



Rick G. Zampino, RCA#416 / BCMA#TX3241B / BSF

April 28, 2025

Seis Lagos Utility District
c/o Nick Calautti
2730 Country Club Road, Suite E1
Lucas, Texas 75002

Subject: Tree Protection Plan for existing mature shade trees in median of Seis Lagos Trail

Mr. Calautti,

On April 22, 2025 our office received a request to design a Tree Preservation Plan for mature trees in the median of a pavement replacement project. On April 23, 2025 at 9:30am I met with Nick Calautti to assess the project. This letter concerns the tree assets in the median all along Seis Lagos Trail from the entry gate, Riva Ridge eastward, all the way to the round-about at Carriage Trail (Figure #2).

The community of Seis Lagos plans to renovate the surface of Seis Lagos Trail, replacing the pavement on both sides of the median where the trees are located with the added stipulation of increasing the median size by 2 feet on each side. There are a total of 31 large native shade trees involved and one large ornamental Bradford Pear. On May 4, 2025, all tree assets were surveyed and tagged, consideration was given for size and condition (Table #1).

Site Review: April 23, 2025
Site: Seis Lagos Trail
Wylie, Texas 75098

Species Live Oak (*Quercus virginiana*)
 Red Oak (*Quercus shumardii*)
 Cedar Elm (*Ulmus crassifolia*)
 Bradford Pear (*Pyrus calleryana*)



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The condition of a tree is determined by evaluating many factors crucial for their health and longevity. This typically involves both subjective and objective evaluation criteria, often utilizing systems designed by professionals RCA's / BCMA's Arborists. The trees were assessed for health and vigor, life expectancy and chances of survival through the construction process. Physical and structural defect conditions of the trees are expanded, seen in Tables #2 & #3.

Key Factors for Tree Condition Rating:

- Trunk Condition: Examining the integrity of the trunk, including signs of decay, missing bark sections, and overall soundness.
- Growth Rate: Evaluating how vigorously the tree is growing, relative to its species.
- Structure: Assessing the overall structure of the tree, including the presence of dead, broken, or missing limbs.
- Insects and Diseases: Checking for the presence of pests and diseases that could negatively impact tree health.
- Crown Development: Observing the fullness and balance of the tree's canopy.
- Life Expectancy: Estimating how long the tree is expected to live, based on its current condition and other factors.

Condition Rating Scale:

These factors are typically rated on a scale of 1 to 5, with 5 indicating excellent condition and 1 indicating poor condition. The total points from all six factors contribute to an overall condition rating.

- Excellent: 23-26 points (80-100% value).
- Good: 19-22 points (60-80% value).
- Fair: 14-18 points (40-60% value).
- Poor: 10-13 points (20-40% value).
- Very Poor: 6-9 points (0-20% value).

Importance of Professional Assessment:

It's important to note that accurately assessing tree condition requires expertise in tree dendrology, pathology, entomology, and physiology. For comprehensive and accurate assessments, especially for more complex situations, consulting RCA or BCMA arborist is highly recommended.



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TABLE #1

TAG #	DIAMETER	SPECIES	COMMON NAME	MULTI	CONDITION
706	24	<i>Pyrus calleryana</i>	Bradford Pear	1	Fair
707	16.5	<i>Quercus virginiana</i>	Live Oak	1	Fair
708	25.7	<i>Quercus virginiana</i>	Live Oak	1	Fair
709	19.9	<i>Quercus virginiana</i>	Live Oak	1	Fair
710	25.4	<i>Ulmus crassifolia</i>	Cedar Elm	1	Poor
711	16.1	<i>Ulmus crassifolia</i>	Cedar Elm	1	Poor
712	25	<i>Ulmus crassifolia</i>	Cedar Elm	1	Poor
713	16.3	<i>Quercus shumardii</i>	Red Oak	1	Very Poor
714	26.1	<i>Quercus virginiana</i>	Live Oak	1	Fair
715	14.9	<i>Ulmus crassifolia</i>	Cedar Elm	1	Fair
716	21	<i>Ulmus crassifolia</i>	Cedar Elm	2	Very Poor
717	18.2	<i>Quercus virginiana</i>	Live Oak	1	Fair
718	21.5	<i>Quercus shumardii</i>	Red Oak	1	Very Poor
719	20.1	<i>Ulmus crassifolia</i>	Cedar Elm	1	Very Poor
720	20.1	<i>Quercus shumardii</i>	Red Oak	1	Very Poor
721	23.5	<i>Ulmus crassifolia</i>	Cedar Elm	2	Poor
722	18.1	<i>Ulmus crassifolia</i>	Cedar Elm	1	Poor
723	19.5	<i>Quercus virginiana</i>	Live Oak	1	Poor
724	22.9	<i>Quercus virginiana</i>	Live Oak	1	Poor
725	17.3	<i>Ulmus crassifolia</i>	Cedar Elm	1	Poor
726	22 3/5	<i>Quercus virginiana</i>	Live Oak	1	Poor
727	18.5	<i>Quercus shumardii</i>	Red Oak	1	Very Poor
728	23.6	<i>Quercus virginiana</i>	Live Oak	3	Poor
729	23	<i>Quercus virginiana</i>	Live Oak	2	Poor
730	23.5	<i>Ulmus crassifolia</i>	Cedar Elm	1	Poor
731	23.2	<i>Ulmus crassifolia</i>	Cedar Elm	2	Poor
732	24.2	<i>Quercus virginiana</i>	Live Oak	1	Fair
733	17.4	<i>Quercus virginiana</i>	Live Oak	1	Fair
734	32.1	<i>Ulmus crassifolia</i>	Cedar Elm	2	Poor
735	17.5	<i>Ulmus crassifolia</i>	Cedar Elm	1	Very Poor
736	27.5	<i>Quercus virginiana</i>	Live Oak	1	Poor
737	27.5	<i>Quercus virginiana</i>	Live Oak	1	Poor
TOTAL # of Trees:		32			



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TABLE #2 – TRUNK DISTURBANCES

DISTURBANCES	EFFECTED TREES (TAG # & PICTURE #)
Fungal Matte/Conks	Tag #713, 718, 727 & Pictures #3, 4
Bleeding	Tag #713, 718, 720, 727 & Pictures #2, 3, 17
Splitting/Freeze Damage	Tag #723, 724, 726
Mechanical Damage	Tag #706, 707, 710, 714, 716, 717, 718, 719, 720, 721, 725, 728, 729, 730, 734, 736 & Pictures #9-13
Girdling Roots	Tag #728, 729 & Pictures #4, 7
Cracks/Drought Damage	Tag #718, 720, 727
Sunscald	Tag #713, 718, 727

TABLE #3 – CANOPY THREATS

TAG #	# OF INCLUSIONS Pictures #1, 5, 6, 8, 15, 20-22	MISTLETOE Infestation(Light, Medium, Heavy) Pictures #2, 8, 14, 25	DEADWOOD (Light, Medium, Heavy) Pictures #3, 10, 16, 24
706	1	-	Light
707	-	-	Light
708	-	-	Light
709	-	-	Light
710	-	Medium-Heavy	Light
711	-	Medium-Heavy	Light
712	1	Light-Medium	Light
713	-	-	Heavy
714	-	-	Light
715	-	-	Light
716	1	Heavy	Light
717	-	-	Light
718	-	-	Medium
719	1	Heavy	Light
720	-	-	Medium
721	2	Light-Medium	Light
722	1	Light-Medium	Light
723	-	-	Light
724	-	-	Light
725	1	Medium-Heavy	Light



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726	-	-	Light
727	-	-	Heavy
728	3	-	Light
729	3	-	Light
730	-	Medium-Heavy	Light
731	1	Medium-Heavy	Light
732	1	-	Light
733	-	-	Light
734	1	Medium-Heavy	Light
735	-	Heavy	Light
736	-	-	Light
737	-	-	Light

Our findings from the above tables are as follows. Deadwood is not only a physical threat to trees, for the free incursion of disease and boring insects, but also a liability to those who frequent underneath them. Mistletoe (*Viscum album*) is a parasitic plant that robs the host plant of resources even in the winter. Debilitating if not removed, will kill the tree (Pics.#1,8,14). The other structural issue that predominates these trees are trunk and limb inclusions that result in cracked split trunks (Pics.#1,4-6,15,21) and broken/torn limbs. Drastic measures such as cabling and bracing shall be taken to help hold trees with defects together. Pruning is often combined with cabling and bracing to minimize risk of tree failure. The 4 Red Oaks, already with numerous stresses (Pics.#2-3,16-19), would not be recommended for saving.

The goal of a tree preservation plan is to have trees remain assets to the site for years to come. Trees that are preserved on construction sites, therefore must be carefully evaluated to make sure they will survive. Those chosen as candidates to retain would require preparing the trees for such an event. This would be accomplished by 1) treating the trees, 2) pruning, 3) protecting the critical root zone (CRZ).

- 1) Treating: This service provides all the essential resources the trees need to upgrade/enhance health and vigor through this lengthy project. Three products, A) Organic 3-1-1 tree fertilizer, available plant nutrition, B) Medicament to reduce/control insect activity, C) Bio-Pak to enhance soil flora processes and humates/hormones that stimulate roots and accelerate wound healing capacity. While performing this task, a soil needle is used under mechanical agitation and at 200psi. This would be pumped into the ground starting 3 feet from the trunk and all the way out to the drip line, maximizing dispersal, dosage and aerifying the soil (12-month residual in most cases).



- 2) Pruning: The removal of dead tissue which is not only a threat to the health of the trees, but to anyone frequenting beneath them. Removal of parasitic plants, mistletoe, draining the tree of resources, weakening and debilitating overall health and structure. Lastly, mitigating structural imperfections such as inclusions and bifurcations with the installation of support cables.
- 3) Critical Root Zone (CRZ): This is the protection of the roots, in this case directly below the tree canopy and extending out to the drip line as much as possible. This would require installation of a CRZ fence and mulching to 8-10 inches. The purpose is protection from soil compaction, A) parking and driving across and on, B) stacking and dumping materials, C) contamination from leaching and leaking products, D) mechanical impacts on roots, trunk and limbs, E) more importantly, it assists in reducing soil moisture evaporation.

In North Texas, we are accustomed to many different types of weather events, such as an extended freeze in February 2021. Temperature fluctuations, such as 60-degree temperature changes within a 24-hour period, ice storms, hail, straight line winds, micro-bursts and droughts can be quite serious. Droughts are expected and should be remedied with supplemental watering. As the temperatures rise and the rain dissipates, our heavy clay soils dry out quickly. If not addressed, soils open to root system exposure and causes dehydration. A double whammy, being that during this project the irrigation is likely to stop functioning properly which will threaten the tree's survival. This is what the shade trees will need.

- 1) During triple digit degree temperatures and drought conditions, deep water every 3-4 days.
- 2) 10-15 Gallons per diameter trunk inch per watering.
- 3) Full coverage.

Allow areas to dry out before watering again and prevent irrigation from striking the trunks. Plan and prepare for supplemental irrigating, this would require a tanker truck in this case where irrigation is compromised or insufficient in volume. To ensure you protect your tree assets, the best way to prevent damage to a tree during construction is to establish a tree protection zone. An example of a tree protection zone is a fence. A fence is ideal to protect trees against the encroachment of construction equipment. It will also minimize soil compaction and prevent debris from affecting the root system. A fence should be set up around the tree based on the Critical Root Zone as the circular area around a particular tree trunk where the tree's roots should be protected from soil compaction, cut root systems, burning, grading, dumping chemicals and stacking of rubble. This is generally placed at the drip line.



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Now that we have addressed the pre-construction/during construction care for the trees, installation of a 4-foot-wide cement or crushed decomposed granite walkway under the trees is being considered. What we look at is the impact of installing such a surface on the trees before, during and after, initial cost versus maintenance and life expectancy. Having said that, you have stated there will be “no digging into the existing dirt”. Although this is a great statement, what I have found to be true over the years is how it will be enforced to be successful.

- 1) Cement initially a larger expense up front with A) forming up with a cushion sand base, B) rebar install, C) pouring and leveling and last form removal. Twenty-year life expectancy.
- 2) Decomposed granite can either be formed up first to give a more uniformed appearance or just applied by small light equipment and spread. Most likely this requires little maintenance.

In addition, soil needs to be added to the raised walkway and should take into consideration a slope that will allow uniform mowing in sunny areas. Ornamental grass such as mondo and liriope are recommended in shaded areas where no mowing is needed and very little maintenance. The addition of 4-6 inches of soil to the areas where the walkway will be and applied gives us little concern if all the recommendations are followed.

ROOT BARRIERS

There are many types of root barriers available. We have researched and found that the product Bio-Barrier is the most effective in our heavy clay North Texas soils. Bio-Barrier consists of nodules of trifluralin that are permanently molded through geotextiles. Roots will not grow within 2 inches of the barrier. They are diverted, protecting your cement while maintaining the landscape. Installed vertically beside the area to be protected, the nodules slowly release trifluralin which builds and maintains a root inhibition vapor zone. When root tips enter the vapor zone, cell division ceases in that area, but roots outside of the vapor zone continue to grow. The ideal placement would be right in the area of expansion where there would be 1) the least amount of invasive root cutting, 2) the furthest from the tree trunk, and 3) between new driveway surfaces. Installation would be in accordance with the stated manufacturer’s guidelines.

In retrospect, another benefit of this barrier is that it allows moisture to pass through. As opposed to others, which are static and hold up moisture at the barrier. Allowing roots to accumulate and grow, thus increasing the potential to breach the barrier.



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There are very few Tree Care companies in the area that can provide all the necessary services, one is Advanced Tree & Shrub Care Inc. They will provide you with an estimate for the services.

I believe this information will be helpful. Please do not hesitate to contact me directly with any additional questions or concerns.

Best Regards,

Rick G. Zampino, BSF
Registered Consulting Arborist #416
Board Certified Master Arborist #TX-3241B



Assumptions and Limiting Conditions

- 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.
- 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.
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 - 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 or deficiencies of the plants or property in question, may not arise in the future.

Disclaimer

- Field conditions have been limited to the areas requested as they relate to the tree(s) in question only. I am not qualified to determine the legal authority of those persons involved, nor do I make judgment in that regard.



#2



#1



15



15



#6



#5



#8



#1



#10



#9



#11



#12



#13



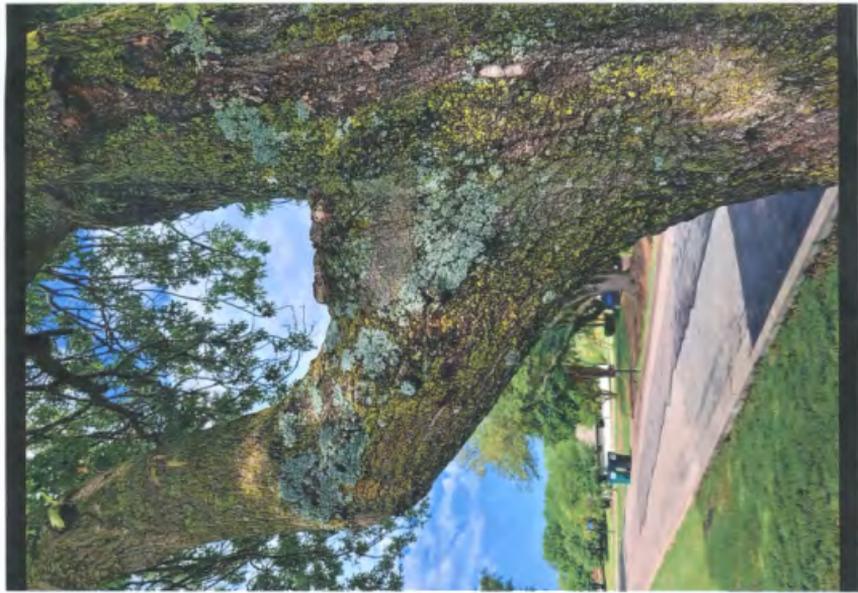
#14



#16



#15



#18



#17



#20



#19



12#



12#



#24



#23



#25