Stephenville Senior Citizens Center

Tree Preservation

Certified Arborist Opinion

By Del Britton

International Society of Arboriculture (ISA) Certified Arborist

Stephenville, Texas

Opinion - Ancient Live Oak

Concerning Live Oak with a diameter of 93". The tree is located at approximately 200 N Vines in Stephenville, Texas. It is on city property. The canopy is generally healthy in appearance.The tree has a wound where a limb was broken off on the street side and has not been properly pruned. A sidewalk existed (now removed) inside the "Quarter Critical Root Zone". As much of 3' compacted fill dirt has been placed over a large area of the "Tree Protection Zone". Some minor limb damage has been done by current construction activity.

There is evidence of intention to protect the tree from the construction process and the actual building. The protection is inadequate for several reasons.

The existing orange mesh barrier is inadequate as protection. It is physically flimsy and being ignored by workers in several ways. The area inside of that barrier has **already been violated** with equipment traffic and fill soil was placed inside the barrier.

The barrier does not encompass a large enough area. **Much of the existing barrier is placed inside the minimum distances** from the tree.

The current barrier has erratic placement at distances from 35 to 54' from the tree.

There is no interior or Quarter Critical Root Zone marked or protected.

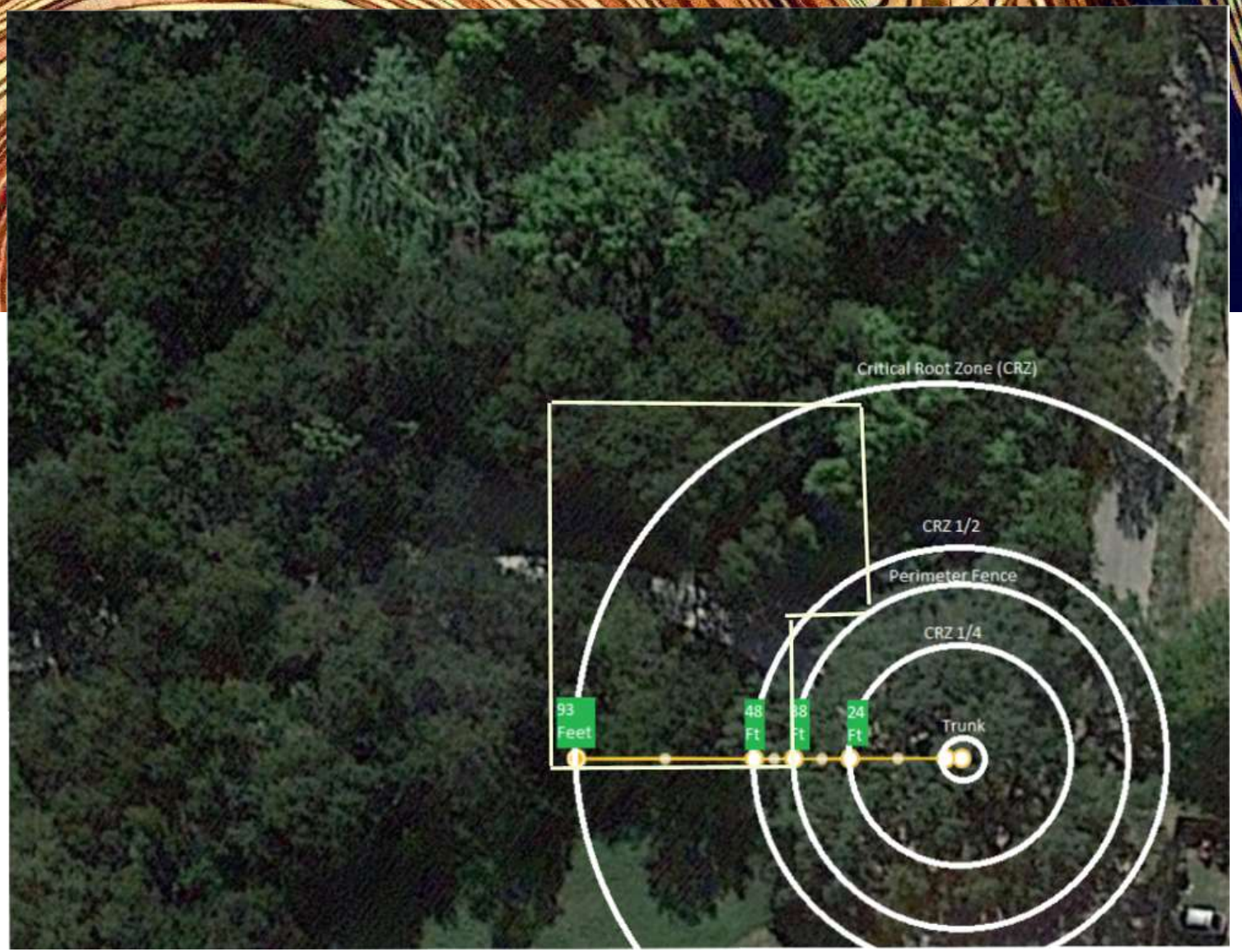
ANSI Standards would require noting and considering the complete Tree Protection Zone area of a minimum of 1 foot per diameter inch. For this tree a 93' radius – at minimum.

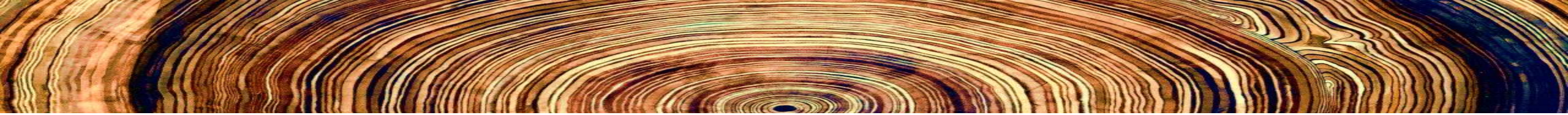
The **Quarter Critical Root Zone (CRZ) should be 24' at a minimum.** I would recommend increasing it because part of the trees root zone on the opposite side is restricted by a street. The streets effect probably increases reliance on the remaining root zone area. No changes or traffic should be allowed on this area.

The **Half Critical Root Zone (CRZ) should be 47'** at minimum. A maximum of 4" of additional coverage or 4" removal of soil on 50% of this area might be tolerated by the tree.

Old trees like old animals do not tolerate damage as easily as younger ones. The minimumstandards may not be adequate.

Del Britton, ISA Certified Arborist 4368A





Arborist's Opinion – copied directly from SeniorsTree.org

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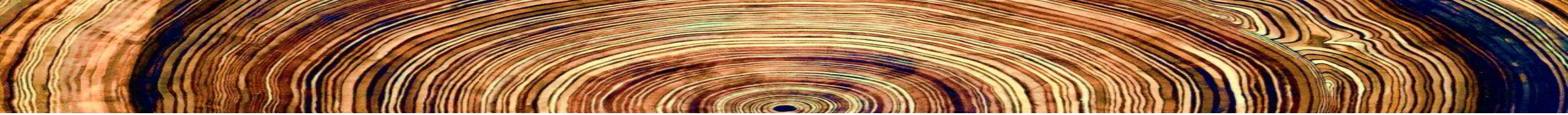


Is this an accurate assessment?

The age estimate and critical root zone are based on trunk diameter.

Is the tree almost 8 feet in diameter?

Guidelines for care of historic trees during construction

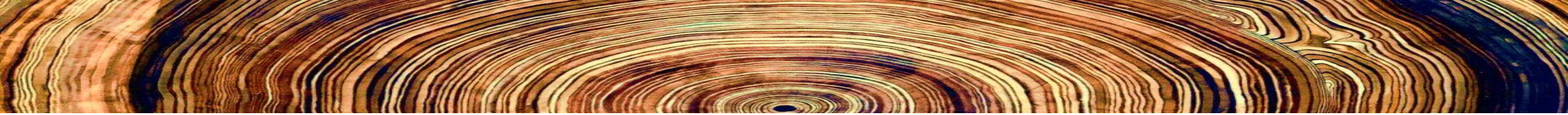
Following are links to authoritative sources on best practices for protecting and preserving historic trees during construction. The City of Stephenville is blatantly disregarding these guidelines in their handling of the Seniors Tree during the Senior Center / Council Chambers construction project.

National Park Service - Preservation Matters: Landscape Maintenance - Protecting Historic Trees During Construction

Texas Department of Transportation (TxDOT) tree protection guidelines

Tree Preservation Criteria Best Practices from City of Austin Building Code

SeniorsTree.org



Texas Department of Transportation (TxDOT) tree protection gui

TYPICAL TREE PROTECTION

Provided by SeniorsTree.org

NOTES:

CRITICAL ROOT ZONE IS 1 FT. AWAY FROM TREE TRUNK FOR EVERY 1 IN. OF TREE DIAMETER MEASURED AT 4 FT. HEIGHT.

WATER TREES EVERY 2 WEEKS WITH A MINIMUM OF 100 GALLONS PER TREE.

SPRAY TREE WITH WATER TO REMOVE CONSTRUCTION DUST WHEN DIRECTED.

CONSTRUCTION FENCE SHALL BE 4 FT. TALL.

DO NOT PERFORM WORK OR STORE EQUIPMENT WITHIN PROTECTED AREA.

COVER THE CRITICAL ROOT ZONE BETWEEN THE PROTECTED AREA AND THE CONSTRUCTION ZONE WITH 4 IN. OF MULCH

PERFORM TREE TRIMMING AND WOUND REPAIR PER STANDARD SPECIFICATIONS.

DAMAGED AND EXPOSED ROOTS SHALL BE TRIMMED AND TREATED PER STANDARD SPECIFICATIONS. BACKFILL EXPOSED ROOTS WITH TOPSOIL WITHIN 24 HOURS OF EXPOSURE.

PLACE PLASTIC UNDER CONCRETE PLACED IN THE CRITICAL ROOT ZONE.

PLACE A ROOT BARRIER IN THE CRITICAL ROOT ZONE AT THE EDGE OF TREATED SUBGRADE TO THE DEPTH OF THE SUBGRADE.

ALL WORK IS SUBSIDIARY TO BID ITEM.

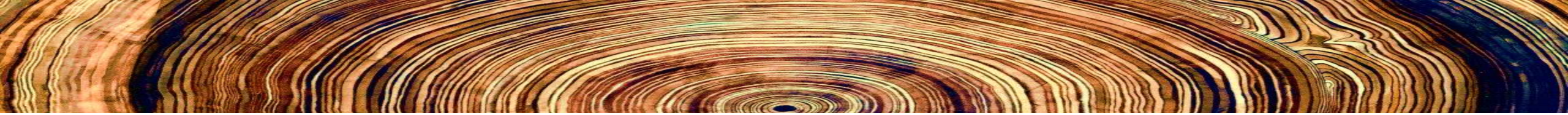
TxDOT guidelines indicate tree should be measured at a height of 4ft

Texas Department of Transportation | Austin District Standard

TREE PROTECTION DETAILS

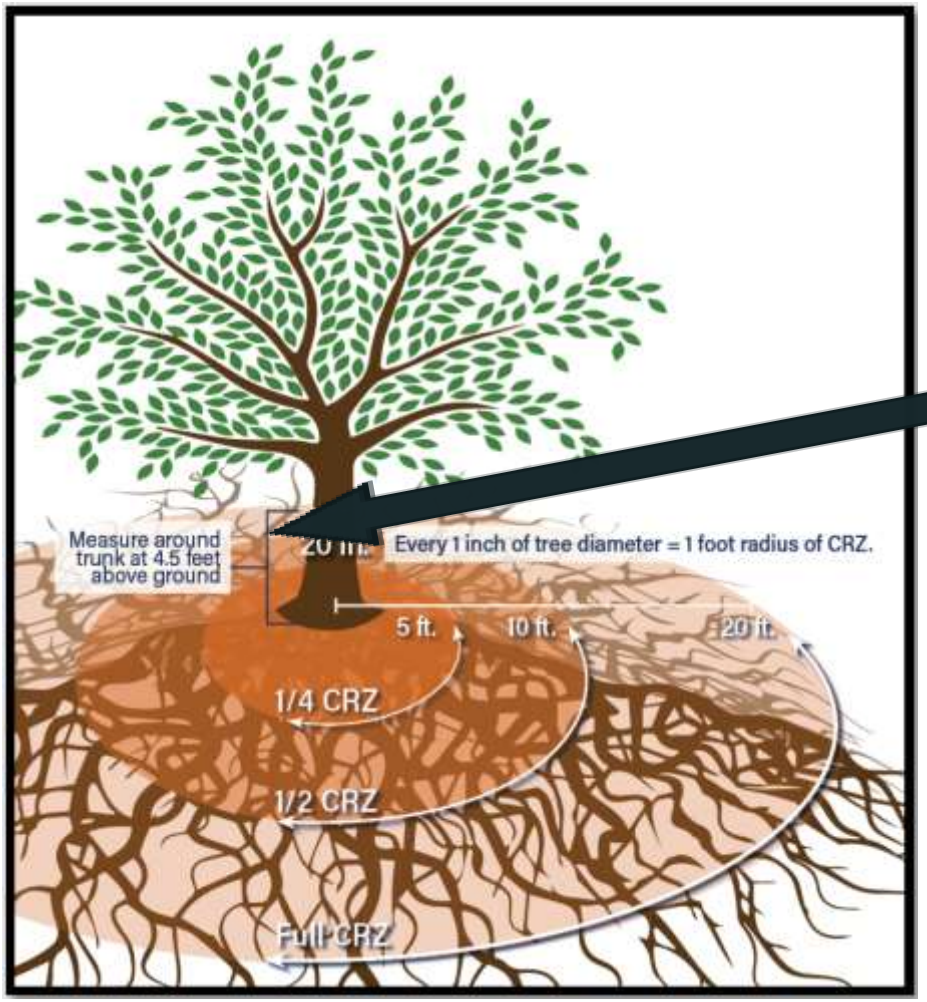
TPD-19(AUS)

©TxDOT 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS 06/16: SHEET CREATED 04/19: APPROVED	DIST	COUNTY		SHEET NO.



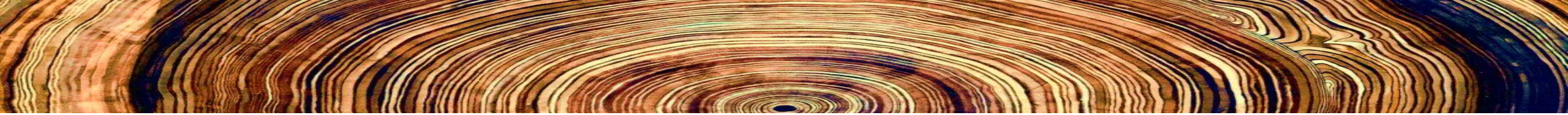
Tree Preservation Criteria Best Practices from City of Austin

Provided by SeniorsTree.org

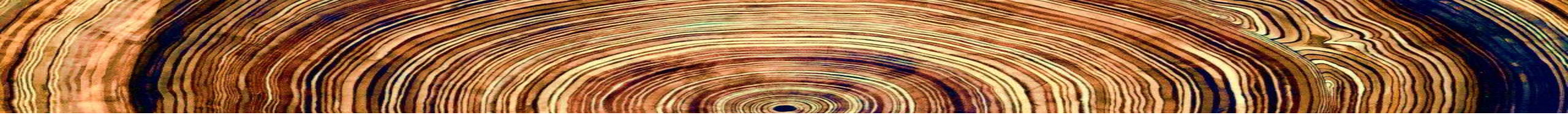


City of Austin building code indicates tree should be measured at a height of 4 ½ ft

Note: Texas Forest Service Regional Forester has confirmed 4 ½ ft is used in forestry as well.



Proper measurement of the tree at 4 – 4 ½ ft above ground according to City of Austin building code and TxDOT tree preservation guidelines and Texas Forest Service practices.



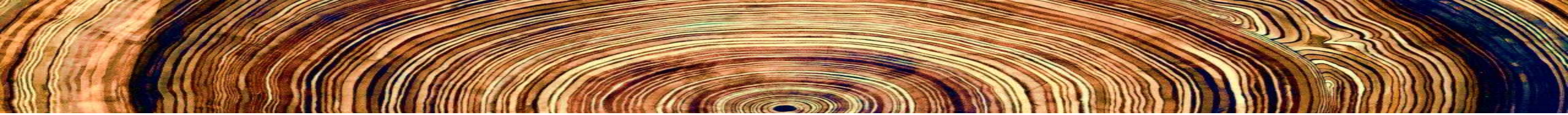
Circumference = 201 in.

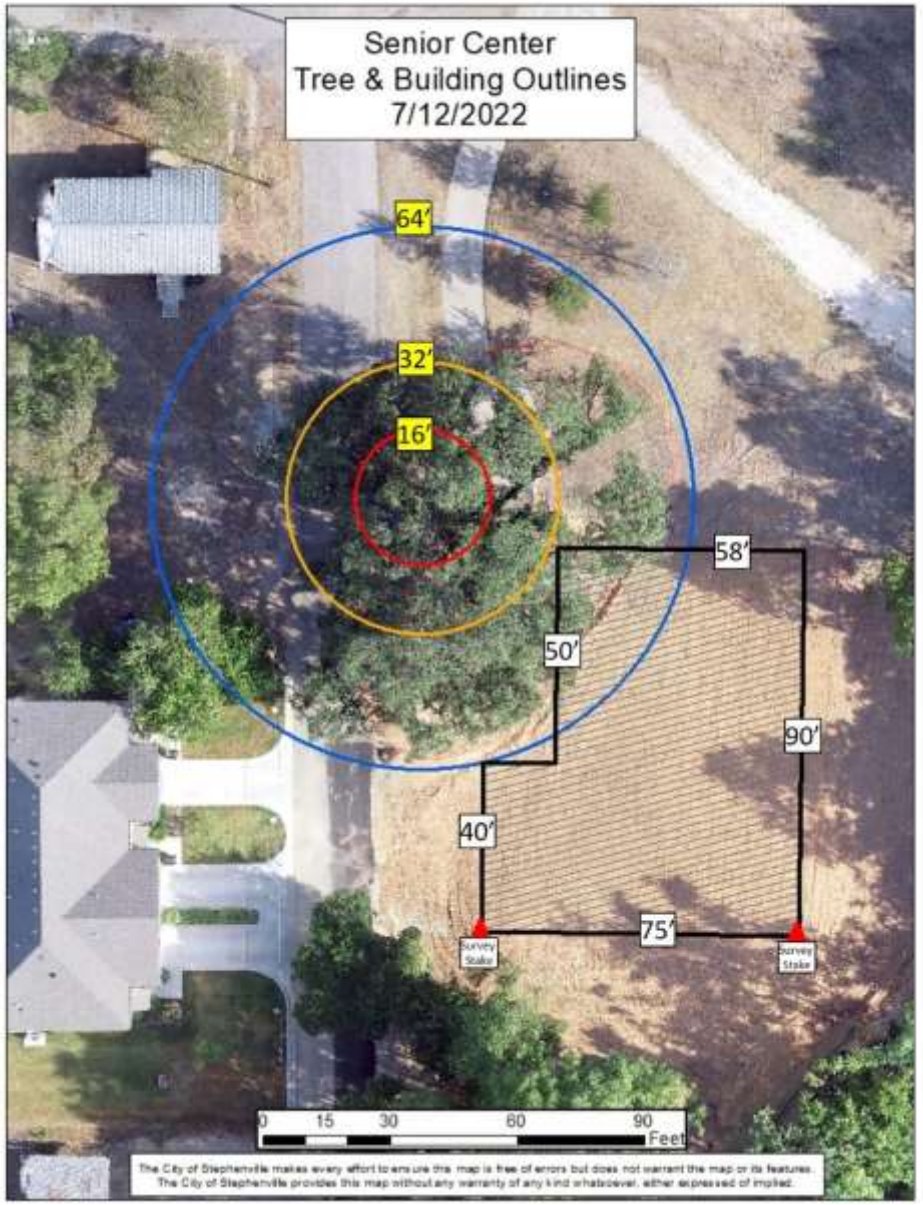
Diameter = 64 in.

Critical Root Zone = 64 ft.

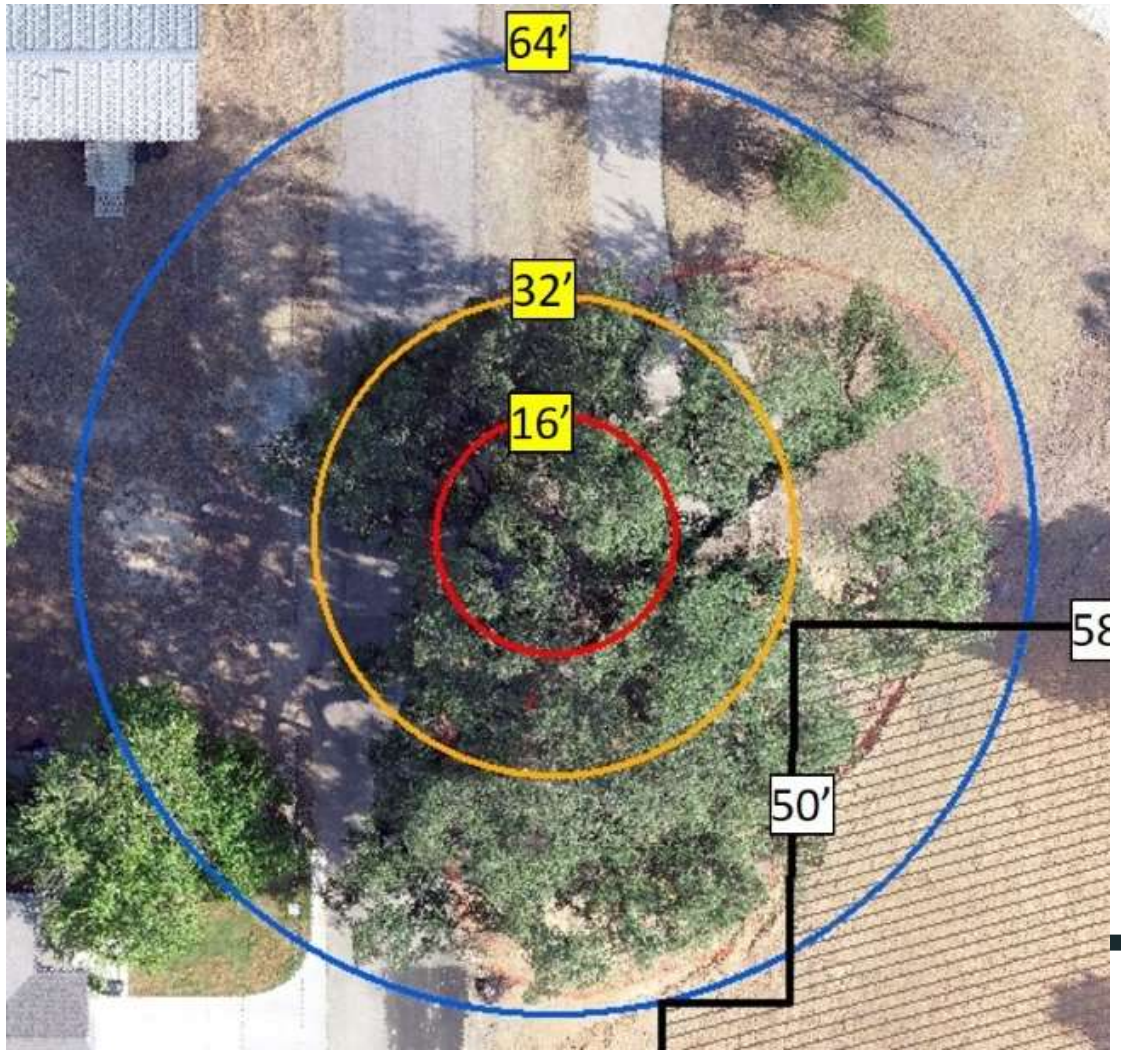
½ CRZ = 32 ft.

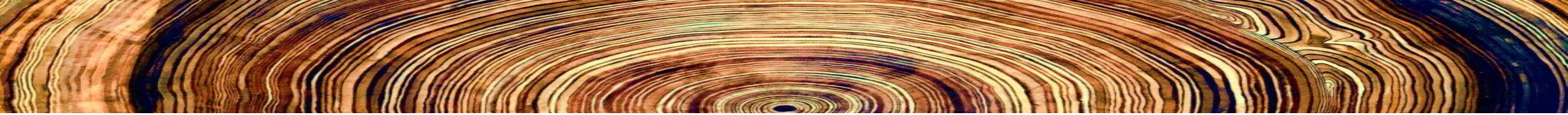
¼ CRZ = 16 ft.





Building does not impact the ¼ or ½ CRZs





Tree Preservation Criteria Best Practices from City of Austin Building Code

Provided by SeniorsTree.org

Design constraints, such as site conditions, often dictate that trees slated for preservation have some root zone disturbance.

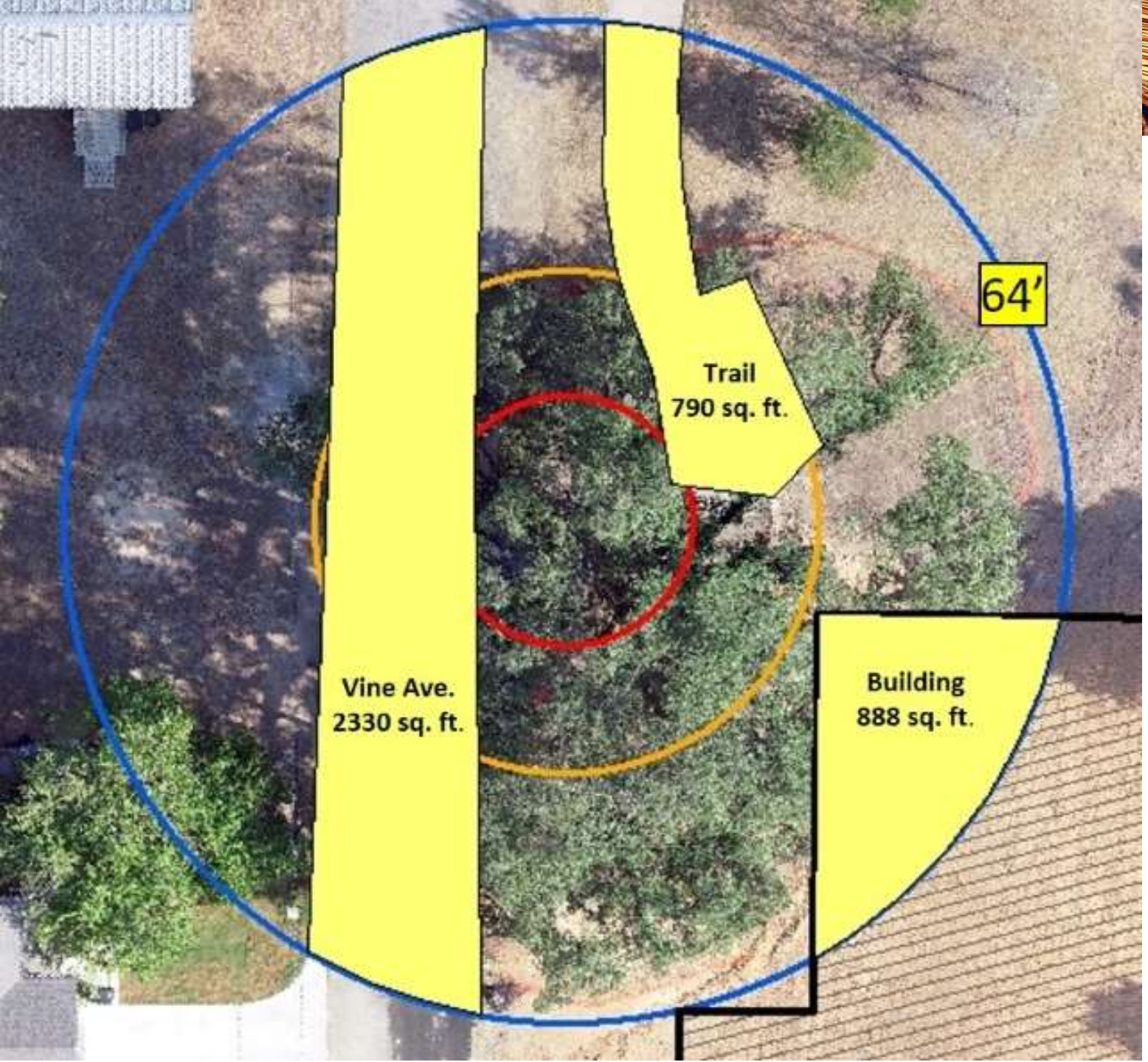
Most trees can tolerate some Critical Root Zone impacts. Impacts may be allowed as long as the following Preservation Criteria are met:

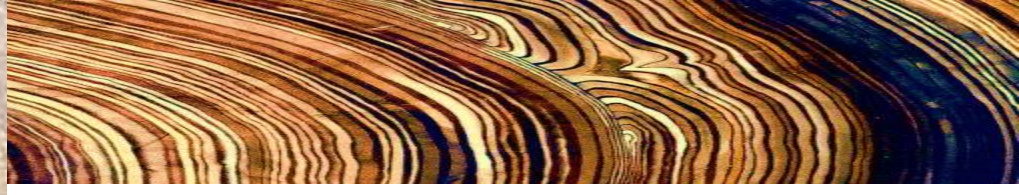
1.At least fifty percent of the total area (square footage) of the Critical Root Zone must be preserved at natural grade, with natural ground cover.

2.The entirety of the Half CRZ must be protected, with the exception that cut or fill of 4" or less is allowed within the Half CRZ.

3.No cut or fill is allowed within the Quarter CRZ.

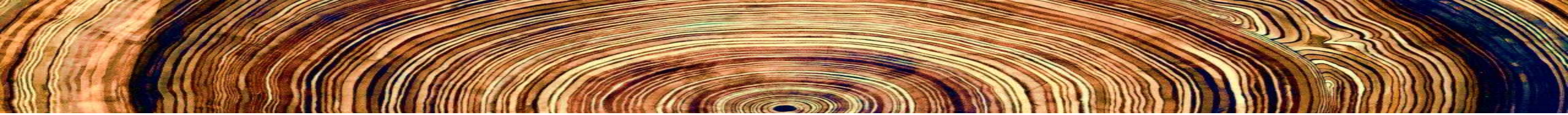
Total impact on CRZ, including existing roadway and sidewalks = 31%





Building placement meets exception guidelines to City of Austin Building Code

- Building impacts no part of ¼ CRZ
- Building impacts no part of ½ CRZ
- Total impact less than 50% of total CRZ

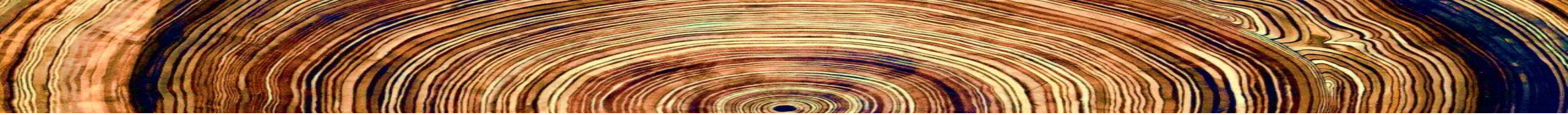


Other preservation measures to consider based on preservation guidelines provided by SeniorsTree.org…….

- Add 4” mulch within 16ft ¼ CRZ
- No more than 4” cut/fill within 32 ft ½ CRZ
- Carefully remove any unnecessary fill dirt within the ½ CRZ
- Construct 4ft rigid fence to ensure protection of 32ft ½ CRZ during construction process. Consider re-route of existing trailhead sidewalk to locate it outside ½ CRZ
- Ensure street side parking on west side of building remains outside CRZ
- Maintain natural grade wherever possible and evaluate drainage to ensure pooling does not occur within the CRZ
- Hire a certified arborist to manage and supervise any canopy trimming necessary for construction of the building.


Other
Environmental
Concerns Raised by
SeniorsTree.org

Flood Zone Question



Violations of Texas Commission on Environmental Quality (TCEQ) Regulations

Published on SeniorsTree.org

Both the complainant and Public Works Director have indicated a TCEQ site inspection found no TCEQ violations by the city or the contractor

SeniorsTree.org says “survival shoots” are starting to appear at the base of the tree.

According to Neil Sperry, horticulture columnist and radio host, Live Oak root sprouts occur naturally and can only be controlled manually. They do not occur with all Live Oak trees and appear to be a hereditary trait.