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Summary

Project Description and Background

Field Inspection

¹ Words in bold appear in glossary



protective tree report.

Purpose and Use of the Report

The purpose of this report is as follows;

- Identify protected trees that would be encroached upon by the proposed construction project according to the City of Glendale Indigenous Tree Program
- Identify construction activity that will occur within the protected zone of protected trees and describe the effects they may have on them
- Provide an evaluation of the current condition of the subject trees
- Provide recommendations for the protection and treatment of subject trees before, during and after the proposed construction project.
- It is intended to be used by the owner at his own discretion.

Limits of the Assignment

- Observations made in the following report are based on limited visual inspection from the ground only at the time of inspection. No in-depth above or below ground inspections were performed as part of this report. Many such inspections may be necessary to be more conclusive about what was observed from the ground and are not included as part of this report.
- Property line locations were described to me by others; accuracy of property boundaries is not guaranteed. Before any recommendations are followed or actions taken regarding any trees that are subject to this report, a determination of ownership should be made. Since property lines sometimes do not follow existing terrain or man-made barriers, the location of such boundaries should be accurately determined before making any assumptions of ownership.
- This report is by no means intended to serve as a risk assessment for subject trees. Even with a report such as this, there is no guarantee that a tree will not fail unexpectedly. Trees are dynamic living organisms subject to many influencing factors. All trees are potentially hazardous, regardless of their apparent health, vigor, or structural integrity. It is impossible to be 100% sure that a tree is absolutely safe.



Observations

Site

Proposed Construction

Site Trees

Oak Tree #2

Oak Tree #5

² www.zillow.com



Construction Impacts

Discussion




Conclusion

Recommendations

Based on the findings of this report, I recommend that you hire a competent Consulting Arborist (CA) to perform and/or supervise the following tree protection measures for the subject trees;

Pre-Construction Meeting

Conduct a pre-construction meeting prior to start of work to discuss procedures and care of trees during construction. Equipment and methods to be discussed as they



relate to tree protection measures. All relevant personnel to attend including the CA assigned to manage tree protection and the construction project manager.

Site Considerations

The Tree Protection Zone shall be defined as the area one foot outside the dripline of the subject trees. The ground area surrounding their trunks shall be protected by installing plastic mesh fencing with steel posts surrounding the Tree Protected Zone (TPZ) where possible. Fence posts to be installed carefully so as not to damage underlying roots. Fencing materials and post locations to be approved by the CA (see Appendix C: Proposed Construction).

No stockpiling, storage, or placement of project materials or excavated soils or other unplanned changes in grade may occur within the TPZ of any protected tree, either temporarily during construction or permanently.

No parking of equipment underneath the TPZ of the remaining protected trees. Care must be taken when positioning equipment close to remaining trees so that exhaust emissions do not burn foliage.

Provide and install a three-inch layer of coarse, disease and pest-free mulch around the root zone of protected trees where possible. Type of mulch used to be approved by the CA.

Established a haul route for equipment access necessary to perform work. Install temporary fencing with signage identifying its purpose along the haul route where deemed necessary by the consulting CA to minimize encroachment to trees and minimize soil compaction along the route. Materials and placement to be approved by the CA.

Provide and install a 6" layer of mulch and $\frac{3}{4}$ " plywood in the protected root zone of trees within the established haul route. Materials and placement to be approved by the CA.

All weeds and other plant material that is to be removed within the TPZ of remaining trees to be done by means of hand tools as to not damage underlying tree roots. Methods and procedures to be approved by the CA.

Deep root water remaining trees before the onset of construction and provide adequate irrigation during construction. Set up temporary irrigation for protected trees if deemed necessary by the CA. Location, type of irrigation, and watering schedule to be approved by the CA. Tree which have major roots cut may require additional watering.

Tree Pruning

Pruning of remaining trees should only be done if necessary for safety, tree health, to reduce excessive end weight, remove deadwood, balance tree canopies, or to provide construction clearance and should be kept to a minimum.

Pruning work should be performed or supervised by the CA. All pruning work to conform to **ANSI A300** pruning standards.

Major Roots

Any root larger than two inches in diameter shall be considered a major root. Any major root to be cut shall be approved by and done under the supervision of the CA.

Permitted cutting of major roots shall be accomplished with a root pruning tool that will not damage the root inboard of the pruning site such as a root cutter, hand saw, or **lopper**. Major roots shall not be ripped by backhoe, ditching machine, or similar grading equipment. Roots shall be cut to a nearby lateral root if possible. If this is not possible, roots shall be cut cleanly and perpendicular to the remaining root. Cut roots should be covered with burlap and kept moist if left exposed for an extended length of time.

Excavation near protected trees

All excavation work should be located outside the TPZ of any remaining tree when possible. Where it is not possible to avoid encroachment into protected root zones, the design must minimize such encroachment. A determination must be made by the CA as to where and how this should be done to protect major tree roots. Alternative types of footings may be required to minimize impact to tree root zones.

No more than one-third of the root feeding zone of remaining trees may be affected by construction activity, unless the CA determines that the tree will not be harmed as a result.

Major roots shall be located with the use of an **air spade**, hand tools, **sonic tomography**, **ground penetrating radar (TRU)**, or a metal probe. A determination can be made as to pruning roots and/or utilizing an alternative design to avoid major roots.

If major roots are to be cut within the TPZ, they should be pruned in the approved manor listed above before excavation begins under the supervision of the CA.

If any major tree roots (larger than two inches) of remaining trees are damaged during excavation, they should be treated as follows;

- Roots shall be cut cleanly with the use of a hand saw, lopper, or a root cutting device that will not damage the root inboard of the pruning site
- Cuts should be made perpendicular to the remaining root or pruned back to a nearby lateral root
- Cut roots should be covered with burlap and kept moist if left exposed for an extended length of time.

All excavation within the TPZ of remain trees shall be done carefully with the use of hand tools under the supervision of the CA. In cases where rock or unusually dense soil prevents hand trenching, the CA may approve use of mechanical equipment; provided that work inside the protected zone is closely supervised by the CA to minimize tearing or other damage to major roots.

Utility trenching pathways shall avoid the TPZ of any protected tree where possible. In cases where alternative routes are not available, the feasibility of tunneling under roots or trenching between them shall be considered so as not to damage major roots. All such work shall be performed under the on-site supervision of the CA.

Whenever possible, underground lines should be grouped in the fewest possible trenches. Where it is not possible to avoid encroachment into root zones, the design must minimize such encroachment.

Any damage incurred to major roots of protected trees within the TPZ shall be reported to the CA immediately.

Erosion Control

Provide erosion control where temporary soil disturbance and/or storage of spoils deem it necessary. Excess soil should not displace onto the root zones of surrounding trees. Methods and procedures to be approved by the CA.

Hardscape Removal and Replacement

Carefully remove hardscapes around remaining trees as to not damage underlying roots. This should be done without the use of invasive, heavy mechanical equipment if possible. All hardscape removal within the TPZ of a protected tree shall be supervised by the CA. Methods shall be approved by the CA. Replacement materials and procedures to be approved by the CA.

Patio Construction

On-grade patios or paving that cover more than one-third of the protected root zone of remaining protected trees shall be constructed of permeable materials that allow air and water to penetrate the soil.



Cleaning Leaf Canopies

Clean leaf canopies of remaining trees if deemed necessary by the CA to remove dirt and debris accumulated during construction activities. Methods and procedures to be approved by the CA.

Damage to Trees

Any damage to trees caused by construction activity should be reported to the CA immediately. Recommendations can be made for mitigation by the CA.

Jobsite Monitoring

Jobsite should be monitored weekly and during procedures as required by this tree protection report. Further written recommendations are to be made by the CA after monitoring sessions when necessary.

Post-Construction Evaluation

Trees shall be inspected at the termination of construction and written recommendations provided by the CA for the further treatment of protected trees.



Appendix A: Tree Inventory



Appendix A: Tree Inventory



Appendix B: Observations of Protected Trees



Appendix B: Observations of Protected Trees

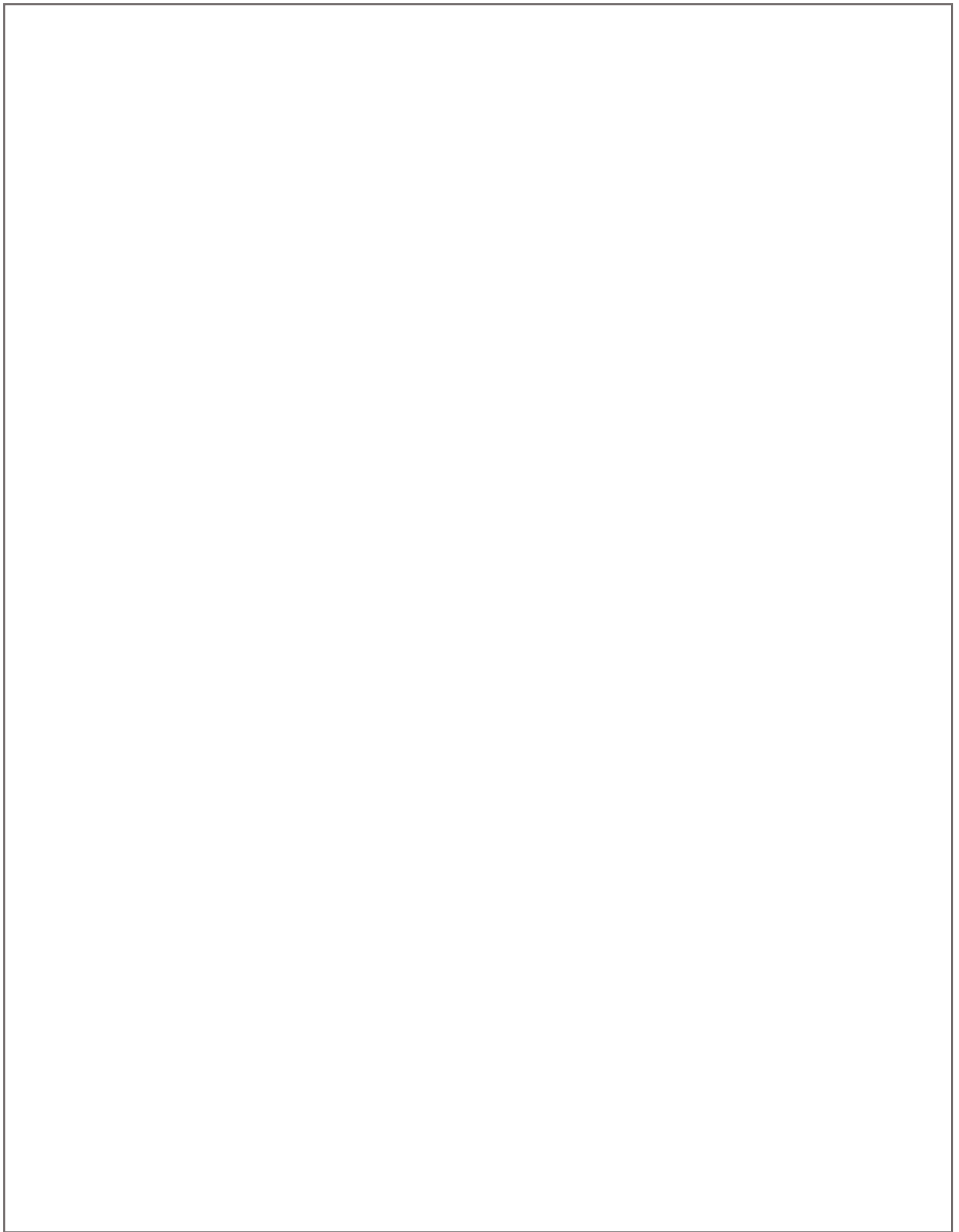




Appendix C: Proposed Construction

Appendix D: Assumptions and Limiting Conditions

1. Any legal description provided to the consultant/appraiser is assumed to be correct. Any titles and ownerships to any property are assumed to be good and marketable. No responsibility is assumed for matters legal in character. Any and all property is appraised or evaluated as though free and clear, under responsible ownership and competent management.
2. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant/appraiser can neither guarantee nor be responsible for the accuracy of information provided by others.
3. The consultant/appraiser shall not be required to give testimony or attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule and contract of engagement.
4. Loss or alteration of any part of this report invalidates the entire report.
5. Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person to whom it is addressed, without the prior expressed written or oral consent of the consultant /appraiser.
6. Neither all nor any part of the contents of this report, nor copy thereof shall be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales, or other media, without the prior expressed written or oral consent of the consultant/appraiser particularly as to value considerations, identity or the consultant /appraiser, or any reference to any professional society or institute or to any initialed designation conferred upon the consultant/appraiser as stated in his qualifications.
7. This report and values expressed herein represent the opinion of the consultant/appraiser, and the consultant's/appraiser's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.
8. Sketches, diagrams, graphs, and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys.
9. Unless expressed otherwise: (1) information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing or coring. There is no warranty or guarantee, expressed or implied, that problems and deficiencies of the plants or property in question may not arise in the future.





Appendix F: List of Credentials

Glossary

Air spade- A tool which utilizes compressed air to remove soil.

ANSI A300- In the United States, industry-developed, national consensus standards of practice for tree care.

Caliper- The diameter measurement of a tree trunk or branch.

Capillary space- Pores within soil where water and other materials can move freely.

Dominant tree- A tree which grows in an open area without interference from competing trees.

Dripline- A line associated with the edge of a tree's leaf canopy.

Feeder roots- Small, thin roots that absorb water and nutrients from the soil.

Foliage density- A measure of the amount or concentration of leaves of a plant collectively.

Footing- A structural element used in construction that is typically made from poured concrete and reinforced with rebar. Concrete footings are used to support the foundation and to stop it from settling into underlying soil.

Form- The overall growth pattern of a tree.

Gaseous Exchange- The movement of gas from an area of high concentration.

Ground penetrating radar (TRU)- A specialized device that utilizes radar technology to map out root systems of trees.

Hardscape- The portion of the landscape which is made up of hard material such as concrete, block, or tile.


Leaf canopy- The part of a trees canopy which is composed of leaves.

Load- The amount of weight carried.

Lopper- a cutting tool, especially for pruning trees.

Morphology- The study of how things are structured.

Native grade- Soil level or grade at which a tree was originally planted.



Sonic tomography- The use of multiple sensors placed around a tree's trunk to record sound waves traveling through the wood, with measurements resulting in a picture of internal density characteristics.

Taper- A reduction on thickness at one end of a structure.

Trunk- Main or central stem of a tree.

Root zone- Area within the soil profile where roots exist; typically the root zone of trees extends beyond the drip line.