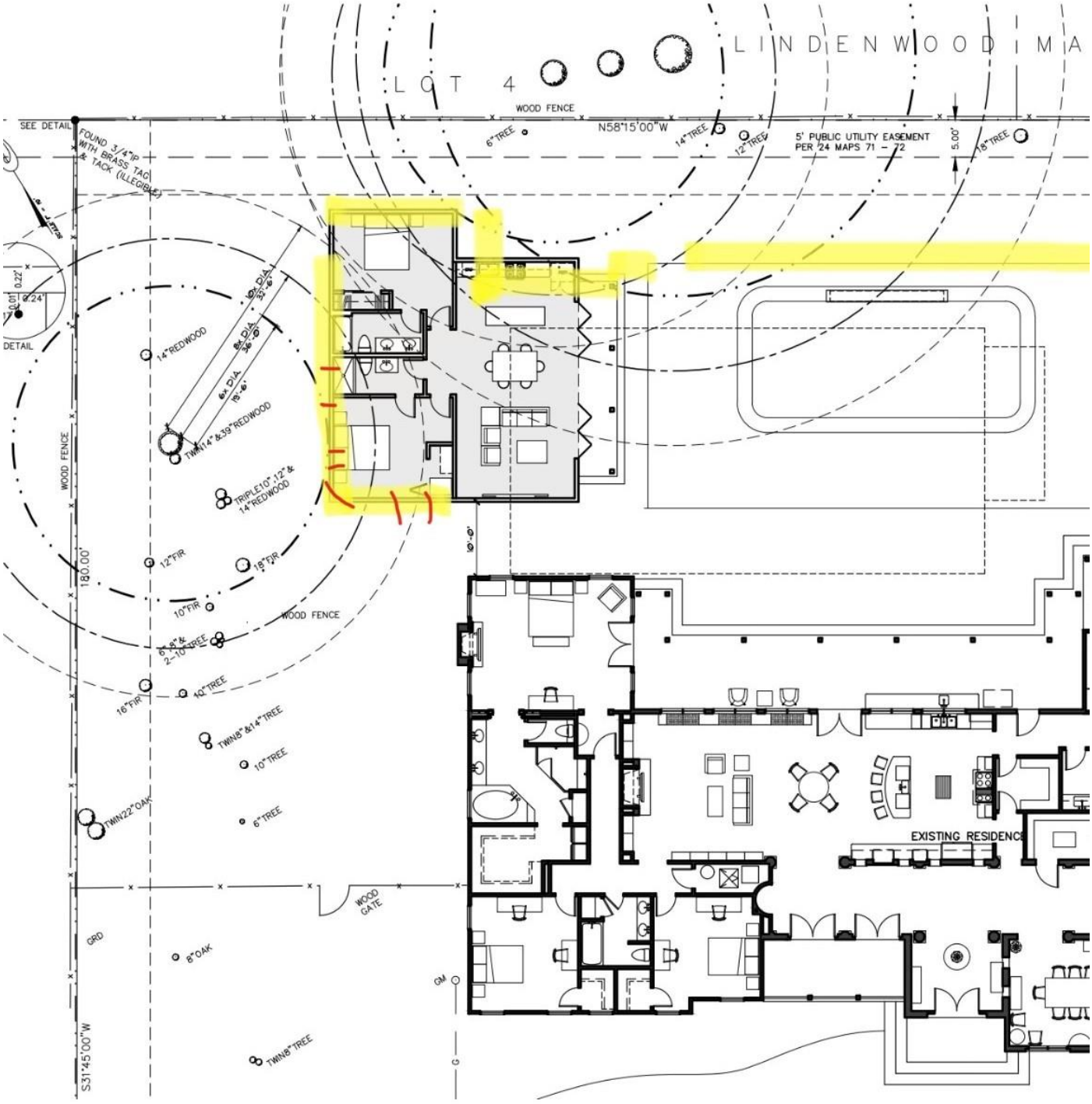
1” root in Northwest trench before lawn

No significant roots found in lawn.

Impacts to Trees

The exploratory trenching was conducted in both the Northern portion (lawn) of the property in proximity to Trees #113-#119, and Northwest corner of the property in proximity to Trees #106-#112. Sections of the proposed ADU and pool are sited within ten times (10x) the trunk diameter of a number of the protected trees (listed previously) on and within ten feet (10') of the property line. Significant roots ranging from approximately one to four inches (1"-4") in diameter were found in the South and Westernmost trench only. All significant roots were located anywhere from two inches (2") to two feet (2') below grade. No other significant roots were found during the exploratory trenching operation.

The current ADU design and location is acceptable with appropriate accommodations and protection measures undertaken for the protected trees. The pool design in the North lawn should not impact any trees on or directly adjacent to the property. The design team shall utilize a pier and grade beam system for the ADU to circumvent the significant roots in the property's Northwest corner. During construction, no roots greater than two (2") inches in diameter shall be cut. Great care shall be taken to avoid damaging the significant roots while installing the ADU foundation. Past the Northernmost red hashline (see image below), the design team will not need to adjust their plans to accommodate for significant roots.


LOT 4
LINDENWOOD MA
WOOD FENCE
N58°15'00"W
6"TREE
14"TREE
12"TREE
5' PUBLIC UTILITY EASEMENT
PER 24 MAPS 71 – 72
5.00'
18"TREE
SEE DETAIL
FOUND 3/4"IP
WITH BRASS TAG
& TACK (ILLEGIBLE)
DETAIL
14"REDWOOD
TWIN14" &39"REDWOOD
TRIPLE10",12" &
14"REDWOOD
12"FIR
18"FIR
10"FIR
WOOD FENCE
180.00'
6"-4" &
2-10"TREE
16"FIR
40"TREE
TWIN8" &14"TREE
10"TREE
6"TREE
TWIN22"OAK
WOOD
GATE
GRD
8"OAK
GM
TWIN8"TREE
S31°45'00"W
EXISTING RESIDENCE

Risks to Trees by Construction

Besides the above-mentioned health and structure-related issues, the trees at this site could be at risk of damage by construction or construction procedures that are common to most construction sites. These procedures may include the dumping or stockpiling of materials over root systems; trenching across root zones for utilities or for landscape irrigation; or the routing of construction traffic across root systems resulting in soil compaction and root dieback. It is therefore essential that Tree Protection Fencing be used as per the Project Arborist's recommendations. In constructing underground utilities, it is essential that the location of trenches be placed outside the drip lines of trees except where approved by the Project Arborist(s).

Tree Protection Plan

Protective fencing is required to be provided during the construction period to protect trees to be preserved. This fencing must protect a sufficient portion of the root zone to be effective. Fencing is recommended to be located eight to ten times (8x to 10x) the diameter at breast height (DBH) in all directions from the tree. DBH for each tree is shown in the attached data table. The minimum recommendation for tree protection fencing location is six times (6x) the DBH, where a larger distance is not possible. There are areas where we will amend this distance based upon tree condition and proposed construction. In my experience, the protective fencing must:

a. Consist of chain link fencing and have a minimum height of 6 feet.
b. Be mounted on steel posts driven approximately 2 feet into the soil.
c. Fencing posts must be located a maximum of 10 feet on center.
d. Protective fencing must be installed prior to the arrival of materials, vehicles, or equipment.
e. Protective fencing must not be moved, even temporarily, and must remain in place until all construction is completed, unless approved be a Certified Arborist.
f. Tree Protection Signage shall be mounted to all individual tree protection fences.

Based on the existing and proposed development, and the condition and location of trees present on site, the following is recommended:

1. The Project Arborists are Michael Young (650) 321-0202 and Colin Blackie (650) 507-5666. A Project Arborist should supervise any excavation activities within the tree protection zones of these trees.
2. Any roots exposed during construction activities that are larger than 2 inches in diameter should not be cut or damaged until the Project Arborist has an opportunity to assess the impact that removing these roots could have on the trees.
3. The area under the driplines of trees should be thoroughly irrigated to a soil depth of 18" every 3-4 weeks during the dry months.

4. Mulch should cover all bare soils within the tree protection fencing. This material must be 6-8 inches in depth after spreading, which must be done by hand. Coarse wood chips are preferred because they are organic and degrade naturally over time.
5. There must be no grading, trenching, or surface scraping inside the driplines of protected trees, unless specifically approved by a Certified Arborist. For trenching, this means:
    a. Trenches for any underground utilities (gas, electricity, water, phone, TV cable, etc.) must be located outside the driplines of protected trees, unless approved by a Certified Arborist. Alternative methods of installation may be suggested.
    b. Landscape irrigation trenches must be located a minimum distance of ten (10x) times the trunk diameter from the trunks of protected trees unless otherwise noted and approved by the Arborist.
6. Materials must not be stored, stockpiled, dumped, or buried inside the driplines of protected trees.
7. Excavated soil must not be piled or dumped, even temporarily, inside the driplines of protected trees.
8. Landscape materials (cobbles, decorative bark, stones, fencing, etc.) must not be installed directly in contact with the bark of trees because of the risk of serious disease infection.
9. Landscape irrigation systems must be designed to avoid water striking the trunks of trees, especially oak trees.
10. Any pruning must be done by a Company with an Arborist Certified by the ISA (International Society of Arboriculture) and according to ISA, Western Chapter Standards, 1998.
11. Any plants that are planted inside the driplines of oak trees must be of species that are compatible with the environmental and cultural requirements of oak trees. Plants compatible with California native oaks can be found in The California Oak Foundation's 1991 publication "Compatible Plants Under & Around Oaks." This publication details plants compatible with California native oaks and is currently available online at: http://californiaoaks.org/wpcontent/uploads/2016/04/CompatiblePlantsUnderAroundOaks.pdf

+ + + + +

I certify that the information contained in this report is correct to the best of my knowledge and that this report was prepared in good faith. Please call me if you have questions or if I can be of further assistance.

Respectfully,

Colin Blackie
ISA Certified Arborist #WE-12996A

urbantreemanagement inc.

TREE SURVEY DATA

Address: 173 Hawthorne Ave, Atherton, CA 94027
Inspection Date: 7/7/2022

Ratings for health and structure are given separately for each tree according to the table below. IE, a tree may be rated "Good" under the health column For excellent, vigorous appearance and growth, while the same tree may be rated "Fair, Poor" in the structure column if structural mitigation is needed.

KEY	Health	Structure
Good	excellent, vigorous	flawless
Fair - Good	no significant health concerns	very stable
Fair	declining; measures should be taken to improve health and appearance	routine maintenance needed
Fair - Poor	in decline: significant health issues	mitigation needed, it may or may not preserve this tree
Poor	dead or near dead	hazard

TAG NO.	COMMON NAME	DIAMETER AT BREAST HEIGHT"	H'/W'	HEALTH	STRUCTURE	PROTECTED (X)	TREE DISPOSITION	NOTES, RECOMMENDATIONS
101	Coast live oak	26.8	55'/40'	f	fp	x	B	CD at 7', bacterial oozing around tree, evidence of some decay at base, borer frass present, EWR, DWR
102	Coast live oak	24.6	63'/35'	fp	fp	x	C	Thin and dying back canopy, weight mainly over street, some decay at base, CD at 6', EWR, DWR, **CONSIDER REMOVAL**
103	Coast live oak	32.8	65'/35'	f	fp	x	B	CD at 6', bark borers present, weight concentrated towards neighbor's property, EWR, DWR, cable
104	Carya species	24.8	75'/40'	f	fp	x	B	CD at 8', some decay in trunk and canopy, EWR, DWR, cable
105	Date palm	26.5	18'/16'	fg	fg	x	C	Growing below dominant trees, will cause limb breakage issues in future, **CONSIDER REMOVAL**
106	Coast live oak	est. 43 at 3'	60'/38'	f	fp	x	B	Growing through fence, CD at 3.5', DWR, EWR, cable
107	Deodar cedar	22.7	80'/15'	f	f	x	B	85% limbs on one side of tree, EWR, DWR
108	Deodar cedar	22.6	80'/28'	f	fg	x	B	Slight lean towards house, EWR, DWR
109	Coast redwood	13.5, 13.1, 17	90'/15'	f	fp	x	B	CDs at base, DWR, EWR
110	Coast redwood	39.5, 19.7	100'/30'	f	f	x	B	CD at base with strong union, DWR, EWR
111	Coast redwood	19.1	65'/15'	f	fg	x	B	DWR, EWR
112	Mexican fan palm	est. 13	46'/8'	f	g		B	Neighbor's tree, tag on fence
113	Coast redwood	est. 44	85'/22'	f	fp	x	B	Neighbor's tree, tag on fence, CD at 6', cable, EWR, DWR
114	Coast redwood	est. 27	90'/15'	f	fg	x	B	Neighbor's tree, tag on fence, EWR, DWR
115	Coast redwood	est. 60	100'/25'	f	fp	x	B	Neighbor's tree, tag on fence, CD at 10', EWR, DWR, cable
116	Coast redwood	est. 12	60'/8'	f	fg		C	Neighbor's tree, tag on fence, growing between shed and dominant RWs, consider removal for growing space
117	Coast redwood	30 est.	100'/15'	f	fg	x	B	Neighbor's tree, tag on fence, DWR, EWR
118	Coast redwood	est. 18	80'/15	fp	fg	x	C	Neighbor's tree, tag on fence, DWR, EWR, thinning and discolored canopy
119	Coast redwood	est. 20	75'/15'	f	fg	x	B	Neighbor's tree, tag on fence, DWR, EWR
120	Birch species	est. 16	48'/23'	f	fp	x	C	Neighbor's tree, tag on fence, CD at 20', DWR, EWR
121	Birch species	est. 12	43'/18'	f	fp		C	Neighbor's tree, tag on fence, CD at 15', DWR, EWR, SP

A = Retain, condition warrants long-term preservation	0
B = Preservable, tree is a benefit and may be worthy of extensive effort or design accommodation.	15
C = May be preservable, but is not worthy of extensive effort or design accommodation.	6
D= Recommend removal due to existing condition and/or structure	0
TOTAL TREES	21
Total Protected Trees	18

KEY TO ACRONYMS

DWR - Dead Wood Removal pruning recommended.
EWR - End Weight Reduction: pruning to remove weight from limb ends, thus reducing the potential for limb failure(s).
RCE - Root Collar Excavation: excavating a small area around a tree that is currently buried by soil or refuse above buttress roots, usually done with a hand shovel.
SP - Structural pruning - removal of selected non-dominant leaders in order to balance the tree.
CD - Codominant Leader, two leaders with a narrow angle of attachement and prone to failure.
LCR-Live Crown Ratio.
RR - Recommend Tree Removal based upon Health or Structure of tree.
Prop - Steel prop in concrete footing recommended to help support a tree/limb.
Cable - Recommend a steel cable(s) be installed to help support a weakly attached limb(s).

TREE ORDINANCE

urbantreemanagement inc.

TREE SURVEY DATA

TAG NO.	COMMON NAME	DIAMETER AT BREAST HEIGHT"	H'/W'	HEALTH	STRUCTURE	PROTECTED (X)	TREE DISPOSITION	NOTES, RECOMMENDATIONS

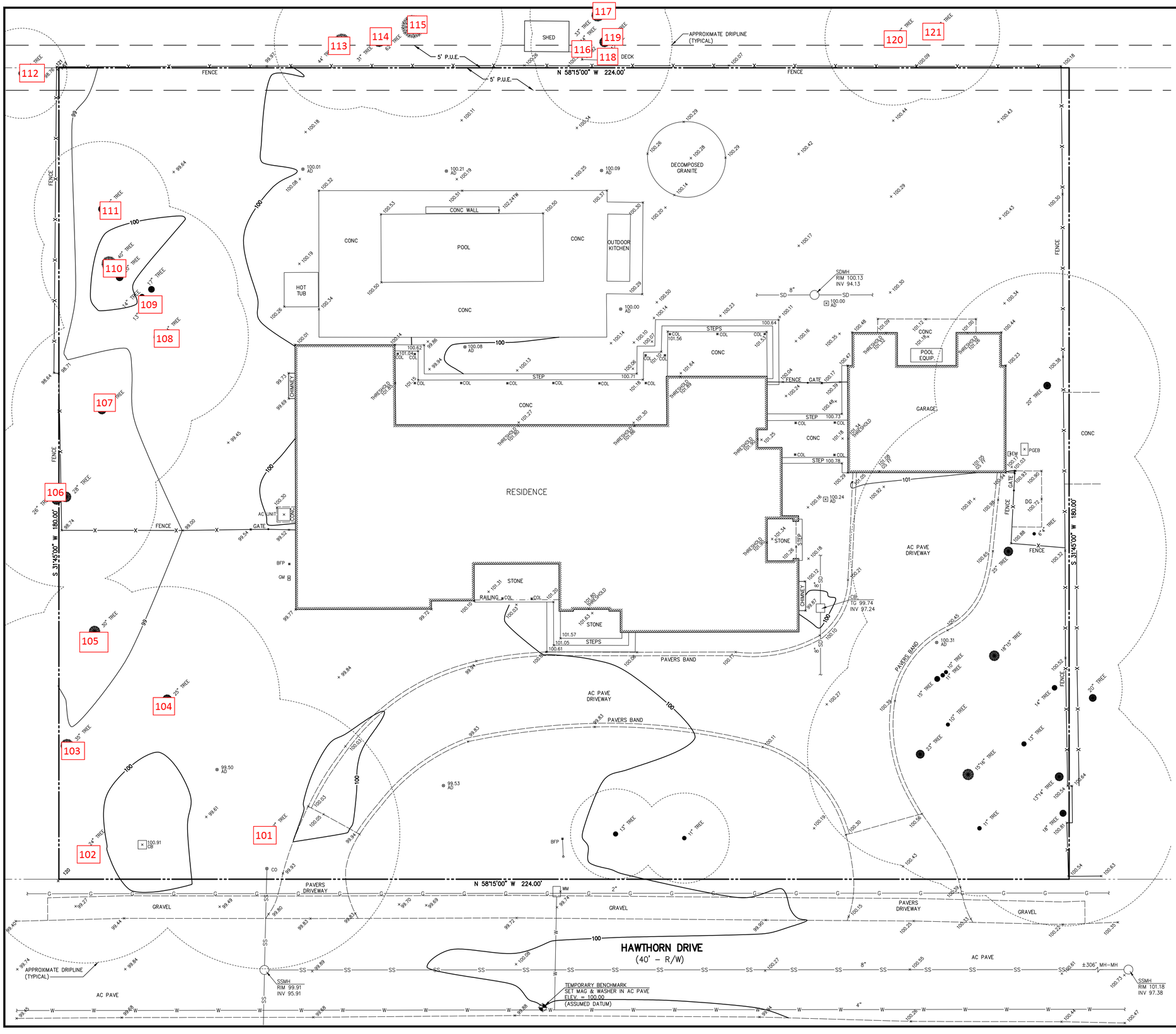
Heritage Tree - means a tree 48 inches or more in circumference (15.2 inches dbh), measured at 48 inches above natural grade, located outside of the Buildable Area on the parcel AND any native oak (Quercus agrifolia, Q. lobata, Q. kellogii) greater than 48 inches in circumference located anywhere on the parcel.

Common Name	***Latin Name***
Coast live oak	*Quercus agrifolia*
Carya species	*Carya spp.*
Date Palm	*Phoenix dactylifera*
Deodar cedar	*Cedrus deodara*
Coast redwood	*Sequoia sempervirens*
Mexican fan palm	*Washingtonia robusta*
Birch species	*Betula spp.*

Address: 173 Hawthorne Dr, Atherton, CA 94027
Date: 7/6/2022

Tree No.	Species (example)	Condition 0 to 1.0	Trunk Diameter	Func. Limitation 0 to 1.0	Ext. limitation 0 to 1.0	Replacement tree Size	Replacement tree Cost	Installation Cost	Total Cost	Unit Tree cost	Appraised Trunk area	Basic tree cost	Depreciated cost	Reproduction cost (rounded)
101	Coast live oak	0.65	26.8	0.7	1		172.73	172.73	345.46	36.36	564.1	20,511	9,678	
102	Coast live oak	0.5	24.6	0.7	1		172.73	172.73	345.46	36.36	475.3	17,282	6,394	
103	Coast live oak	0.65	23	0.7	1		172.73	172.73	345.46	36.36	415.5	15,107	7,219	
104	Carya spp.	0.7	24.8	0.8	1		172.73	172.73	345.46	36.36	483.1	17,564	10,181	
105	Date palm	0.9	26.5	0.8	0.5		172.73	172.73	345.46	36.36	551.5	20,054	7,565	
106	Coast live oak	0.65	43	0.8	1		172.73	172.73	345.46	36.36	1452.2	52,802	27,802	
107	Deodar cedar	0.75	22.7	0.9	1		172.73	172.73	345.46	36.36	404.7	14,715	10,278	
108	Deodar cedar	0.8	22.6	0.9	1		172.73	172.73	345.46	36.36	401.1	14,586	10,847	
109	Coast redwood	0.7	30.3	0.8	1		172.73	172.73	345.46	36.36	721.1	26,218	15,028	
110	Coast redwood	0.75	49.35	0.7	1		172.73	172.73	345.46	36.36	1912.8	69,548	36,858	
111	Coast redwood	0.8	19.1	0.9	1		172.73	172.73	345.46	36.36	286.5	10,418	7,846	
113	Coast redwood	0.7	44	0.8	1		172.73	172.73	345.46	36.36	1520.5	55,286	31,306	
114	Coast redwood	0.8	27	0.9	1		172.73	172.73	345.46	36.36	572.6	20,818	15,334	
115	Coast redwood	0.7	60	0.8	1		172.73	172.73	345.46	36.36	2827.4	102,805	57,916	
117	Coast redwood	0.8	30	0.9	1		172.73	172.73	345.46	36.36	706.9	25,701	18,850	
118	Coast redwood	0.65	18	0.75	1		172.73	172.73	345.46	36.36	254.5	9,252	4,856	
119	Coast redwood	0.8	20	0.9	1		172.73	172.73	345.46	36.36	314.2	11,423	8,570	
120	Birch species	0.65	16	0.75	1		172.73	172.73	345.46	36.36	201.1	7,311	3,909	

Total:	290,440



VICINITY MAP

(NOT TO SCALE)

LEGEND

———	PROPERTY LINE
AC PAVE	ASPHALT CONCRETE PAVEMENT
AD	AREA DRAIN
BFP	BACKFLOW PREVENTER
CB	CATCH BASIN
CO	CLEANOUT
COL	COLUMN
CONC	CONCRETE
EM	ELECTRIC METER
EP	EDGE OF PAVEMENT
FH	FIRE HYDRANT
GM	GAS METER
GS FF	GARAGE SLAB FINISH FLOOR
INV	INVERT
PGEB	PG&E BOX
P.U.E.	PUBLIC UTILITY EASEMENT
SDMH	STORM DRAIN MANHOLE
SSMH	SANITARY SEWER MANHOLE
TG	TOP OF GRATE
TW	TOP OF WALL
WM	WATER METER
● 12" TREE	TREE W/ SIZE
—X—X—	FENCE
———G———	GAS LINE
———SS———	SANITARY SEWER LINE
———SD———	STORM DRAIN LINE
———W———	WATER LINE

LOT AREA:

= 40,320 SQ. FT. ±
= 0.926 ACRES ±

UTILITY NOTE:

THE UTILITIES EXISTING ON THE SURFACE AND SHOWN ON THIS DRAWING HAVE BEEN LOCATED BY FIELD SURVEY. ALL UNDERGROUND UTILITIES SHOWN ON THIS DRAWING ARE FROM RECORDS OF THE VARIOUS UTILITY COMPANIES AND THE SURVEYOR/ENGINEER DOES NOT ASSUME RESPONSIBILITY FOR THEIR COMPLETENESS, INDICATED LOCATION, OR SIZE. RECORD UTILITY LOCATION SHOULD BE CONFIRMED BY EXPOSING THE UTILITY.

EASEMENT NOTE:

EASEMENTS SHOWN ARE PER 24 MAPS 71–72 AND 21 MAPS 37–39, OTHER EASEMENTS, IF ANY, ARE NOT INDICATED HEREON.

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

REV.	DESCRIPTION	BY:	DATE:

LICENSED LAND SURVEYOR
DANIEL G. MacLEOD
No. 5304
STATE OF CALIFORNIA

MacLEOD AND ASSOCIATES
CIVIL ENGINEERING • LAND SURVEYING
965 CENTER STREET • SAN CARLOS • CA 94070 • (650) 593-8580

PREPARED FOR:
CHARLES BLANK

TOPOGRAPHIC SURVEY PLAN

173 HAWTHORN DRIVE
A.P.N. 061-161-020
LOT 11, BLOCK 7, 24 MAPS 71-72
ATHERTON SAN MATEO COUNTY CALIFORNIA

DRAWN BY:	MDL
DESIGNED BY:	---
CHECKED BY:	DGM
SCALE:	1"=10'
DATE:	06-06-22
DRAWING NO.	5269-TOPO
SHEET	1 OF 1