



December 14, 2021

Leila Moncharsh  
510-482-0390 | [101550@msn.com](mailto:101550@msn.com)

**Re: Arborist Peer Review of the Head Royce School project, Oakland**

Dear Leila,

This report comprises an independent arborist opinion regarding the proposed Head Royce School (HRS) South Campus project at 4368 Lincoln Avenue. My scope of work involves reviewing the relevant tree-related documents to provide my opinion regarding their content and conclusions. I focused on the latest arborist report by H.T. Harvey & Associates, but also reviewed other documents where relevant. I was also asked to determine how many trees could be saved if a proposed amphitheater and a portion of the loop road were eliminated.

**INTRODUCTION & SUMMARY**

I was first contacted regarding the proposed HRS expansion project in October 2019. At that time, the community around the school was aware of the project, but documentation was not available for the public's review. In 2020, a General Plan package was shared on the school's website; the package included a general tree preservation plan but little other information. In November 2021, I was informed that the Draft Environmental Impact Report (DEIR) documents were published on the City of Oakland's website and the public comment period was now open. DEIR documents that pertain to trees include the Biological Resources (BR) chapter and the arborist report by H.T. Harvey. I was also provided a copy of an earlier arborist report by Davey Resource Group (DRG), which appears to be the basis for the H.T. Harvey report and the BR chapter.

I reviewed both the BR chapter and the DRG report since the H.T. Harvey report did not include the proposed site plan or tree protection guidelines. All three documents discuss City-protected trees; the H.T. Harvey report is the only one that also includes non-protected trees. I focused on protected trees in my review since these are the only ones that require a permit from the City of Oakland.

The H.T. Harvey report covers 480 trees, of which 321 are protected trees. The report proposes to preserve 169 trees, transplant 31 trees, and remove 121 trees. In general, I agree with the H.T. Harvey assessment that all trees located within proposed grading limits would need to be removed. I identified 18 trees that should be reassessed for various reasons - some will be subject to high impact but are noted as "preserved", others could be preserved with minor-moderate plan adjustments, etc. Of the 31 trees listed as transplant candidates, only six are in good condition. The remaining trees have varying degrees of dieback and structural issues that will reduce the success rate of transplanting. Lastly, if the proposed amphitheater and a portion of the loop road were eliminated, 35 additional protected trees could be preserved.

## TABLE OF CONTENTS

Introduction & summary .....	1
Assumptions & limitations .....	2
Discrepancies between H.T. Harvey, BR & DRG documents .....	3
Proposed South Campus project & tree recommendations.....	4
Issues with tree condition rating .....	7
Concerns with using SCRZ & CRZ .....	8
Structural Critical Root Zone (SCRZ) .....	8
Critical Root Zone (CRZ) .....	8
Multi-trunk diameters .....	9
Proposed transplanting.....	9
Tree protection guidelines .....	10
Eliminating amphitheater and reducing loop road .....	11
Attachments: Arborist Peer Review Notes (5 sheets, provided on tree disposition plan)	

## ASSUMPTIONS & LIMITATIONS

This report is based on a review of the following documents:

- Draft Environmental Impact Report (DEIR), retrieved on 11/22/21 from <https://www.oaklandca.gov/resources/current-environmental-review-ceqa-eir-documents-2011-2021>. These specific sections were reviewed:
  - Chapter 6 Biological Resources (BR), “Conflict with the City of Oakland’s Tree Protection Ordinance” section (pages 6-23 to 6-32)
  - Appendix 6B: Arborist Report by H. T. Harvey & Associates, dated 8/24/20
- Arborist Report by Davey Resource Group (DRG), dated 12/13/19 (provided by Leila Moncharsh)
- Construction Damage Assessments: Trees & Sites by Dr. Kim D. Coder, dated October 1996
  - Accessed on 11/22/21 from <https://urbanforestrysouth.org/resources/library/citations/construction-damage-assessments-trees-and-sites>

I did not review any other plans (e.g. survey, grading & drainage, utility, landscape, etc). I did not visit the site - my understanding of the property’s existing conditions is limited to Google Maps satellite imagery and topographic lines in the tree disposition plans. I assumed that the GPS locations of the trees were accurate as shown on the tree disposition plans.

My methods & their limitations relating to the review are as follows:

- The BR tree disposition plans do not include a graphical scale. I calibrated my scale using DRG’s tree disposition plans, which I overlaid on the BR plans. My estimates of proposed tree encroachment may not be precise.
- The trunk of each tree was assumed to be at the center of the colored circle in the BR Tree Disposition Plans.
- My review of the H.T. Harvey report is primarily focused on trees located along the proposed limit of grading, since it is not possible to save trees inside grading areas without significant changes to the design.

- The section of this report that discusses the proposed loop road and amphitheater is based on hypothetically eliminating a portion of these improvements. The portions to be eliminated were determined via discussion with Leila Moncharsh. I am not aware of any plans (on the part of HRS) that aim to eliminate these improvements.
- All transplanting candidates were reviewed, regardless of their location, to understand the viability and potential success of the transplanting endeavor.
- Only protected trees are discussed within this report. The H.T. Harvey report includes 159 non-protected trees, which do not require permits under the City of Oakland’s Protected Trees Ordinance Chapter 12.36.

### DISCREPANCIES BETWEEN H.T. HARVEY, BR & DRG DOCUMENTS

My original scope of work was to review the most recent arborist report by H.T. Harvey & Associates. I found that it did not include the proposed site/grading plan or tree protection guidelines, which restricted my ability to do a complete review. I was able to locate the missing information in the DEIR BR chapter and the DRG arborist report.

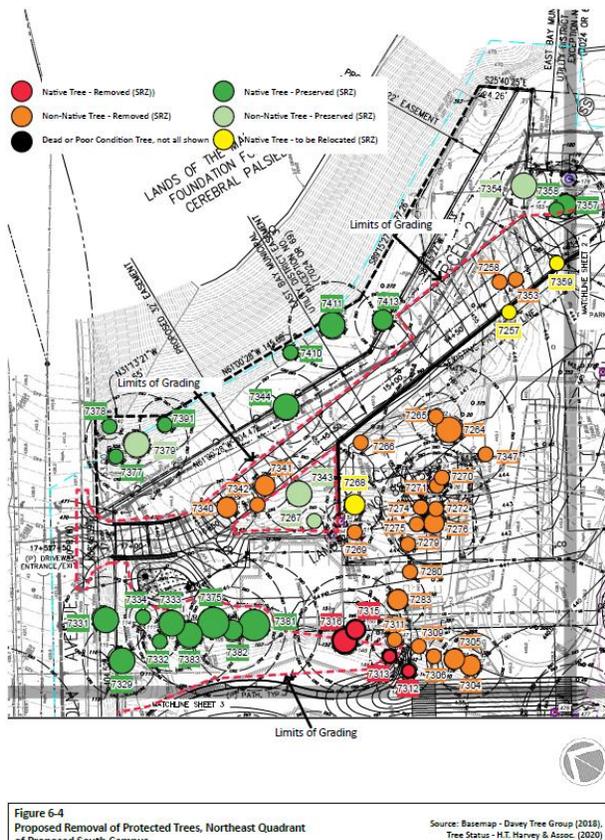


Figure 6-4 Proposed Removal of Protected Trees, Northeast Quadrant of Proposed South Campus. Source: Basemap - Davey Tree Group (2018); Tree Status - H.T. Harvey & Assoc. (2020)



Figure 30. Tree Disposition Plan. Head Royce School Detailed Peer Review Arborist Report (4378.01) August 2020

Figure 1. The Tree Disposition Plans in the DEIR Biological Resources chapter (left) display tree locations and recommendations on the proposed site plan, while the Tree Disposition Plans in the H.T. Harvey report only show existing conditions (right).

The DEIR BR chapter discusses the impact of the proposed project on protected trees, in accordance with the City of Oakland's Protected Trees Ordinance Chapter 12.36. Figures 6-4 to 6-8 in the chapter consist of tree disposition plans drawn over the proposed site plan (Figure 1, left); the site plan is based on a 2018 base map by DRG. These tree disposition plans are much more detailed – I was able to easily compare the locations of the trees to the proposed construction. By contrast, the H.T. Harvey tree disposition plans only show the tree locations on existing satellite imagery (Figure 1, right).

## **PROPOSED SOUTH CAMPUS PROJECT & TREE RECOMMENDATIONS**

The South Campus Redevelopment Project encompasses the 7.9 acre parcel at 4368 Lincoln Avenue, currently developed with aged buildings and parking areas. A small portion of the North Campus will also be impacted. The proposed improvements include the following:

- Demolish 8 existing buildings and rehabilitate 3 buildings
- Construct a new Performance Arts Center and two smaller 1500 ft<sup>2</sup> structures (one for maintenance, one for a connection to the proposed pedestrian tunnel)
- Pedestrian tunnel under Lincoln Ave to connect to the north campus
- One-way loop road around the perimeter of the south campus to provide more pick-up & drop-off space
- Outdoor classrooms, amphitheater, and other spaces

The H.T. Harvey report covers 480 trees, of which 321 are protected trees. Of these protected trees, 169 will be preserved, 31 will be transplanted, and 121 will be removed. The economic and practical feasibility of working around individual trees is unreasonable within the proposed grading areas. I would not assume that the HRS is willing to significantly adjust their proposed plans just to save trees. All trees located within the proposed grading limits will need to be removed. I thus focused on 63 trees near the proposed grading limits, where the potential to preserve trees is higher since the design adjustments may be more reasonable. The H.T. Harvey report is not transparent as to how the recommendations for individual trees were determined, though it comments on the general evaluation process.

I found 18 trees that should be reassessed or recategorized for various reasons. Selected data on these trees are adapted from the H.T. Harvey report into the table below, along with my comments and recommendations. My notes are also provided on the tree disposition plans, included as attachments to this report.

Table 1. Trees selected for reassessment

H. T. Harvey Tree Notes (copied from report)									Traverso Tree Notes	
#	Scientific Name	DBH (in)	SCRZ (ft)	CRZ (ft)	Health	Structure	Recommendation	Notes	Comments	Recommendations
3981	<i>Quercus agrifolia</i>	14	7	21	4	3	Remove	Full canopy, codominant stems	10' from proposed limit of grading, low encroachment.	Preserve.
3998	<i>Brahea sp.</i>	12	7	18	4	4	Remove	Flowering, some hanging dead leaves	Reason for removal is unclear (unsure what is "RW"). Assessed with (S)CRZ but palm root systems differ from trees; encroachment can be closer than for dicot trees.	Clarify removal reason.
5603	<i>Quercus agrifolia</i>	17, 17	10	51	4	3	Preserve	Full canopy, 2 codominant trunks, included bark, some browning leaves	Proposed limit is 9', within SCRZ; encroachment is high; more likely a removal.	Consider extending retaining wall to reduce grading near tree.
5622	<i>Quercus agrifolia</i>	19	9	29	2	3	Preserve	50% canopy dieback, codominant trunks	8' from proposed limit of grading (within SCRZ), plus significant canopy dieback. Noted as not worth retaining.	Remove.
7010	<i>Quercus agrifolia</i>	5	3	8	3	3	Remove	leaning, browning leaves	Reason for removal unclear - is it for the "rw" or proximity to the building?	Clarify removal reason.
7076	<i>Quercus agrifolia</i>	30	10	45	3	2	Preserve	large crack through trunk, 25% of bark missing	15' from proposed limit of grading, plus structural and health concerns. Noted as not worth retaining	Perform advanced assessment on crack/structural defects. May need to remove tree.
7267	<i>Pyrus kawakamii</i>	8, 4	7	18	3	3	Preserve	35% canopy dieback, codominant stems, dead branch tips	Species has a moderate tolerance to construction impact; specimen in decline and is 6' from grading limit.	Remove.

H. T. Harvey Tree Notes (copied from report)									Traverso Tree Notes	
#	Scientific Name	DBH (in)	SCRZ (ft)	CRZ (ft)	Health	Structure	Recommendation	Notes	Comments	Recommendations
7344	<i>Quercus agrifolia</i>	14, 13	10	41	2	3	Preserve	65% canopy dieback, codominant stems, included bark	15' from proposed grading limit/road. Significant dieback plus encroachment, increased likelihood of decline after construction without care. Preservation rating "not worth retaining", yet is noted as preserved.	Remove.
7357	<i>Quercus agrifolia</i>	20	9	30	3	3	Preserve	10% canopy dieback, in flower, black wound, potential rot	9' from proposed road and 3' from proposed grading limit (within SCRZ).	Remove.
7358	<i>Quercus agrifolia</i>	13, 13, 13, 12	12	77	4	3	Preserve	15% canopy dieback, multiple codominant trunks	2' from proposed grading limit; 5' from proposed grading (within SCRZ).	Remove.
7375	<i>Sequoia sempervirens</i>	32	10	48	2	4	Preserve	60% canopy dieback, dead branches	15' from proposed grading limit. Example of a tree where structure should not be used to average out health; redwoods usually have good structure. Tree likely to decline after construction due to poor health.	Remove.
7381	<i>Sequoia sempervirens</i>	32	10	48	4	5	Preserve	Full canopy	12' from proposed grading limit. Tree may decline due to high root encroachment.	Provide tree protection recommendations.
7461	<i>Quercus agrifolia</i>	17	8	26	4	4	Preserve	Full canopy, 2 codominant trunks	7' from proposed bio-retention basin (?), which is within SCRZ. High encroachment.	Provide details on level spreader and/or move basin.
7463	<i>Quercus agrifolia</i>	15, 11, 11	12	71	4	2	Preserve	15% canopy dieback, 4 trunks, leaning	13' from proposed grading limit. Noted as not worth retaining under preservation priorities.	Reassess structure to determine if defects can be addressed. Provide tree protection recommendations.

H. T. Harvey Tree Notes (copied from report)									Traverso Tree Notes	
#	Scientific Name	DBH (in)	SCRZ (ft)	CRZ (ft)	Health	Structure	Recommendation	Notes	Comments	Recommendations
7465	<i>Quercus agrifolia</i>	23	9	35	4	5	Preserve	Full canopy, some browning leaves	Grading goes right up to the trunk, well within SCRZ.	Remove.
7487	<i>Sequoia sempervirens</i>	48	12	72	4	4	Preserve	Full canopy, new growth, great structure	13' from proposed grading limit. Tree likely to decline after construction.	Remove.
7488	<i>Sequoia sempervirens</i>	41	11	62	3	4	Preserve	Epicormic branching, new growth	19' from proposed grading. Likely to experience health decline.	Provide tree protection recommendations; tree may need to be removed.
7500	<i>Juglans nigra</i>	20	9	30	3	3	Remove	15% canopy dieback, codominant stems	Tree # assigned to two trees (one in road one in grove).	Clarify location and removal reason.

#### Issues with tree condition rating

The health and structure of each tree was evaluated according to the criteria outlined in Table 1 of the H.T. Harvey report. On a scale of 0-5, 0 represents a dead tree and 5 represents a healthy specimen with minimal structural defects. The two ratings are then summed to generate a combined “tree condition” rating, which appears to be the basis of the report’s recommendations.

The limitation of this method is in the summing of the two ratings, because the lesser rating is masked by the higher rating. Significant defects may be hidden by the elevated “tree condition” rating. An example of this issue is illustrated by tree #5622. It is a 19” diameter coast live oak (*Quercus agrifolia*) with an overall rating of “fair”, despite a health rating of 2. According to the evaluation criteria, a health rating of 2 indicates a tree that is “in decline...life expectancy is low”. The other data for this tree indicates that it has 50% dieback and is “typically not worth retaining”. The evaluation is more significant in context of the proposed project, where the proposed grading terminates at 8’ from the trunk.

A healthy tree may be able to handle root loss at that proximity with additional care, but a declining tree is already weak and its death will be accelerated. This oak is listed under the “preserved” category, when it is more appropriate as a removal. Similarly, coast live oak #7076 has a structure rating of 2 – it has a “large crack through trunk” with “25% bark missing”. Its health rating is 3, which helps it net a “fair” tree condition rating. At minimum, advanced assessment should be conducted to better understand the risk posed by the structural defects, especially since this tree is located above a playing field.

While the combined tree condition rating method is easy to calculate, it would be prudent to establish an exception so that declining or structurally compromised trees are represented accurately.

### Concerns with using SCRZ & CRZ

The H.T. Harvey report assesses tree impact using structural critical root zone (SCRZ) and critical root zone (CRZ) calculations. These terms are not defined in the report, but the explanation for their use is as follows:

*“We recommend that the majority of coast live oaks to be impacted by construction be transplanted where feasible, due to their protected status, that other trees for which more than 25% of the CRZ and/or any of the SCRZ would be impacted be removed, and that nonnative trees with poor condition ratings or a low preservation priority be removed.”*

#### *Structural Critical Root Zone (SCRZ)*

The SCRZ is obtained from “Construction Damage Assessments: Trees and Sites”, a 1996 document written by Dr. Kim Coder. It provides a series of tools for assessing construction encroachment on trees. Tool #8 refers to a “structural critical rooting distance”, which appears to be adapted by H.T. Harvey as the SCRZ. The structural critical rooting distance is provided as a radius (in feet). According to the document, “significant risk of catastrophic tree failure exists if structural roots within this given radius are destroyed or severely damaged.” The introduction of the document emphasizes the following: *“No assessment tool replaces an experienced, tree-literate professional observer... Each must be modified by species, site, circumstances, and management objectives as determined by an experienced assessor.”*

The radii appear to be directly adapted into the H.T. Harvey report as the SCRZ, with no modifications for species or existing site conditions. An obvious example is palm #3998 (*Brahea* sp.). Palms are monocots, similar to grasses, and they possess a root system that differs from trees. Their roots readily regenerate at the base of the trunk at the root initiation zone (RIZ). Thanks to the RIZ, mature palms can be transplanted with greater ease and smaller root balls. Additionally, the SCRZ evaluation does not take existing conditions into consideration. The South Campus is already developed – buildings and hardscape can act as barriers to root growth, while existing root systems can also be altered by maintenance activities. These adjustments should be made to improve the functionality of the tool, rather than using the SCRZ as an absolute rule.

That said, there are also discrepancies in the application of the SCRZ rule. The report states that *“trees for which...any of the SCRZ would be impacted be removed”*, but this was not applied to six of the trees I reviewed in detail. Proposed grading or improvements will occur within the SCRZ of trees #5603, 5622, 5357, 7358, 7461 & 7465, as close to 2'-3' from the trunk for three of the trees. It is understandable that there may be exceptional circumstances that allow them to be preserved, but these should be clearly stated for the City's review. In my opinion, unless the proposed plans can be changed to accommodate the six trees, they will need to be removed (not preserved as recommended).

#### *Critical Root Zone (CRZ)*

The SCRZ is used to determine how far construction can occur near the tree before its stability is affected and it becomes more likely to uproot. The Critical Root Zone (CRZ) is another method used by H.T. Harvey to review tree encroachment, moreso in relation to tree health. It is equivalent to 1.5 times the trunk diameter, in feet. A definition of CRZ is not provided, nor a source for the calculation. (This is important as a quick online search returns several reputable sources – including Kim Coder – that consider the CRZ to be 1-2.5 times the trunk diameter.) For this review, I assume that the CRZ represents the portion of a tree's root system that is crucial to maintaining tree health. Root loss beyond the CRZ has minimal lasting impact to the tree, since it would mainly affect fine roots that can be regenerated. As root encroachment approaches the trunk, total root loss will pass a threshold at which the tree becomes stressed and begins to decline. The report explains that *“trees for which more than 25% of the CRZ would be impacted be removed”*. I take this 25% to be the threshold to decline.

How the 25% is calculated is unclear. It may be calculated as a fraction of the CRZ radius, which does not appear to be the case for tree #7488. Its trunk diameter is 48" and its CRZ radius is 72'. 25% of the CRZ would be 18', so any encroachment within 54' of the trunk would result in the tree being removed. Yet, proposed grading will encroach up to 13' from the trunk, and the tree is still in the "preserved" category. My opinion is that the redwood will be subjected to high root loss and is likely to decline; it should be reassigned to the "removal" category. Transparency and detail into the method of calculation is needed.

Like the SCRZ, the CRZ evaluation also appears to be applied as a rule without adjusting for tree health, species, or age. (If this conclusion is inaccurate, unfortunately, it is not clear in the report.) Different species differ in their tolerance to construction impacts, with magnolias and walnuts on the highly sensitive end of the spectrum and London planetrees & redwoods on the tolerant end (with geographic variations). Young trees are more resilient than older trees whose growth has begun to slow. Declining trees are already predisposed to decline, so a larger proportion of their root systems must be left intact to prevent decline. A more nuanced approach that considers these factors is discussed in the Trees and Development book by Nelda Matheny and James Clark. Published in 1998, it is accepted by consulting arborists and includes a species tolerance list as an appendix.

#### *Multi-trunk diameters*

Since the SCRZ and CRZ calculations are based on single-trunked trees, multi-trunked trees must be represented by a single trunk. The H.T. Harvey approach is to sum up the individual diameters to generate a single diameter. It also happens to be the City of Oakland's method of handling multi-trunked trees. However, the summed diameter is not an accurate representation of the true size of a multi-trunked tree, which can present issues during the evaluation process. A commonly accepted method for determining a single-trunk representation is outlined in the Guide for Plant Appraisal by the Council of Tree & Landscape Appraisers (both 9<sup>th</sup> & 10<sup>th</sup> edition). Determine the cross-sectional area (CSA) of each trunk, then add them together for the cumulative CSA. The calculation can be reversed to find the diameter of a single-trunked tree that would have the same CSA as the multi-trunked tree.

Take tree #7463 as an example; it is a triple-trunked oak with diameters measuring 15", 11", and 11". Its summed diameter is 37", which was used to calculate a 12' radius SCRZ and 71' radius CRZ. The inflated diameter is a double-edged sword – on the positive end, if the school is dedicated to preserving this tree, a much larger undisturbed area will be provided. More likely, the opposite outcome will occur – the tree will be condemned because the proposed construction encroaches too far into its SCRZ or CRZ. As a comparison, the cross-sectional area method returns a trunk diameter of ~22", with a SCRZ radius of 9' and a CRZ radius of 33'.

#### Proposed transplanting

Transplanting large trees is a means of achieving an instant mature landscape, rather than waiting decades for a newly planted tree to reach full size. Transplanting is an expensive and time-consuming process, not something to be arbitrarily recommended as a way of reducing tree removals. Simple mistakes, such as a brief lapse in irrigation, can significantly reduce the success rate. Successful transplanting requires intensive effort at every step of the process, beginning with proper tree selection. The ideal candidate is a young, vigorously growing specimen with good structure. Young healthy trees tolerate more root loss and regenerate roots more rapidly. Trees with symptoms of decline should not be considered for transplanting unless care is provided to bring them to good health. It is much easier to preserve a tree in place. Transplanting is a very traumatizing process because it significantly shrinks a tree's root system, and the tree may be additionally stressed by mishandling.

The H.T. Harvey report proposes transplanting 31 trees, ranging from 4" to 20" diameter. The species consist of 29 coast live oaks, 1 valley oak, and 1 coast redwood. Eighteen (18) trees are rated as fair condition, and 13 as good. Upon closer review, the individual health and structure conditions reveal that most of the trees are stressed or declining to varying degrees.

- **Six coast live oaks are suitable candidates for transplanting.** Trees #3969, 7014, 7033, 7042, 7324 & 7460 are in good health, with dieback up to 5%. Since #3969 has co-dominant stems and #7014 was previously topped, their structures should be reviewed to determine corrective pruning needs.
- **There is no reason to remove coast live oak #7470.** It is a healthy tree growing in a grove of other trees, under a larger oak. It will not be affected by construction, as it is 14' from the proposed limit of grading. The transplanting process will damage both this tree and the larger oak that dominates it.
- **Ten trees require health improvement or structural correction before consideration for transplanting** (#3966, 3968, 5626, 7016, 7028, 7037, 7228, 7068, 7086, 7323). They were rated fair in health or structure, have 5-15% canopy dieback, and other issues such as browning foliage, co-dominant stems, dead ends of branches, crossing stems, etc. Some of the issues, like co-dominant stems, may not disqualify the tree, but additional review is warranted. The health symptoms indicate existing stress that will be exacerbated by transplanting. If these trees are suitable candidates, they will require significant care to get them to optimal transplanting condition.
- **Fourteen trees should be removed, not transplanted due to poor condition** (#7032, 7053, 7057, 7211, 7212, 7223, 7232, 7239, 7240, 7250, 7257, 7288, 7359, 7390). Coast live oak #7359 has a health rating of 2 and 25% canopy dieback. Coast redwood #7390 also has a health rating of 2, with 50% dieback. The remaining ten trees exhibit fair condition along with 20-40% dieback and associated issues. Stressed trees, especially those that have begun to dieback, have a steep road ahead of them in terms of establishment. The success rate of transplanting these trees is low and they should be removed from the candidate list.

Most of the trees show symptoms of decline and should not be considered genuine candidates. I consider six of the 31 trees to be feasible transplant candidates. Ten trees may be potential candidates if their health and structural issues are corrected and their conditions stabilize for several years. Overall, it will be easier and more cost-effective to plant nursery trees. Transplanted trees must recover from root loss and transplant shock before they can establish into their new locations in the landscape. They must also be maintained by transplanting professionals, not the average arborist or landscaper. If transplanting is still the desired route, a cost analysis should be conducted to understand the expenses and effort required.

#### Tree protection guidelines

The recommendations of the H.T. Harvey report are limited to whether trees should be removed, preserved, or transplanted. Guidelines on how to care for and protect transplanted & preserved trees are not provided.

While page 6-16 of the BR chapter references the city's tree protection ordinance, its generic tree protection recommendations, and replacement plantings, these are not specific to the proposed project. Page 6-32 notes the following: "adequate protections must be provided during the construction period for any trees to remain standing. These tree protections shall include, but are not limited to secure fencing, preventing encroachment into the protected perimeter of any protected tree, BMPs for storage or dumping of substances that may be harmful to trees, BMPS for site maintenance, and any additional recommendations of an arborist. The Davey Tree Inventory Update and Tree Protection Plan for Head

Royce School (Appendix 6B) includes a list of General Tree Protection Measures and additional tree protection guidelines and recommendations specific to the Project.” However, Appendix 6B of the DEIR is the H.T. Harvey report, not the Davey (Resource Group, DRG) report. Since the H.T. Harvey report does not include tree protection guidelines, updated & specific guidelines are not available for the proposed project. It should be noted that I was only able to review the DRG report because it was provided to me – this document is not available to the public.

Future updates of the arborist reports and tree disposition plans should include specific tree protection guidelines, especially in plan form so the information is easily accessible to contractors.

### **ELIMINATING AMPHITHEATER AND REDUCING LOOP ROAD**

I was also asked to determine how many trees could be preserved if the proposed amphitheater and a portion of the loop road was eliminated. A conservative area around the amphitheater area was identified for assessment by consulting Leila Moncharsh. The purpose of the “loop” of the road is to direct vehicles around the South Campus perimeter and reduce crowding on Lincoln Avenue, but it may not be integral to the function of the road. To maintain access to the Performing Arts & Building 9 parking lots, only the south end of the road was eliminated for this exercise.

Twelve (12) protected trees, including three native redwoods and oaks, could be preserved if the south end of the road was not constructed. If the amphitheater were eliminated, twenty-three (23) protected trees could be preserved, including twelve (12) native oaks and redwoods.

Five plans are attached, which consist of my review notes drawn on the BR tree disposition plans. The limits of the amphitheater and loop road discussed above are also shown on the plans.

Thank you for the opportunity to provide this assessment, and please let me know if you have any questions.

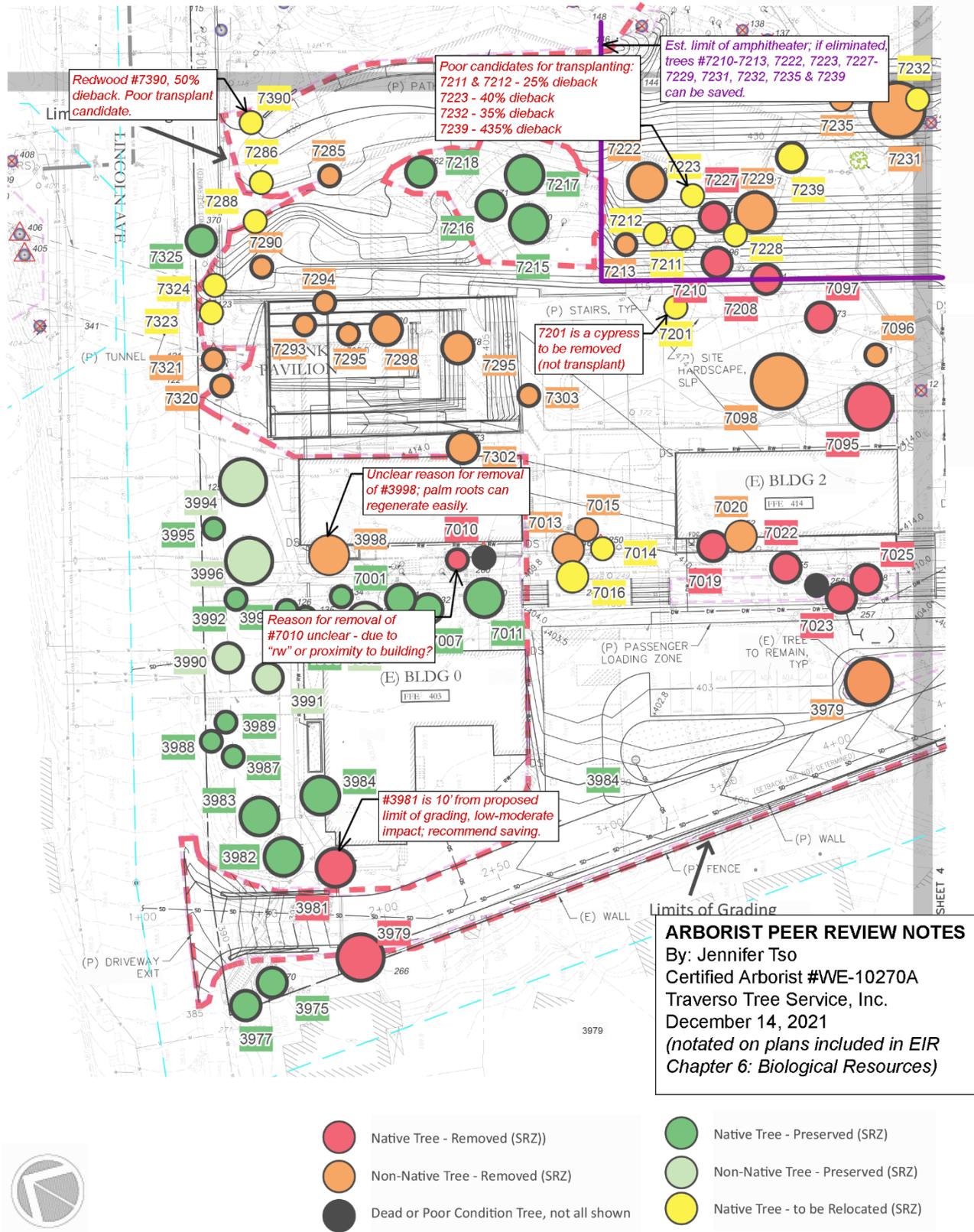
Sincerely,



Jennifer Tso  
Certified Arborist #WE-10270A  
ISA Tree Risk Assessor Qualified

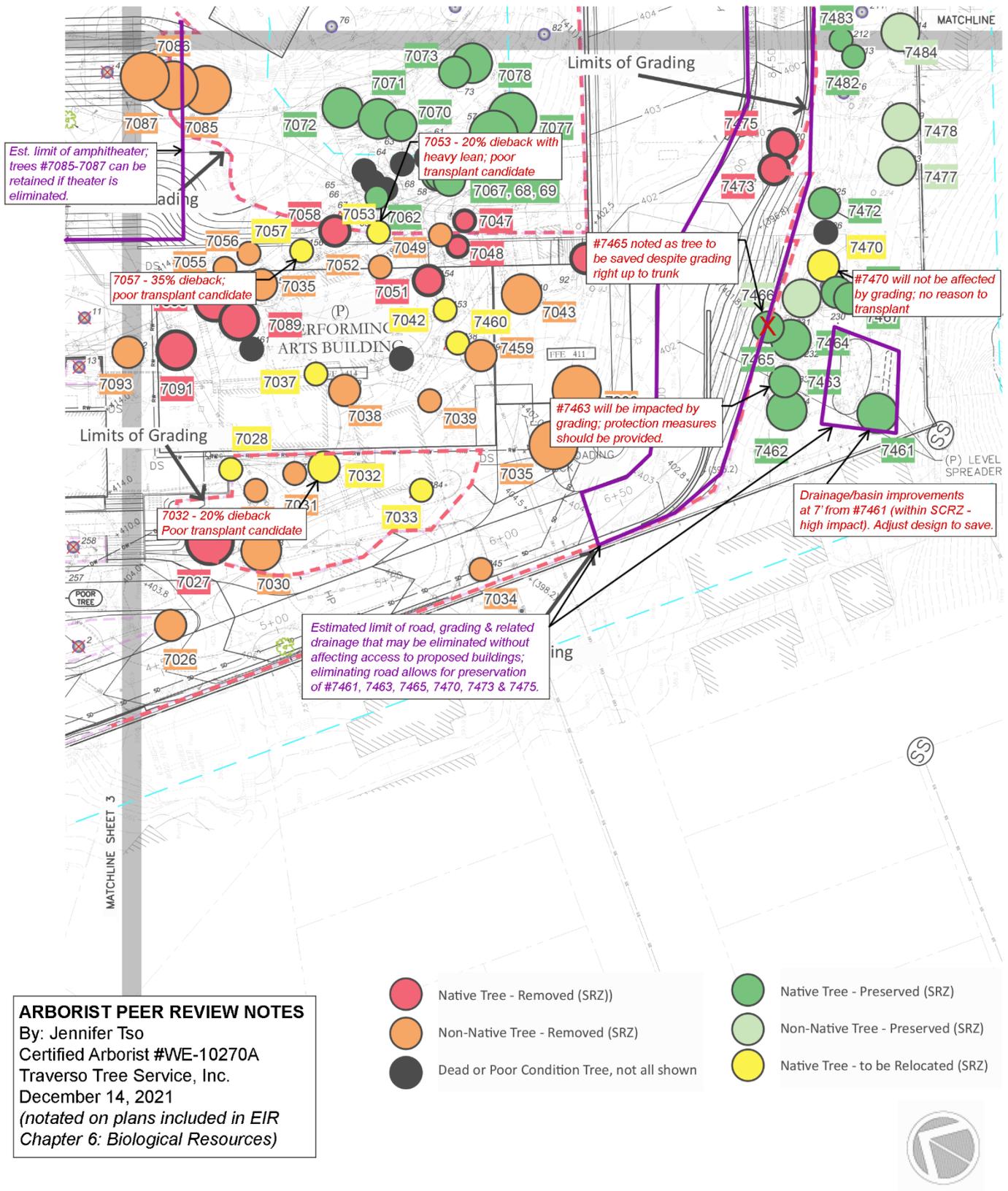






**Figure 6-6**  
**Disposition of Protected Trees, Northwest Quadrant of Proposed South Campus**  
 Source: Basemap - Davey Tree Group (2018), Tree Status - H.T. Harvey & Assoc. (2020)

Jennifer Tso, Certified Arborist



**Figure 6-7**  
**Proposed Removal of Protected Trees, Southwest Quadrant of Proposed South Campus**

Source: Basemap - Davey Tree Group (2018),  
 Tree Status - H.T. Harvey & Assoc. (2020)

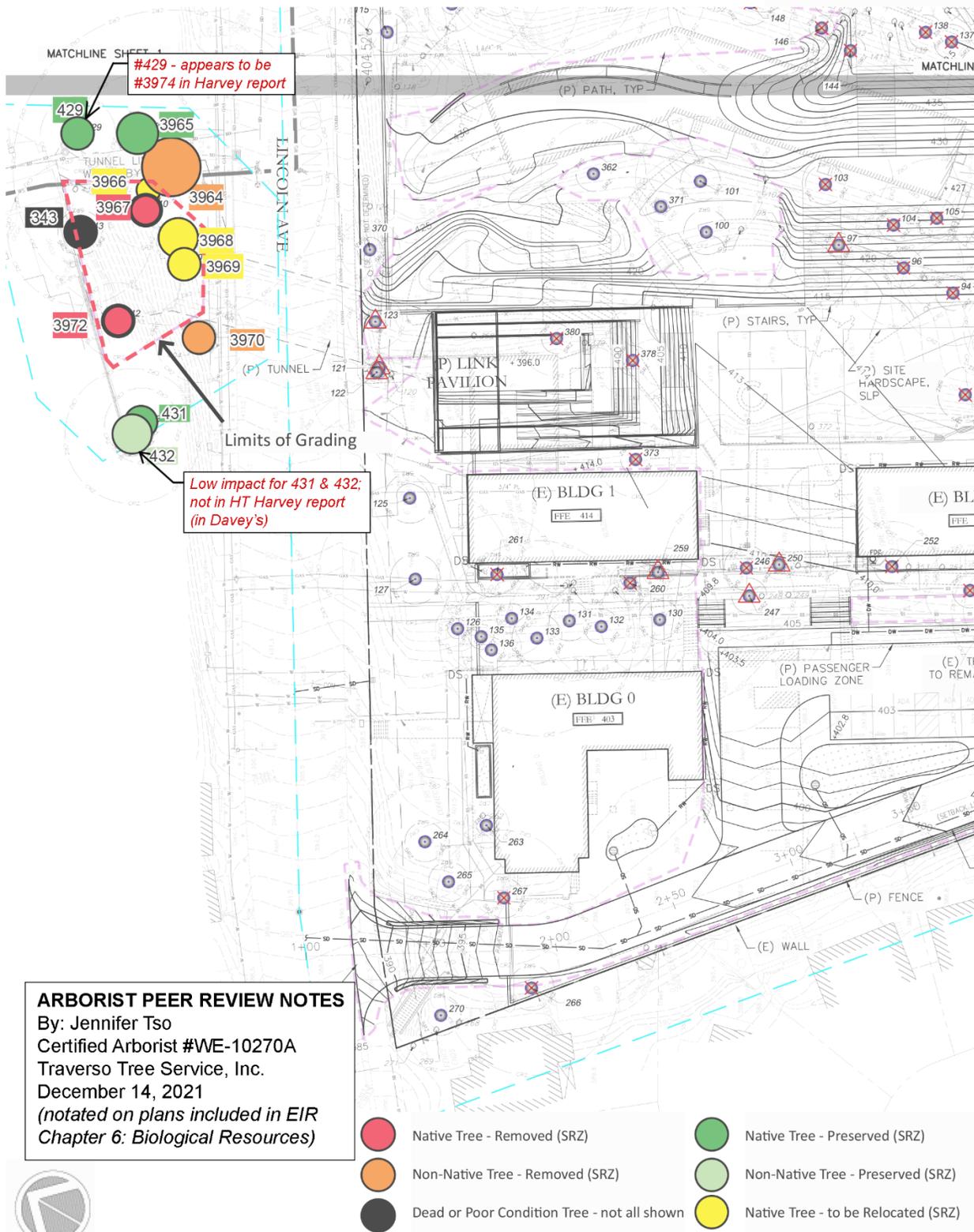


Figure 6-8  
 Disposition of Protected Trees, Existing Campus Tunnel Opening

Source: Basemap - Davey Tree Group (2018),  
 Tree Status - H.T. Harvey & Assoc. (2020)

# Jennifer Tso

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## Education

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University of California, Davis, M.S. in Horticulture and Agronomy, 2011 – 2013

University of California, Davis, B.S. in Environmental Horticulture & Urban Forestry, 2007 – 2011

## Relevant Experience

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**Consulting Arborist**, Traverso Tree Service, Inc., 7/2015 – current

- Complete tree inventories and arborist reports to satisfy tree protection requirements in many jurisdictions throughout the San Francisco Bay Area and beyond.
- Provide monitoring services during construction to facilitate compliance with tree protection recommendations.
- Provide other tree consultation services as needed (tree risk assessments, value loss, landscape design, species selection, etc).
- Create biweekly lessons on arboriculture concepts for staff and crew as a part of our in-house continuing education training.

**Arborist (Sales Support)**, A Plus Tree, Inc., 4/2014 – 5/2015

- Designed and implemented arboriculture curriculum specifically for incoming sales personnel.
- Inspected hazardous trees (and other trees of concern) and provided written arborist reports.
- Assessed trees and provided recommendations to create multi-year management plans for apartments, HOAs, and other commercial properties.
- Created estimates for tree work and communicated with clients and crews to facilitate job completion.

**Intern**, Tree Davis, 3/2012 – 2/2014

- Researched parking lot shade ordinances to assist the Davis Urban Forest Manager in revising the city's ordinance; wrote comprehensive report and presented on project to Davis stakeholders.
- Led and instructed volunteers during tree planting and care events as a planting leader.

**Teaching Assistant**, UC Davis, 1/2012 – 12/2013

- Taught horticulture courses including arboriculture, urban forestry, and plant taxonomy & identification.
- Prepared lectures tailored to audience, such as landscape architecture or Japanese exchange students.
- Devised and implemented creative classes, including edible plants labs.

**Arboricultural Intern**, UC Davis Arboretum and Public Garden, 8/2010 – 8/2013

- Took quantitative measurements of 2300 trees for comprehensive tree inventory.
- Provided quality control for tree database through field verification and GIS manipulation.
- Identified and communicated tree work requirements for grant report.

## Professional Affiliations & Qualifications

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**Co-Chair**, Bay Area Landscape Supervisors' Forum, 2015 – 2016

**Certified Arborist** WE-10270A, International Society of Arboriculture, 2013

**Tree Risk Assessor Qualified**, International Society of Arboriculture, 2017