



OAK TREE ASSESSMENT AND PROTECTION PLAN FOR 34 EAST PADRE ST.

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SUMMARY

Jo Lepley and Larry Gore are proposing to remodel their home at 34 East Padre St. in Santa Barbara. There are two oak trees adjacent to the project. I was retained to inspect the trees, assess their condition, identify potential impacts, and prepare a report with my findings and recommendations.

Due to the close proximity of the project, I directed the excavation of an exploratory trench to assess the potential impacts to the tree. I found there to be a minimal quantity of roots within the parameters of the project. As a result, I determined that there would not be significant impacts to these trees provided tree protection measures are followed.

The table of contents on the next page illustrates the organization of this report. I have also included photos of the site and a fencing plan.

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BACKGROUND / ASSIGNMENT

Akiko Wade Davis of Wade Davis Design, has prepared a conceptual plan for a renovation at 34 East Padre St. In Santa Barbara. Her clients, Jo Lepley and Larry Gore are proposing to add an extension to the first floor of their home with an extension of their patio to the south side of the existing structure. There are two oak trees within the project parameters. I was retained to assess the trees, potential impacts from the proposed project, and prepare a report with my findings and recommendations. I was on the site during November 25, 2013 and then several times on December 5 and 6.

OBSERVATIONS

There are two California Live Oaks (*Quercus agrifolia*) on the south side of the property adjacent to the proposed addition. Tree #1 is the larger eastern oak. Tree #2 is the smaller western oak.

Oak #1 - Eastern tree

1. This oak has a 34.5" DBH (diameter at breast height measured at 54" above ground).
2. The tree is approximately 50' tall with a spread of 40'.
3. The tree was recently pruned and appears to be in fair to good condition, although the crown is a bit thinner than ideal. This was reported to be from removal of deadwood.
4. Examination of the trunk revealed an abrupt change in bark texture that suggests the tree was topped many years ago, at approximately 20'.
5. Covering much of the root zone is a layer of coarse mulch.

Oak #2 - Western tree

1. This oak has a DBH of 26.5".
2. It's condition is similar and was also likely to have been topped in the past.
3. The tree is surrounded with mulch although there was a recent terracing job on the west side of the tree that would have required some root cutting.

The Project

1. The southern portion of the house and patio will be extended by approximately 15' and come within 9' of tree #1 and 8' of tree #2. The encroachment into the total theoretical critical root zone of tree #1 will be less than 20% and approximately 30% of tree #2. Based on this observation of a border-line significant impact and the site conditions, I directed exploratory excavation as discussed in the next section.
2. Due to the higher elevation of the house above the yard, a retaining wall (approx. 5' average height) and footing will need to be constructed on the southern perimeter of the new addition. The area inside the footing beneath the house will be retained as a crawl space at the existing grade. The area beneath the extended deck will be filled and covered with a slab on the new grade.

ANALYSIS AND TESTING

Background

This house was built in the 1920s. More recently, there was new landscape installed that may have required some minimal grading and root cutting. When looking at the plan, the encroachment into the critical root zones from the proposed project is 20% -25%, suggesting that impacts are border-line significant. However, the neighbors property also covers some of this critical root zone which suggests that encroachment by the renovation may be greater.

Soil and Root Growth

In an effort to determine the pattern (depth and spread) of root growth, I used a soil auger to collect a sample in root zone. I found the soil to be a clayey sand meaning there is a significant portion of sand which allows drainage and promotes a deep and narrow root system. A heavy clay soil would promote a shallow and spreading root system. In addition, I performed a percolation test (drainage test) which confirmed my findings.

Yet the border-line impact, prompted me to direct the excavation of an exploratory trench in the location of the proposed footing in order to observe the extent of root growth. This would confirm if significant roots are growing in the proposed construction area. The contractor facilitated the excavation of the exploratory trench that was 12" wide and 18" to 22" deep. I inspected the site for the two day period as workers carefully removed soil.

I found there to be roots from the oak, the adjacent pittosporum, and from a dead tree that once was growing in that area. The oak roots were primarily small in size, less than 1/8" in diameter, although there were several that were in the 1/2" - 1/4" range. There were many dead roots from the dead tree also in the trench. At the bottom of the trench the tops of more roots could be seen. The trench has since been backfilled.

CONCLUSIONS

1. Based on my inspection, I conclude that there will be no significant impacts to the oak trees.
2. Tree protection measures must be followed to assure that impacts are not created from peripheral activities.
3. Steps should be taken to improve conditions around the tree in the remaining portion of the root zone.

TREE PROTECTION MEASURES

1. Install fencing (orange construction type is adequate for this protect) around the tree as indicated on the site plan. Fences must be maintained in upright positions throughout the duration of the project.
2. The fenced area is considered to be a tree protection zone and should be void of materials, storage, and dumping.
3. When digging footings for the project, the arborist should be monitoring this work to be sure that roots are protected should a greater depth in excavation become required.
4. If roots are encountered that are greater than 1", then wrap with foam to protect from the concrete.
5. Any roots that need to be cut, should be done so with a sharp cutting tool to avoid ripping live tissue.
6. Due to the simplicity of the project and the owner's personal involvement in activities on the site, regular monitoring will not be necessary once the fencing is installed and the excavation is complete. City inspectors should be sure that fences remain upright and tree protection zones are not breached.
7. The remaining root zone should be invigorated with deep watering, application of mulch, and fertilization as follows:
 - a. Use a water jet to get moisture below the surface to approximately 24".
 - b. Insert the water-jet in a grid pattern on 3' centers, beginning a few feet from the trunk and extending to the edge of the dripline where there is no construction (injection in a grid with 2' centers are better)
 - c. Apply a slow-release fertilizer that is high in nitrogen to the same root area. This can be done by a tree service and injected into the soil. Repeat twice annually.
 - d. Consider spraying the lower trunk of the tree in the early spring and late summer with permethrin (or suitable other) to help resist attack of oak bark beetles. A tree service with a licensed pest control applicator should be used for this application.
 - e. Apply a 2"-4" layer of coarse wood chips in the remaining root area. Replenish as chips breakdown into the soil.

ARBORIST DISCLOSURE STATEMENT & CERTIFICATION OF PERFORMANCE

Arborists are tree specialists who use their education, knowledge, training and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of the arborist, or to seek additional advice.

Arborists cannot detect every condition that could possibly lead to structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like any medicine, cannot be guaranteed.

Treatment, pruning and removal of trees may involve considerations beyond the scope of the arborist's services such as property boundaries, property ownership, site lines, disputes between neighbors, and other issues. Arborists cannot take such considerations into account unless complete and accurate information is disclosed to the arborist. An arborist should then be expected to reasonably rely upon the completeness and accuracy of the information provided.

Trees can be managed, but they cannot be controlled. To live near a tree is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

I Bill Spiewak, certify:

That I have personally inspected the trees on the property referred to in this report and have stated my findings accurately.

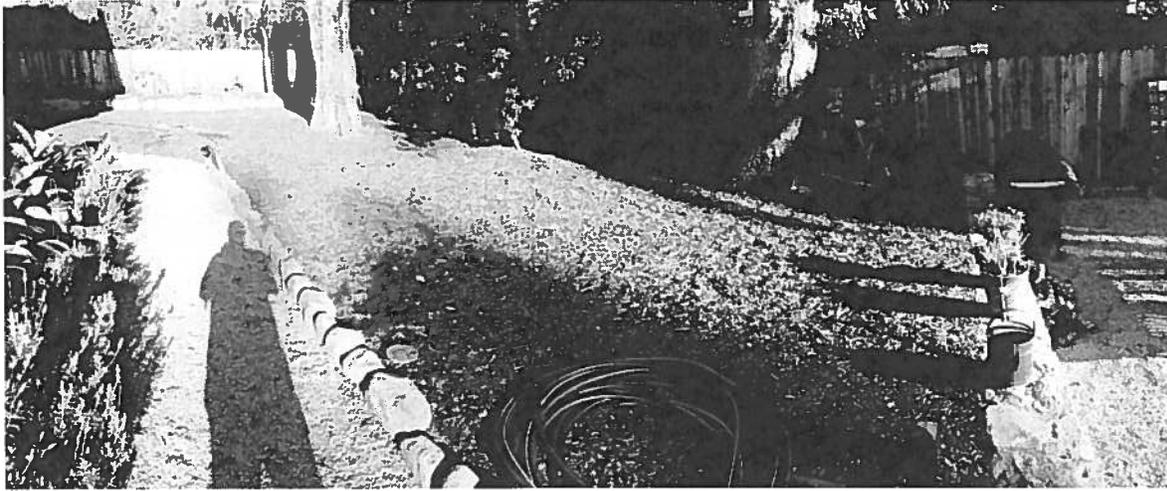
The analysis, opinions and conclusions stated herein are my own and are based on current scientific procedures and commonly accepted arboricultural practices.

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PHOTOS



Above: A view of the ground below the oaks.
Below: The exploratory trench that was excavated.





Above: View of both oaks. Although the closer tree (western oak) looks bigger, it is smaller than the back eastern oak.

Below: Oak #1. Arrows point to the location where this tree was topped long ago. It is easier to see the differences in bark texture and age when on-site. It would be reasonable to assume that there are some internal pockets of decay.





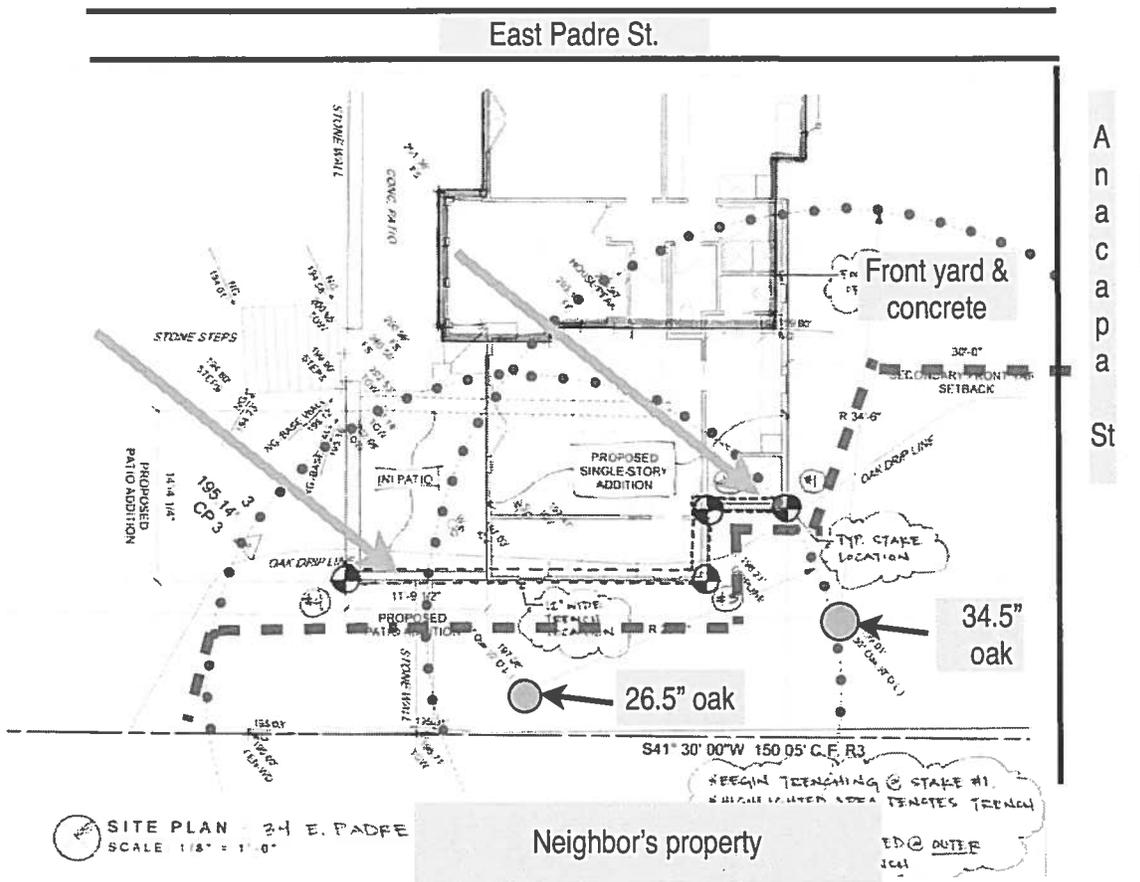
Upper left: A view of the trench looking east. Some small young roots can be observed.

Lower left: A view of the trench looking west. More roots were observed across from tree #2 although there were very few.

Lower right: Arrow points to the trunk of an old dead tree.



TREE PROTECTION FENCING PLAN



1. This site plan shows the proposed location of the southern footing (green arrows) and where the exploratory trench was excavated.
2. The blue dashed line is the location of the tree protection fencing. Everything to the south (below) the blue line is a tree protection zone.
3. The red dotted lines show the critical root zones of the two oaks.

REFERENCES

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