



Item No. 15 Town of Atherton

CITY COUNCIL STAFF REPORT – REGULAR AGENDA

TO: HONORABLE MAYOR AND CITY COUNCIL

THROUGH: GEORGE RODERICKS, CITY MANAGER

**FROM: STEPHANIE B. DAVIS, AICP SENIOR PLANNER
SALLY BENTZ-DALTON, TOWN ARBORIST**

DATE: JULY 18, 2018

SUBJECT: DISCUSSION AND DIRECTION ON AMENDMENTS TO ATHERTON MUNICIPAL CODE CHAPTER 8.10 “REMOVAL OF AND DAMAGE TO HERITAGE TREES”, INCLUDING AMENDING THE TREE PRESERVATION GUIDELINES, STANDARDS AND SPECIFICATIONS

RECOMMENDATION

It is recommended that the City Council receive a report from staff on amendments to the Town’s Municipal Code Chapter 8.10 “Removal of and Damage to Heritage Trees”, including amendments to the Town’s *Tree Preservation Guidelines, Standards, and Specifications* and provide direction to staff.

BACKGROUND

In May 2018 the Council received a report from staff and recommendation from the Planning Commission on amendments to the Town’s Municipal Code Chapter 8.10 “Removal of and Damage to Heritage Trees”, including eight amendments to the Town’s *Tree Preservation Guidelines, Standards, and Specifications* with the request to provide feedback to staff (see Attachments 1 and 2).

These eight amendments are summarized below.

1. Revise the current definition of a heritage tree.
2. Reduce the Tree Protection Zone (TPZ) for heritage trees from the current standard.
3. Provide greater specification of what kind of work is prohibited and permitted within the TPZ.
4. Exception request to the TPZ standards and/or to move a heritage tree would require a public hearing review by the Planning Commission.
5. Require a tree inventory with photos and appraisal prior to site demolition permit issuance.
6. Incorporation of American National Standards Institute (ANZI) standards and Best Management Practices (BMPs).
7. Other textual additions.
8. Staff level exception process for projects not meeting the TPZ standards in certain scenarios based on specific criteria.

General feedback received from the Council at the May 2018 meeting was that:

- The proposed TPZ standards may be too restrictive
- That redwood trees should not be added as a protected tree within the buildable area.
- That Eucalyptus trees should be added to the non-heritage list given their high fire dangers.
- That stronger penalties for heritage tree violations should be considered.
- That staff level discretion in process should be evaluated.
- That further analysis should be conducted for impacts on smaller lots.
- That any amendments should carefully consider regulations that are consistent and fair and not overly restrictive making people unable to build and/or deprive substantial use of property.

ANALYSIS

Based on past practice, the existing Heritage Tree Ordinance has never completely, nor substantially prevented, a property owner from using their buildable area as a result of protected trees. The Town can require development to be slightly adjusted to accommodate existing important trees, but it is not possible for trees to completely prevent development within the buildable area as this could be considered a “taking” requiring compensation. Thus, any future amendments must assure this type of result could ever happen. While each parcel in Town has its own set of specific, unique needs, a way to assure such result could never happen is to include a failsafe within the Ordinance through standards, process and/or a combination of both, such that a property is not deprived of substantial use of property.

Following tonight’s meeting and any new direction received from the Council, staff would refine the amendments to the Heritage Tree Ordinance to capture all general and specific policy direction given by the Council at the May 2018 and any additional direction to be received, while working closely with Town Counsel that any proposed amendments are legally sound by researching possible options and suggesting some workable language to be presented at a future meeting.

Staff would further request that the Council provide additional direction on the following matters.

1. Revise Ordinance to include clear decision standards.

The existing Ordinance could benefit by more clearly articulating standards by which a decision shall be made in order to provide guidance to prospective applicants as well as to the decision makers and help ensure that decisions made are consistent and fair. Such standards to be developed would be drafted in accordance with the overall policy direction received as it relates to the balance of tree protection and development. These decision standards could also be elaborated to adequately address other policy considerations for removal such as posing safety and/or hazard risks, replanting plans that may provide an increased long-term benefit, protection of trees as a financial value to the both the property owner and larger community, or other direction as received from the Council.

2. Future Discussion Process.

The Planning Commission deliberated over the course of eleven months at several public meetings prior to formalizing the recommendation presented to the City Council at the May 2018 meeting. One additional recommendation was presented for Council consideration at this meeting that the Planning Commission did not deliberate; consideration of an additional procedural approach that would consider staff level review for TPZ exception requests under specific, defined criteria to be developed at a future time should the Council direct staff to further evaluate such option as being consistent with Town goals and policies related to trees and development. Prior to any further consideration of amendments to the Heritage Tree Ordinance, the Council may wish to also discuss the future desired process and if a joint Study Session to be held with the Planning Commission and City Council to deliberate the issues and evaluate a refined, draft revised Ordinance may be the appropriate next step.

POLICY FOCUS

Any proposed amendments should consider the balance between protecting heritage trees in Town and protecting the rights of private property owners. Any future amendments should not overly restrictive and prevent too much use of private property. The adopted Heritage Tree Ordinance begins by stating that the Town is endowed and forested by oaks, bays and other trees, and that the preservation of these trees is essential to the health, welfare and quality of life of the citizens of the Town to meet a series of objectives. Similarly, the Land Use and Open Space and Conservation Elements of the General Plan contain policies pertaining specifically to heritage trees and proposed development:

- Open Space Policy 4.310: Trees shall be preserved to the maximum extent feasible.
- Land Use Goal 1.210: To preserve the Town's character as a scenic, rural, thickly wooded residential area with abundant open space.
- Land Use Goal 1.223: To retain the high quality of maintenance and living environment existing in the Town's residential neighborhoods.

FISCAL IMPACT

The cost associated with the preparation of the draft ordinance amendment is included within the annual Planning Department budget. The cost to implement the ordinance will be paid for by the applicants for development projects. Additional support services for the Town Arborist in the enforcement and implementation of the ordinance amendments may result; the cost of which would be evaluated by staff and would be paid for the applicants for each applicable development project.

PUBLIC NOTICE

Public notification was achieved by posting the agenda, with this agenda item being listed, at least 72 hours prior to the meeting in print and electronically. Information about the project is also disseminated via the Town's electronic News Flash and Atherton Online. There are approximately 1,200 subscribers to the Town's electronic News Flash publications. Subscribers include residents as well as stakeholders – to include, but be not limited to, media outlets, school districts, Menlo Park

Fire District, service provides (water, power, and sewer), and regional elected officials. Additionally, interested parties that were notified of prior Planning Commission study sessions and City Council meeting were also notified via email of tonight's meeting.

COMMISSION/COMMITTEE FEEDBACK/REFERRAL

This item has or has not been before a Town Committee or Commission.

- Audit/Finance Committee (meets every other month)
- Bicycle/Pedestrian Committee (meets as needed)
- Civic Center Advisory Committee (meets as needed)
- Environmental Programs Committee (meets every other month)
- Park and Recreation Committee (meets each month)
- Planning Commission (meets each month) – 4/2017, 7/2017, 12/2017, 2/2018
- Rail Committee (meets every other month)
- Transportation Committee (meets every other month)
- Tree Committee (meets each month)

ATTACHMENTS

1. DRAFT – Ch. 8.10 Removal of And Damage to Heritage Trees (tracked changes)
2. DRAFT - Draft Revised Tree Preservation Standards and Specifications (non-tracked changes)
3. Existing Tree Preservation Guidelines Standards and Specifications

DRAFT

Chapter 8.10
REMOVAL OF AND DAMAGE TO HERITAGE TREES

Sections:

- [8.10.010](#) Statement of findings.
- [8.10.020](#) Definitions.
- [8.10.030](#) Prohibitions and protections.
- [8.10.040](#) Permit process.
- [8.10.050](#) State tree care license.
- [8.10.060](#) Violation—Penalties and remedies.

8.10.010 Statement of findings.

The ~~T~~townTown finds and declares as follows:

A. The ~~town~~Town is endowed and forested by oaks, ~~redwood~~. bay and other trees.

B. The preservation of these trees is essential to the health, welfare and quality of life of the citizens of the ~~town~~Town to:

1. Preserve the scenic beauty of the ~~town~~Town and to ensure the privacy of its citizens;
2. Maintain ecological balance;
3. Prevent erosion of topsoil;
4. Protect against the hazards of floods and the risk of landslides;
5. Counteract air pollutants and oxygenate the air;
6. Absorb noise;
7. Maintain the climatic and microclimatic balance; and
8. Decrease high wind velocities. (Ord. 462 § 1(A), 1991; Ord. 444 § 1, 1989)

8.10.020 Definitions.

As used in this chapter:

A. “Heritage tree” means either:

1. means a tree 48 inches or more in circumference (15.2 inches diameter), measured at 4.5 feet (54 inches off the ground), located outside of the Buildable Area on the parcel AND any native oak (Quercus agrifolia, Q. lobata, Q. kelloggii), redwood tree (Sequoia sempervivens) greater than 48 inches in circumference (15.2 inches in diameter) or multi trunk tree measuring 15” where the stem begins (tally of stems) located anywhere on the parcel.

~~A tree, located in the tree preservation area, or a native oak tree (Quercus lobata, Quercus agrifolia or Quercus douglasii) located anywhere on a lot, which has a trunk circumference of forty-eight inches or more, when measured forty-eight inches above the natural grade;~~

2. A tree so designated by the city council, based upon findings that the particular tree is unique and of importance to the public due to its unusual age, appearance, location or other factors;

3. The trees listed below shall not be classified as heritage trees:

Acacia baileyana—Bailey Acacia

~~Albizia julibrissin - (Mimosa)~~

Acacia decurrens—Green Wattle

Acacia melanoxylon—Black Acacia

Ailanthus altissima—Tree of Heaven

B. “Tree preservation area” means the area outside the building area of the lot, as defined in

Section [17.60.020](#) of this code.

C. “Disturbance and/or dDamage to a heritage tree” refers to demolition, construction, subterranean grading activities, landscaping improvements, other development activities and/or any other action, in the judgment of the building official or Town arborist, which will cause damage to its health including, by way of example, but not limited to, excess pruning, topping, cutting, girdling, poisoning, over-watering, unauthorized relocation or transportation of a tree, or trenching, excavating, altering the grade, compaction or paving near the tree, screwing anything in the tree for example signs, mailboxes and or treehouses.~~means any action, in the judgment of the building official or town~~

~~-arborist, which will cause damage to its health including, by way of example, but not limited to, excess pruning, topping, cutting, girdling, poisoning, over-watering, unauthorized relocation or transportation of a tree, or~~

~~trenching, excavating, altering the grade, compaction or paving near the tree. (Ord. 533 § 1, 2002; Ord. 462 § 1(B), 1991; Ord. 444 § 2, 1989)~~

~~D. “Tree Protection Zone (TPZ)” is the designated protection area sufficiently large enough to protect a heritage tree and its roots from disturbance and/or damage as defined in Section 8.10.020 C. The TPZ shall be determined and shall meet all provisions as detailed in the Town’s current Tree Preservation Standards and Specifications document.~~

~~E. “Nuisance” is any action deemed a violation by definition of this Chapter and is subject to the provisions of Chapter 1.20 “General Penalty” of the Town’s Municipal Code.~~

8.10.030 Prohibitions and protections.

A. No person shall remove a heritage tree unless a permit has first been issued in accordance with Section [8.10.040](#).

B. All heritage trees must be shown and designated on every plot map that may be required by the ~~T~~town~~T~~own in connection with any application for subdivision, variance, use permit, or building permit. In addition, a heritage tree protection and preservation plan may be required with each application. The heritage tree protection and preservation plan shall ~~be prepared by a certified arborist to assess impacts to trees, recommend mitigation to reduce impacts to a less than significant level and identify construction guidelines to be followed through all phases of a construction project, adhere to the specifications~~ Detailed standards and specifications for the implementation of a heritage tree protection and preservation plan can be found in the ~~T~~town~~T~~own’s current ~~T~~tree ~~P~~reservation ~~guidelines, S~~t~~andards and S~~pecifications document.

C. It is unlawful for any person to damage ~~or harm~~and/or disturb a heritage tree by any means whatever, including, without limitation, those actions defined in Section [8.10.020](#)(C), ~~or conduct any prohibited activities within the defined TPZ as specified in the Town’s current Tree Preservation Standards and Specifications document.~~

D. The provisions of this chapter shall not be deemed to repeal or otherwise affect the provisions of Chapter [8.08](#) of this code, relating to dead or dangerous trees. (Ord. 547 § 1, 2004; Ord. 533 § 2, 2002; Ord. 522 § 1, 2001; Ord. 444 § 3, 1989)

8.10.040 Permit process.

A. The application for a heritage tree removal permit shall be filed with the building department on a prescribed form. The building department may require the applicant, at the applicant’s expense, to furnish a written report from a licensed tree expert acceptable to the building department.

B. If the tree which is the subject of the application meets the requirements as set forth in this section and the Town's current Tree Preservation Standards and Specifications document, based upon a review of the permit application and the inspection report, then the building department may grant the permit, conditionally grant the permit specifying mitigation requirements, deny the permit, allow a portion of the proposed work in the permit application to be done, or refer the application to the planning commission. The building department may attach reasonable conditions to ensure compliance with the intent and purpose of this chapter such as, but not limited to, requiring replacement of the tree or trees removed with plantings acceptable to the building department. Denial of the application may be appealed to the planning commission. In making the determination of which action to approve, including whether or not to refer the application to the planning commission, an authorized representative of the building department shall inspect the tree and make a determination based on the following criteria:

1. The probability of failure which is a function of tree and site conditions such as, but not limited to, structural defects, presence of disease, species history, age or remaining life span, and varying weather conditions. The probability of personal injury or significant property damage as a function of proximity to existing structures and objects of value and interference with utility services;
2. The number, species, size and location of existing trees in the area and the effect of the requested removal upon shade, noise buffers, protection from wind damage, air pollution, historic value, scenic beauty, health, safety and general welfare of the area and ~~town~~Town as a whole;
3. Good forestry practices such as, but not limited to, the number of healthy trees a given parcel of land will support.

C. If referred by staff, or a decision by staff is appealed by the applicant, the application shall be heard and considered at a public meeting of the planning commission. Each application for a heritage tree removal permit shall be accompanied by a fee in an amount as set by resolution of the city council sufficient to cover all costs of processing the permit. The application for a planning commission review shall contain the following the minimum information as prescribed in the Planning Department application.:

- ~~1. A legal description and accurate map showing the location of the property for which the permit is sought and the location of the tree for which the permit is sought and all other heritage trees on the subject parcel;~~
- ~~2. The names and addresses of the applicant and record owner of the subject property, and of the record owners of each parcel contiguous to the subject property, and of each parcel across any street~~

~~from the subject property any part of which is encompassed within the projected side lines of the subject parcel. The applicant shall furnish to the town Town a stamped plain No. 10 envelope addressed to each such owner;~~

~~3. A photograph of the subject tree or trees;~~

~~4. A statement of the reason for requested removal, the species of the subject tree, and the circumference at forty-eight inches above natural grade of the subject tree;~~

~~5. Such additional information as the building department may deem necessary.~~

D. The application shall be heard and considered at a public meeting of the planning commission. Notice of the meeting shall be ~~mailed by the town at least ten days before the meeting to the owners of each property described in subsection (C)(2) of this section~~ made in accordance with Section 17.06.080 B of this code.

E. At the public meeting, the planning commission shall hear all evidence presented, and shall grant the heritage tree removal permit unless it finds that the removal of the subject tree would be contrary to the purpose and intent of the general plan of the ~~town~~ Town.

F. At the discretion of the planning commission, for each heritage tree permitted to be removed the permittee may be required to plant three trees of fifteen-gallon container size, or two trees of twenty-four-inch box container size, or one tree of fifteen-gallon container size and one tree of thirty-six-inch container size. Where native heritage oak trees are allowed to be removed from within the buildable area, they shall each be replaced with one or more trees of forty-eight-inch container size of native oak species at a location approved by the planning commission. The planning commission may also attach other reasonable conditions to ensure compliance with the intent and purpose of this chapter.

G. The decision of the planning commission on any application for a heritage tree removal permit may be appealed to the city council in accordance with the procedures contained in Chapter 17.06 of this code.

H. It is strongly recommended that the trees listed below not be planted in the ~~town~~ Town of Atherton:

Acacia baileyana—Bailey Acacia

Acacia decurrens—Green Wattle

Acacia melanoxylon—Black Acacia

Ailanthus altissima—Tree of Heaven

Eucalyptus globulus—Blue Gum Eucalyptus

Pinus radiata—Monterey Pine

(Ord. 533 § 3, 2002; Ord. 522 § 2, 2001; Ord. 484 § 1(A)—(C), 1994; Ord. 462 § 1(C)—(J), 1991; Ord. 444 § 4, 1989)

8.10.050 State tree care license.

Except for the property owner, no person shall perform any removal of any heritage tree for hire within the ~~town~~Town of Atherton without a valid state tree care license as required by the state of California. (Ord. 484 § 1(E), 1994)

8.10.060 Violation—Penalties and remedies.

A. Any person causing a heritage tree to be removed ~~or~~disturbed and/or damaged in violation of this chapter shall submit a fee as determined by city council resolution to be deposited into a fund for the planting and maintenance of community trees, as a civil penalty in addition to the penalties as outlined in Chapter [1.20](#).

B. As part of a civil action brought by the ~~town~~Town, a court may assess against any person who commits, allows, or maintains violation of any provision of this chapter a civil penalty in an amount not to exceed five thousand dollars per violation. Where the violation has resulted in removal of a tree, the civil penalty shall be in an amount not to exceed five thousand dollars per tree unlawfully removed, or the replacement value of each such tree, whichever amount is higher. Such amount shall be payable to the ~~town~~Town as described in subsection A of this section. Replacement value for the purposes of this section shall be determined ~~utilizing the most recent edition of the Guide for Plant Appraisal~~ by the tree Appraisal Value as specified in the Town's current Tree Preservation Standards and Specifications document. A civil action may be commenced to abate, enjoin, or otherwise compel the cessation of violation of any provision in this chapter. In a civil action brought pursuant to this chapter in which the ~~town~~Town prevails, the court may award to the ~~town~~Town all costs of investigation and preparation for trial, the costs of trial, reasonable expenses including overhead and administrative costs incurred in prosecuting the action, and reasonable attorney fees.

C. Upon any guilty plea or judgment or conviction, in any criminal proceeding brought for the violation of this chapter, the defendant is entitled by law to probation, then the court may require the payment to the ~~town~~Town of the costs and expenses as described above and the code provision incorporated by reference as one of the conditions of such probation.

D. The violation of any provision contained in this chapter shall be subject to the penalties or remedies as described herein and any other remedies authorized by the ~~town~~Town of Atherton Municipal Code, including, but not limited to, the following:

1. Requiring that the violator obtain a tree removal permit for the previously conducted unlawful activity, including one or more of the following conditions as appropriate:

a. The violator shall replace each unlawfully removed tree with one or more new trees which can be accommodated on the site of the violation according to the ~~town~~Town arborist and, in the opinion of the ~~town~~Town arborist, will provide equivalent value in terms of cost (as determined ~~pursuant to a certified arborist's calculation of the value of the removed tree(s) in accordance with the latest edition of the Guide for Plant Appraisal published by the Council of Tree and Landscape Appraisers (adopted by reference) by the Appraised Value as specified in the Town's current Tree Preservation Standards and Specifications document~~), aesthetic and environmental quality, size, height, location, appearance and other characteristics of the unlawfully removed tree; or

b. Where replacement trees cannot be accommodated on-site according to the ~~town~~Town arborist, or cannot provide equivalent aesthetic or environmental quality of removed tree(s) on site, the violator shall either plant replacement trees off-site as designated by the ~~town~~Town arborist or make a cash payment as described in subsection B of this section, or any combination thereof, in accordance with the following:

i. To the extent that a cash payment is required for any portion or all of the value of the removed tree, such payment shall be doubled to reflect the estimated installation costs that would be incurred if replacement trees are planted; and

ii. To the extent that the planting of off-site replacement trees is required, the retail cost of such trees, as shown by documentary evidence satisfactory to the ~~town~~Town arborist, shall be offset against the value of the removed tree, but no credit shall be given for transportation, installation, maintenance and other costs incidental to the planting and care of the replacement trees; or

c. Where the unlawful activity did not result in tree removal, but did result in tree damage, the violator shall enhance the condition of the remaining trees or portions of trees according to good forestry practices which, in the opinion of the ~~town~~Town arborist, will provide equivalent value in terms of damage to the tree(s), aesthetic and environmental quality, size, height, location, appearance and other characteristics of the unlawfully damaged tree; provide equivalent

enhancement of the condition of trees off-site or make a cash payment to the fund described in subsection A of this section (based on the ~~town~~Town arborist's calculation of the equivalent value of the unlawful damage to the tree).

2. Any person who is required to plant replacement trees on-site pursuant to this section shall permanently maintain such trees in a good and healthy condition to ensure permanent establishment of any such tree(s), as determined by the ~~town~~Town arborist. Such person shall post a maintenance bond or security deposit in a form prescribed by the building official and execute a maintenance agreement with the ~~town~~Town, which shall be recorded in the office of the county recorder.

E. All remedies provided in this section shall be cumulative and are not exclusive. (Ord. 565 § 1, 2006; Ord. 533 § 4, 2002; Ord. 490 § 16, 1996; Ord. 484 § 1(D) (part), 1994; Ord. 444 § 5, 1989)

TOWN OF ATHERTON



Tree Preservation Standards and Specifications

____, 2018

TOWN OF ATHERTON

TREE PRESERVATION
STANDARDS AND SPECIFICATIONS

SECTION 1.00 DEFINITIONS

For the purpose and interpretation of the standards and specifications, the following definitions shall apply:

- 1.1 **Main Building Area** - (front, interior side, street side, and/or rear) of a lot is the horizontal plane between the minimum setbacks of the respective yard.
- 1.2 **Building Official** - means the Director of Building and Planning or the Director's designee.
- 1.6 **Certified Arborist** – is an individual who has demonstrated knowledge and competency through obtainment of the current International Society of Arboriculture arborist certification.
- 1.7 **Dead Tree** - means a tree that is dead or that has been damaged beyond repair or is in an advanced state of decline as determined by a certified arborist. If the tree has been determined to be dead, removal is permitted under Section 8.10 of the Atherton Municipal Code.
- 1.8 **Development Project** - means any construction activity including demolition, grading, hardscape and drainage improvements, new construction of main house or accessory buildings/structures, subterranean grading activities, added square footage to existing main house or accessory buildings/structures, site preparation and landscaping.
- 1.9 **Diameter at Breast Height** – measurement of trunk diameter taken at 4.5 feet (or 54 inches) off the ground. The diameter may be calculated by using the following formula:

$$DBH = \text{circumference at 4.5 feet} \div 3.142$$

For trees less than 4.5 feet of clear trunk, diameter shall be of the largest leader measured 4.5 above ground level. For multi-trunk trees, it shall be the sum of the individual trunks measured 4.5 feet above ground level. For a leaning tree or a tree on a slope, the tree shall be measured along the trunk axis at 4.5 feet. ANSI A300 Standard and Guide for Plant Appraisal.

- 1.10 **Disturbance and/or Damage** - refers to demolition, construction, subterranean grading activities, landscaping improvements, other development activities and/or any other action, in the judgment of the building official or town arborist, which

- damage to its health including, by way of example, but not limited to, excess pruning, topping, cutting, girdling, poisoning, over-watering, unauthorized relocation or transportation of a tree, or trenching, excavating, altering the grade, compaction or paving near the tree.
- 1.12 **Dripline** - means the width of the tree, as measured by the lateral extent of the canopy.
- 1.13 **Pruning** – The selective removal of plant parts to meet the specific goals and objectives of ANSI A300 (Part 1).
- 1.14 **Excessive Pruning** - means removing in excess of 25 percent of the functioning leaf branch. Pruning in excess of 25 percent is considered disturbance and/or damage to the tree as defined in Section 1.10 and is prohibited. Not more than 25 percent of the foliage shall be removed within an annual growing season. The percentage and distribution of foliage to be removed shall be adjusted according to the plant's species, age, health, and site. Topping and lion's tailing shall be considered prohibited pruning practices for trees. ANSI A300 (Part 1)
- **Lion's tailing** - the removal of an excessive number of inner and/or lower lateral branches from parent branches. Lion's tailing is a prohibited practice. ANSI A300 (Part 1).
 - **Topping**- Reduction of tree size using intermodal cuts without regard to tree health or structural integrity. Topping is a prohibited pruning practice. ANSI A300 (Part 1).
 - **Unbalanced crown** - Removal of leaf or stem area predominantly on one side.
 - **Roots** – Excessive pruning may include the cutting of any root 2 inches or greater in diameter and/or severing in excess 25% of the roots.
- 1.15 **Heritage Tree** - means a tree 48 inches or more in circumference (15.2 inches diameter), measured at 4.5 feet (54 inches off the ground), located outside of the Buildable Area on the parcel AND any native oak (*Quercus agrifolia*, *Q. lobata*, *Q. kelloggii*), redwood tree (*Sequoia sempervirens*) greater than 48 inches in circumference (15.2 inches in diameter) or multi trunk tree measuring 15” dbh where the stem begins (tally of stems) located anywhere on the parcel.
- 1.16 **Injury** - means bruising, scarring, tearing or breaking of roots, bark, trunk, branches or foliage, herbicide or poisoning, or any other action which is likely to cause the death or permanent damage and/or disturbance to a tree.
- 1.17 **Mechanical Injury** - means a noninfectious injury which often leads to poor growth, a damaged appearance or death to the tree. Common causes of mechanical injury are landscape maintenance equipment, staking damage, vehicles, vandalism, weather, insects and animals.
- 1.18 **Monthly Inspection Report** - means a monthly written report prepared by the Project Arborist as detailed in Section 1.17.

- 1.19 **Project Arborist** - means a certified arborist retained by the owner for the purpose of overseeing on-site activity involving the welfare of the trees to be retained.
- 1.20 **Protective Tree Fencing** - means a temporary enclosure erected around a tree at 10x the DBH to be protected at the boundary of the **Tree Protection Zone**. The fence serves three primary functions: 1) to keep the foliage, crown, branch structure and trunk clear from direct contact and damage by equipment, materials or disturbances; 2) to preserve roots and soil in an intact and non-compacted state; and 3) to identify the tree protection zone in which no soil disturbance is permitted and activities are restricted.
- 1.21 **Root Buffer** - means a temporary layer of material to protect the soil texture and roots. The buffer shall consist of a base course of tree chips spread over the root area, keeping one foot clear of the trunk clear, to a 4"- 6" depth, capped by a base course of 3/4-inch quarry gravel to stabilize the 3/4" plywood on top.
- 1.22 **Tree Protection and Preservation Plan** – Prepared by a certified arborist and required for all development projects, including any site improvements at grade or sub terrain, and shall include the following minimum information:

A. Site Plan - means a set of drawings (e.g. preliminary drawings, grading, demolition, building, utilities, landscape, irrigation, tree survey, etc.) that show existing site conditions and proposed landscape improvements, including trees to be removed, relocated or to be retained. Site plans shall include the following minimum information that may impact trees:

1. The site plan shall be scaled at 1" = 10' or 1" = 20' as necessary to clearly detail tree protection requirements, depending on the scope and complexity of the project and include all existing and proposed buildings and structures.
2. Include the **Tree Protection Zone (TPZ)**, as defined in Sections 1.26 and 2.3, measurement on the plans, which identifies the area to protect the tree and roots from disturbance and mulch to be applied within the TPZ.
3. Surveyed location, species, size/trunk diameter, dripline area of existing heritage trees (including trees located on neighboring property that overhang the project site) and street trees within 30-feet of the project site within the public right-of-way.

ving, concrete, excavation, trenching, irrigation lines and/or grade change located within the **Tree Protection Zone (TPZ)**, as defined in Sections 1.26 and 2.3.

5. All proposed and existing hardscape, including but not limited to, driveways, slabs, walkways, etc. Identify proposed materials, impervious and semi-impervious surfaces.
6. Existing and proposed utility pathways with detail on the location, depth and materials for all proposed underground utilities, including, but not limited to, sewer, water, electrical, water retention tanks, etc.
7. The location of any areas where hand digging is proposed. Significant root cutting (over 2") will require a letter from the site arborist which will include mitigation measures. The Town Arborist shall review any and all proposed hand digging, significant root cutting and mitigation measures within required tree protection areas and plan approval is required prior to starting such work.
8. Surface and subsurface drainage and aeration systems to be used.
9. Walls, tree wells, retaining walls and grade change barriers, both temporary and permanent.
10. Landscaping, irrigation and lighting within the TPZ of all heritage trees.
11. All of the final approved site plan sheets shall reference tree protection instructions.
12. OSHA Cuts.

B. Written Inventory

Project Arborist letter report shall include:

1. A written narrative from an ISA Certified Arborist report.
2. Arborist Name, Certification # and company letterhead.

The letter report shall include the following for each tree:

1. Species (common and scientific name)
2. Size (diameter, height and crown spread)
3. Condition (foliage, vigor, structural integrity, etc.)

agnosis (dangerous, imminent hazard, property damage). The Hazard Evaluation Form may be used to rate a dangerous condition. Life expectancy Location diagram (and photograph, if desired).

C. Photo Inventory

Colored photographs all of existing heritage trees on-site and/or within the public right-of-way adjacent to the property prior to any site demolition. These photographs can be integrated into the written inventory.

D. Appraisal

See Section 1.25 “Tree Appraisal”.

Please note a bond is to be posted to assure the tree protection measure are met throughout construction.

- 1.23 **Soil Compaction** - means the compression of soil particles that may result from the movement or parking of heavy machinery and trucks, storage of construction materials, structures, paving, etc. within the **Tree Protection Zone (TPZ)**.
- 1.24 **Soil Fracturing** - means the loosening of hard or compacted soil around a tree by means of a pneumatic soil probe that allows sudden bursts of air to crack, loosen or expand the soil to improve the root growing environment.
- 1.25 **Street Tree** - means any tree growing within the street right-of-way, outside of private property
- 1.26 **Tree Appraisal** - means a method of determining the monetary value of a tree as it relates to the real estate value of the property, neighborhood or community. The Certified Project Arborist shall determine the Tree Appraisal value as part of the required Tree Protection Plan by adjusting a tree’s basic value by its pre-existing condition, location, and species using the most recent edition of the *Guide for Plant Appraisal*, published by the Council of Tree and Landscape Appraisers.
- 1.27 **Tree Protection Zone, (TPZ)** - means, unless otherwise specified by a Project Arborist or Town Arborist, the area of temporary fenced tree enclosure, as set forth in Sections 1.26 and 2.3.
- 1.28 **Trenching** - means any excavation to provide irrigation, install foundations, utility lines, services, pipe, drainage or other property improvements below grade.
- 1.29 **Verification of Tree Protection** - means the Project Arborist shall verify, in writing, that all pre-construction requirements have been met.
- 1.30 **Vertical Mulching** - means auguring, hydraulic or air excavation of vertical holes within a tree's root zone to loosen and aerate the soil, typically to mitigate soil compaction.

SECTION 2.00 PROTECTION OF TREES DURING CONSTRUCTION

The objective of this section is to reduce the negative impacts of construction on trees. The tree protection regulations are intended to guide a construction project to insure that appropriate practices will be implemented in the field to eliminate or mitigate undesirable consequences that may result from construction activities associated with a development project as defined in Section 1.8.

Typical negative impacts that occur during construction may include:

- Mechanical injury to roots, trunk or branches
- Compaction of soil, which degrades the functioning roots, inhibits the development of new ones and restricts drainage
- Changes in existing grade which can cut or suffocate roots
- Alteration of the water table - either raising or lowering
- Sterile soil conditions associated with stripping off topsoil
- Trenching

2.1 **Tree Protection and Preservation Plan-** Prior to commencement of a development project, a property owner shall have prepared a ***Tree Protection and Preservation Plan*** as defined in Section 1.21 as part of the building permit submittal. The ***Tree Protection and Preservation Plan*** shall be prepared by the certified project arborist with detail as specified by the Tree Preservation Standards and Specifications.

2.2 **Pre-Construction Requirements**

The following five components shall be incorporated within the ***Tree Protection and Preservation Plan*** prior to grading, demolition or building permit issuance:

1. **Site Plan**

See Section 1.21 ***Tree Protection and Preservation Plan***.

2. **Tree Protection Disclosure Statement**

A statement signed by the owner of the property and permit applicant, on a form provided by the Town, acknowledging the existence of Heritage Trees on the property and that the approved Tree Protection and Preservation Plan shall be implemented and adhered through the finaling of the associated building permit/

ion of Tree Protection

The Project Arborist shall verify, in writing, that all pre-construction requirements have been met as set forth in Section 2.2. Written verification must be submitted to and approved by the Town Arborist prior to demolition, grading or building permit issuance.

4. Pre -Construction Meeting

The demolition, grading and general contractors are required to meet with the Project Arborist and the Town Arborist at the site prior to beginning demolition, grading or new construction to review tree protection measures and to establish haul routes, staging areas, etc.

5. Protective Tree Fencing for Heritage Trees or Street Trees

Fenced enclosures shall be erected around trees to be protected to establish the **TPZ** in which no soil disturbance is permitted and activities are restricted.

i. Size and type of fence

All trees to be preserved shall be protected with 6 foot high, minimum 12 gauge chain link fence. Fences are to be mounted on 2-inch diameter galvanized iron posts, driven into the ground to a depth of at least 2-feet at no more than 10-foot spacing (See detail, Appendix 1). This detail shall appear on grading, demolition and building permit plans.

ii. Duration

Tree fencing shall be erected before any demolition, grading or construction begins and remain in place until the Town Arborist approves the removal.

iii. "Warning" Signs

Warning signs shall be prominently displayed on each fence side so clearly visible. (See Appendix 2). The signs are available at the Building Department.

iv. Mulch

A 6" layer of coarse mulch or woodchips is to be placed beneath the dripline of the protected trees. Mulch is to be kept 12" from the trunk.

2.3 Tree Protection Zone (TPZ) TREE PROTECTION ZONE (TPZ)

Each Heritage Tree to be protected, including those on neighboring properties, shall have a designated **TPZ** identifying the area sufficiently large enough to protect the tree and roots from disturbance and/or damage as defined in Section

1.10. Within the TPZ, roots

that are critical for tree survival are typically found in the upper three foot soil horizon, and may extend beyond the dripline area. Protecting the roots in the TPZ is necessary to ensure the tree's survival.



The TPZ is a radius 10 times the diameter of a tree measured at 4.5 feet above grade. The TPZ shall be determined the following way: the TPZ radius shall be 10 times the DBH (4.5') of the trunk. For example: a 15" DBH = a 12.5 foot radius from the perimeter of the tree, or a 25 foot **TPZ**. Any deviation in determining the **TPZ** shall be in accordance with ANSI standards subject to approval by the Town Arborist.

Tree Protection Zone (TPZ, or area around every heritage tree to protect the tree and roots from any disturbance) from 12 times to be 10 times the diameter of the tree for demolition, grading, hardscape, drainage improvements, new construction of main house or accessory buildings/structures, sub terrain grading activities including pools, added square footage to existing main house or accessory buildings/structures, site preparation and landscaping. TPZ zone of 8 times for driveways and fences/walls.

If the applicant is unable to meet the 10x TPZ zone then an application, fee and an arborist report can be submitted stating why the exception is needed, what the impact to all heritage trees are and any mitigation. The Town Arborist will then review and work with the applicant to allow or deny 8x for demolition, grading, hardscape, drainage improvements, new construction of main house or accessory buildings/structures, sub terrain grading activities including pools, added square footage to existing main house or accessory buildings/structures, site preparation and landscaping and 6x for driveways and fences/walls.

Please note that if the TPZ zone on the plans cannot be met the application above or is denied than requests can be made to the Planning Commission for an exception to the TPZ standards or to move a heritage tree.

1. Activities prohibited within the TPZ:
 - i. Storage or parking vehicles, building materials, refuse, excavated spoils or dumping of poisonous materials, including but not limited to, paint, petroleum products, concrete, stucco mix, dirty water, swimming pool and/or spa water, trailer, container boxes, clean up areas, debris boxes, building materials, trenching, grade changes, tree houses, and soil compaction, OSHA Cut.
 - ii. The use of tree trunks as a winch support, anchorage, as a temporary power pole, sign posts or other similar function.

- iii. Cutting of tree roots by utility trenching, foundation digging, placement of curbs and trenches and other miscellaneous excavation.
 - iv. Landscaping and irrigation improvements.
 - v. Soil disturbance, soil compaction or grade changes.
 - vi. Drainage changes, including swimming pool, spa, and/or water features discharge.
 - vii. Any other activities which cause disturbance and/or damage to trees as defined in Section 1.10.
2. Activities permitted within the TPZ:
- i. Mulching - During construction, it is recommended that wood chips or similar material be spread within the TPZ to a 4-to 6-inch depth, leaving the trunk clear of mulch.
 - ii. Root Buffer - When areas within the TPZ cannot be fenced, a Root Buffer is required and shall cover the root zone. A root buffer is a temporary layer of material to protect the soil texture and roots. The buffer shall consist of a base of mulch chips spread over the root area to minimum of 6 inches depth, capped by a base course of 3/4th inch quarry gravel to stabilize 3/4th inch plywood on top.
 - iii. Irrigation, aeration, fertilizing or other beneficial practices that have been specifically approved for use by the Project Arborist within the TPZ.
3. Erosion Control
- If a tree is adjacent to or in the immediate proximity to a grade slope of 8% (23 degrees) or more, then approved erosion control or silt barriers shall be installed outside the **TPZ** to prevent siltation and/or erosion within the **TPZ**.
4. Tunneling and Directional Drilling
- If trenching or pipe installation has been approved within the **TPZ**, then the trench shall be either cut by hand, air spade, or by mechanically boring the tunnel under the roots with a horizontal directional drill and hydraulic or pneumatic air excavation technology. In all cases, install the utility pipe, immediately backfill with soil and soak within the same day. If boring set up outside the dripline of tree and not directly under trunk. Depth of hole should be a minimum of 2 to 3 feet depending on the root depth of the tree. The bore hole should be offset by a distance based on tree diameter (table below). From Best Management Practices- Managing Trees During Construction.

Minimum distance requirements for boring or auguring underneath tree roots.

Tree Diameter (dbh) (centered on trunk)	Minimum offset distance	Minimum length of bore hole
15 inches	12 feet	15 feet
20 inches	15 feet	20 feet
25 inches	18 feet	25 feet

2.4 **Tree Pruning and Surgery**

The most compelling reason to prune is to develop a strong, safe framework and tree structure and to reduce hazards. If the Project Arborist recommends that trees be pruned, the standard pruning shall consist of “crown cleaning” as defined by the ISA Pruning Guidelines.

1. Excessive Pruning

See definition in Section 1.13 above.

2. Tree Workers

Pruning, as defined in Section 1.12 above, shall not be attempted by construction or contractor personnel, but shall be performed by a qualified tree care specialist or certified tree worker.

2.5 **Tree Removal Procedure**

When heritage trees are proposed to be removed, tree removal practices apply:

1. A permit is required to remove any Heritage Tree.
2. Any tree to be removed that may impact a Heritage Tree shall be done under the supervision of a certified arborist. This includes any request to removal and relocate a heritage tree(s).
3. The removal of trees that extend into the branches or roots of Heritage Trees shall not be attempted by demolition or construction personnel, grading or other heavy equipment. A certified arborist or certified tree worker shall remove, or oversee the removal of the tree in a manner that causes no damage and/or disturbance as defined in Section 1.10 above or below ground to trees that remain.

4. Removing a Heritage Tree without approval from the Town Arborist and without a HTR permit is a violation of the Atherton Municipal Code (AMC). A violator will be required to obtain a tree removal permit and can be assessed a fine for the unlawful activity and may be subject to other punitive remedies in accordance with Chapter 1.20 “General Penalty” of the AMC. The violator shall also replace each unlawfully removed tree with one or more new tree(s), as can be accommodated at the violation site in the opinion of the Town Arborist. A Certified Arborist will calculate the monetary value of the illegally removed tree, which consist of cost (as determined pursuant to the latest edition of the Guide for Plant Appraisal published by the Council of Tree and Landscape Appraisers), aesthetic and environmental quality, size, height, location and other characteristics. To the extent a monetary penalty is assessed for any portion of, or the entire value of the removed tree, the assessed amount shall be doubled to reflect the estimated installation costs that would be incurred if replacement tree(s) are planted. (AMC 8.10)

2.6 **Post Tree Protection and Preservation Plan Implementation**

A mitigation program is required if, as determined by the Project Arborists required Monthly Inspection Form and/or as determined by the Town Arborist, the approved development will cause drought stress, dust accumulation or soil compaction to trees that are to be protected and preserved. To help reduce impact injury, one or more of the following mitigation measures shall be implemented and supervised by the Project Arborist.

1. Irrigation Program

Irrigate to wet the soil within the TPZ during the dry season as specified by the Project Arborist.

2. Dust Control Program

During periods of extended drought, or grading, spray trunk, limbs and foliage to remove accumulated construction dust.

3. Soil Compaction Damage

Compaction of the soil is significantly detrimental to the long term viability of trees on construction sites due to suffocation of roots. If compaction to the upper 12-inch soil within the TPZ has occurred, then one or more of the following mitigation measures shall be implemented as recommended by the Project Arborist and/or the Town Arborist.

If an approved paving, hardscape or other compromising material encroaches within the **TPZ**, an aeration system shall be designed by a certified arborist and used within this area.

4. Type 11 Mitigation

If inadvertent compaction of the soil has occurred within the **TPZ**, the soil shall be loosened by a method approved by the Town Arborist, such as vertical mulching or soil fracturing.

2.7 Disturbance and/or Damage to Trees

1. Reporting

Any disturbance and/or damage or injury to trees whether accidental or otherwise, as defined in Section 1.10 and as verified by the Town Arborist shall be reported within 6-hours to the Project Arborist and Town Arborist so that mitigation can take place as soon as possible. All injury to branches, trunk or to roots over 2-inches in diameter shall be reported in the Monthly Inspection Report. Any trenching work 10 x the diameter of the tree is required to be reported in the monthly arborist report

2. Appraised Value

If a tree is damaged, a Certified Arborist determines the Tree Appraisal value by adjusting a tree's basic value by its condition, location, and species using the most recent edition of the *Guide for Plant Appraisal*, published by the Council of Tree and Landscape Appraisers. The formula used should also be noted.

3. Mitigation

Mitigation for damage or injury to heritage trees will be directed and performed under the project arborist's supervision.

Typical mitigation efforts for disturbance and/or damage may include, but not be limited to, the following:

i. Root injury

If trenches are cut and tree roots 2-inches or larger are encountered they shall be cleanly cut back to a sound wood lateral root under the supervision of the Project Arborist. The end of the root shall be sealed and kept moist. All exposed root areas within the **TPZ** shall be backfilled or covered within one hour. Exposed roots shall be kept from drying out by temporarily covering the roots and draping layered burlap or carpeting over the upper 3-feet of trench walls. The materials shall be kept wet until backfilled to reduce evaporation from the trench walls.

ii. Bark or trunk wounding

In this event, current bark tracing and treatment methods shall be performed by a qualified tree care specialist within two days.

iii. Scaffold branch or leaf canopy injury

Remove broken or torn branches back to an appropriate branch capable of resuming terminal growth within five days. If leaves are heat scorched from equipment exhaust pipes, consult the Project Arborist within 6 hours.

2.8 **Inspection Schedule**

The Project Arborist retained by the applicant shall conduct the following required inspections of construction sites containing protected Heritage Trees. Inspections shall verify implementation of the approved Tree Protection and Preservation Plan as defined in Section 1.21.

1. Pre -Construction Meeting

Prior to commencement of construction, the applicant or contractor shall conduct a pre-construction meeting to discuss tree protection and the tree preservation and protections standards and specifications of this document with the job site superintendent, grading equipment operators, Project Arborist, and Town Arborist.

2. Inspection of Protective Tree Fencing

The Town Arborist shall be in receipt of a written statement from Project Arborist verifying that they has conducted a field inspection of the trees and that the protective tree fencing and signage is in place prior to issuance of a demolition, grading, or building permit.

3. Inspection of Rough Grading

The Project Arborist shall perform an inspection during the course of rough grading adjacent to the TPZ to ensure trees will not be injured by compaction, cut or fill, drainage and trenching, and if required, inspect aeration systems, tree wells, drains and special paving. The contractor shall provide the Project Arborist at least 48 hours advance notice of such activity.

4. Monthly Inspections

The Project Arborist shall perform monthly inspections to monitor changing conditions and tree health and submit a written report to the Town Arborist and reference this document to be submitted by the 15th of every month on a form as prescribed by the Town Arborist. (*See Appendix 3*) If the 15th falls on a weekend or holiday, the form shall be submitted

the next working business day. Form to be emailed to the Town Arborist at sbentz@ci.atherton.ca.us.

5. Landscape Phase

Tree protection fencing is required to remain in place during the landscape phase as trenching does occur. No trenching for irrigation or plantings should occur near heritage trees. No irrigation should be installed near a heritage Oak tree.

6. Removal of Tree protection fencing

To request removal of the fencing a report from the private project arborist is required to be sent to the Town Arborist for review stating that all work is complete and no equipment or trenching will occur on site.

TOWN OF ATHERTON

Tree Preservation Guidelines Standards and Specifications



February 2004

TOWN OF ATHERTON

TREE PRESERVATION GUIDELINES STANDARDS AND SPECIFICATIONS

SECTION 1.00 DEFINITIONS

For the purpose of these Guidelines and interpretation of the standards and specifications, the following definitions shall apply:

- 1.1 **Buildable Area** - means the area of a parcel upon which, under applicable zoning regulations, a main dwelling unit may be built without a variance
- 1.2 **Building Official** - means the Director of Building and Planning or the Director's designee
- 1.3 **Dead Tree** - means a tree that is dead or that has been damaged beyond repair or is in an advanced state of decline as determined by a certified arborist. If the tree has been determined to be dead, removal is permitted under Section 8.10 of the Atherton Municipal Code.
- 1.04 **Development Project** - means any construction activity including demolition, grading, drainage improvements, new construction of main house or accessory structures, added square footage to existing main house or accessory structures, site preparation and landscaping
- 1.5 **Diameter at Breast Height** - means the diameter of the tree trunk at 4 feet above natural grade level. The diameter may be calculated by using the following formula:
$$\text{DBH} = \text{circumference at 4 feet} \div 3.142$$
- 1.6 **Disturbance** - refers to construction or development activities that may damage trees
- 1.7 **Dripline** - means the width of the tree, as measured by the lateral extent of the foliage
- 1.8 **Excessive Pruning** - means removing in excess of 25 percent of the functioning leaf, branch. Pruning in excess of 25 percent is injurious to the tree and is prohibited
- 1.9 **Heritage Tree** - means a tree 48 inches or more in circumference (15.2 inches dbh), measured at 48 inches above natural grade, located outside of the Buildable Area on the parcel AND any native oak (*Quercus agrifolia*, *Q. lobata*, *Q. kelloggii*) greater than 48 inches in circumference located anywhere on the parcel.

- 1.10 **Injury** - means bruising, scarring, tearing or breaking of roots, bark, trunk, branches or foliage, herbicide or poisoning, or any other action which is likely to cause the death or permanent damage to a tree.
- 1.11 **Mechanical Injury** - means a noninfectious injury which often leads to poor growth, a damaged appearance or death to the tree. Common causes of mechanical injury are landscape maintenance equipment, staking damage, vehicles, vandalism, weather, insects and animals.
- 1.12 **Monthly Inspection Report** - means a monthly written report prepared by the Project Arborist
- 1.13 **Project Arborist** - means a certified arborist retained by the owner for the purpose of overseeing on-site activity involving the welfare of the trees to be retained
- 1.14 **Protective Tree Fencing** - means a temporary enclosure erected around a tree to be protected at the boundary of the **Tree Protection Zone**
- 1.15 **Root Buffer** - means a temporary layer of material to protect the soil texture and roots. The buffer shall consist of a base course of tree chips spread over the root area, keeping one foot clear of the trunk clear, to a 4"- 6" depth, capped by a base course of 3/4-inch quarry gravel to stabilize the 3/4" plywood on top.
- 1.16 **Site Plan** - means a set of drawings (e.g. preliminary drawings, grading, demolition, building, utilities, landscape, irrigation, tree survey, etc.) that show existing site conditions and proposed landscape improvements, including trees to be removed, relocated or to be retained. Site plans shall include the following minimum information that may impact trees:
- A. Surveyed location, species, size, dripline area of heritage trees (including trees located on neighboring property that overhang the project site) and Street Trees within 30-feet of the project site
 - B. Paving, concrete, trenching or grade change located within the **Tree Protection Zone (TPZ)**
 - C. Existing and proposed utility pathways
 - D. Surface and subsurface drainage and aeration systems to be used
 - E. Walls, tree wells, retaining walls and grade change barriers, both temporary and permanent
 - F. Landscaping, irrigation and lighting within dripline of trees
 - G. All of the final approved site plan sheets shall reference tree protection instructions
- 1.17 **Soil Compaction** - means the compression of soil particles that may result from the movement or parking of heavy machinery and trucks, storage of construction materials, structures, paving, etc. within the **Tree Protection Zone. (TPZ)**
- 1.18 **Soil Fracturing** - means the loosening of hard or compacted soil around a tree

- 1.19 **Street Tree** - means any tree growing within the street right-of-way, outside of private property
- 1.20 **Tree Appraisal** - means a method of determining the monetary value of a tree as it relates to the real estate value of the property, neighborhood or community
- 1.21 **Tree Protection and Preservation Plan** - means a plan prepared by a certified arborist that outlines measures to protect and preserve trees
- 1.22 **Tree Protection Zone, (TPZ)** - means, unless otherwise specified by a Project Arborist or Town Arborist, the area of temporary fenced tree enclosure, as set forth in Section 2.03
- 1.23 **Trenching** - means any excavation to provide irrigation, install foundations, utility lines, services, pipe, drainage or other property improvements below grade
- 1.24 **Verification of Tree Protection** - means the Project Arborist shall verify, in writing, that all pre-construction requirements have been met
- 1.25 **Vertical Mulching** - means auguring, hydraulic or air excavation of vertical holes within a tree's root zone to loosen and aerate the soil, typically to mitigate Soil Compaction

TOWN OF ATHERTON

TREE PRESERVATION GUIDELINES STANDARDS AND SPECIFICATIONS

SECTION 2.00 PROTECTION OF TREES DURING CONSTRUCTION

The objective of this section is to reduce the negative impacts of construction on trees. The tree protection regulations are intended to guide a construction project to insure that appropriate practices will be implemented in the field to eliminate or mitigate undesirable consequences that may result from construction activities.

Typical negative impacts that occur during construction may include:

- Mechanical injury to roots, trunk or branches
- Compaction of soil, which degrades the functioning roots, inhibits the development of new ones and restricts drainage
- Changes in existing grade which can cut or suffocate roots
- Alteration of the water table - either raising or lowering
- Sterile soil conditions associated with stripping off topsoil

SECTION 2.01 TREE PROTECTION AND PRESERVATION PLAN

Prior to commencement of a development project, a property owner shall have prepared a *Tree Protection and Preservation Plan* if any activity is likely to impact a Heritage Tree as determined by the Town Arborist. The *Tree Protection and Preservation Plan* will be prepared by a certified arborist to assess impacts to trees, recommend mitigation to reduce impacts to a less than significant level and identify construction guidelines to be followed through all phases of a construction project.

SECTION 2.02 PRE-CONSTRUCTION REQUIREMENTS

The following six steps shall be incorporated within the *Tree Protection and Preservation Plan* prior to grading, demolition or building permit issuance:

A. Site Plan

On the *Tree Protection and Preservation Plan* for the project, plot accurate trunk locations and the Dripline of all Heritage Trees. In addition, for Heritage Trees the plans shall accurately show the species, trunk diameter, dripline and clearly indicate the **Tree Protection Zone** (TPZ) to be enclosed with the specified tree fencing as a bold dashed line.

B. Tree Disclosure Statement

A statement signed by the owner of the property, on a form provided by the Town, acknowledging the existence of Heritage Trees on the property. (See *Appendix II*)

C. Verification of Tree Protection

The Project Arborist shall verify, in writing, that all pre-construction requirements have been met as set forth in Section 2.02. Written verification must be submitted to and approved by the Town Arborist prior to demolition, grading or building permit issuance.

D. Pre -Construction Meeting

The demolition, grading and general contractors are required to meet with the Project Arborist and the Town Arborist at the site prior to beginning demolition, grading or new construction to review tree protection measures and to establish haul routes, staging areas, etc.

E. Protective Tree Fencing for Heritage Trees or Street Trees

Fenced enclosures shall be erected around trees to be protected to establish the **TPZ** in which no soil disturbance is permitted and activities are restricted.

1. Size and type of fence

All trees to be preserved shall be protected with 6 foot high, minimum 12 gauge chain link fence. Fences are to be mounted on 2-inch diameter galvanized iron posts, driven into the ground to a depth of at least 2-feet at no more than 10-foot spacing (See detail, *Appendix III*). This detail shall appear on grading, demolition and building permit plans.

2. Duration

Tree fencing shall be erected before any demolition, grading or construction begins and remain in place until the Town Arborist approves the removal.

3. "Warning" Sign

A warning sign shall be prominently displayed on each fence. (*See Appendix IV*). The signs are available at the Building Department.

SECTION 2.03 TREE PROTECTION ZONE or (TPZ)

Each Heritage Tree to be protected, including those on neighboring properties, shall have a designated **TPZ** identifying the area sufficiently large enough to protect the tree and roots from disturbance. **The TPZ area can be determined by the formula: One foot per inch of diameter.** For example a 20" diameter tree shall have a 20' radius from the perimeter of the trunk or a 20 foot **TPZ**. Any deviation in determining the **TPZ** will require approval by the Town Arborist.

A. Activities prohibited within the TPZ include:

1. Storage or parking vehicles, building materials, refuse, excavated spoils or dumping of poisonous materials, including but not limited to, paint, petroleum products, concrete, stucco mix or dirty water
2. The use of tree trunks as a winch support, anchorage, as a temporary power pole, sign posts or other similar function

3. Cutting of tree roots by utility trenching, foundation digging, placement of curbs and trenches and other miscellaneous excavation
4. Soil Disturbance, Soil Compaction or grade changes
5. Drainage changes

B. Activities permitted or required within the TPZ include:

1. **Mulching** - During construction, it is recommended that wood chips or similar material be spread within the **TPZ** to a 4-to 6-inch depth, leaving the trunk clear of mulch.
2. **Root Buffer** - When areas within the **TPZ** cannot be fenced, a Root Buffer is required and shall cover the root zone.
3. **Irrigation, aeration, fertilizing** or other beneficial practices that have been specifically approved for use by the Project Arborist within the **TPZ**.

C. Erosion Control

If a tree is adjacent to or in the immediate proximity to a grade slope of 8% (23 degrees) or more, then approved erosion control or silt barriers shall be installed outside the **TPZ** to prevent siltation and/or erosion within the **TPZ**.

D. Tunneling and Directional Drilling

If trenching or pipe installation has been approved within the TPZ, then the trench shall be either cut by hand, air spade, or by mechanically boring the tunnel under the roots with a horizontal directional drill and hydraulic or pneumatic air excavation technology. In all cases, install the utility pipe, immediately backfill with soil and soak within the same day.

E. Tree Pruning and Surgery

The most compelling reason to prune is to develop a strong, safe framework and tree structure and to reduce hazards. If the Project Arborist recommends that trees be pruned, the standard pruning shall consist of “crown cleaning” as defined by ISA Pruning Guidelines.

1. Maximum Pruning

Maximum pruning should only occur if approved by the Town Arborist. No more than one fourth (25 percent) of the functioning leaf, branch and stem area may be removed within one calendar year of any Heritage Tree, or removal of foliage so as to cause the unbalancing of the tree. Trees should not be topped.

2. Tree Workers

Pruning shall not be attempted by construction or contractor personnel, but shall be performed by a qualified tree care specialist or certified tree worker, according to specifications contained within these procedures.

F. Tree Removal Procedure

When Heritage Trees are removed, tree removal practices apply:

1. A permit is required to remove any Heritage Tree.
2. Any tree to be removed that may impact a Heritage Tree shall be done under the supervision of a certified arborist.
3. The removal of trees that extend into the branches or roots of Heritage Trees shall not be attempted by demolition or construction personnel, grading or other heavy equipment. A certified arborist or certified tree worker shall remove, or oversee the removal of the tree in a manner that causes no damage above or below ground to trees that remain.

SECTION 2.04 INJURY MITIGATION

A mitigation program is required if the approved development will cause drought stress, dust accumulation or Soil Compaction to trees that are to be saved. To help reduce impact injury, one or more of the following mitigation measures shall be implemented and supervised by the Project Arborist.

A. Irrigation Program

Irrigate to wet the soil within the **TPZ** during the dry season as specified by the Project Arborist.

B. Dust Control Program

During periods of extended drought, or grading, spray trunk, limbs and foliage to remove accumulated construction dust.

C. Soil Compaction Damage

Compaction of the soil is the largest killer of trees on construction sites due to suffocation of roots. If compaction to the upper 12-inch soil within the **TPZ** has occurred, then one or more of the following mitigation measures shall be implemented as recommended by the Project Arborist or the Town Arborist.

1. Type I Mitigation

If an approved paving, hardscape or other compromising material encroaches within the **TPZ**, an aeration system shall be designed by a certified arborist and used within this area.

2. Type 11 Mitigation

If inadvertent compaction of the soil has occurred within the **TPZ**, the soil shall be loosened by a method approved by the Town Arborist, such as Vertical Mulching or Soil Fracturing.

SECTION 2.05 DAMAGE TO TREES

A. Reporting

Any damage or injury to trees shall be reported within 6-hours to the Project Arborist and Town Arborist so that mitigation can take place. All mechanical or chemical injury to branches, trunk or to roots over 2-inches in diameter shall be reported in the Monthly Inspection Report.

B. Appraised Value

If a tree is damaged, a Certified Arborist determines the Tree Appraisal value by adjusting a tree's basic value by its condition, location, and species using the most recent edition of the *Guide for Plant Appraisal*, published by the Council of Tree and Landscape Appraisers. The formula used should also be noted.

C. Mitigation

1. Root injury

If trenches are cut and tree roots 2-inches or larger are encountered they must be cleanly cut back to a sound wood lateral root under the supervision of the Project Arborist. The end of the root shall be sealed and kept moist. All exposed root areas within the **TPZ** shall be backfilled or covered within one hour. Exposed roots may be kept from drying out by temporarily covering the roots and draping layered burlap or carpeting over the upper 3-feet of trench walls. The materials must be kept wet until backfilled to reduce evaporation from the trench walls.

2. Bark or trunk wounding

Current bark tracing and treatment methods shall be performed by a qualified tree care specialist within two days.

3. Scaffold branch or leaf canopy injury

Remove broken or torn branches back to an appropriate branch capable of resuming terminal growth within five days. If leaves are heat scorched from equipment exhaust pipes, consult the Project Arborist within 6 hours.

SECTION 2.06 INSPECTION SCHEDULE

The Project Arborist retained by the applicant shall conduct the following required inspections of construction sites containing protected Heritage Trees. Inspections shall verify that the type of tree protection is consistent with the standards outlined within these Guidelines. For each required inspection, a monthly inspection report of any change in tree

conditions and actions taken shall be provided to the Town of Atherton. Inspection Reports shall be faxed to the Town Arborist at (650) 688-6539 or by e-mail at kanderson@ci.atherton.ca.us.

SECTION 2.07 REQUIRED INSPECTIONS

A. Pre -Construction Meeting

Prior to commencement of construction, the applicant or contractor shall conduct a pre-construction meeting to discuss tree protection with the job site superintendent, grading equipment operators, Project Arborist, and Town Arborist.

B. Inspection of Protective Tree Fencing

The Town Arborist shall be in receipt of a written statement from the applicant or Project Arborist verifying that he has conducted a field inspection of the trees and that the protective tree fencing is in place prior to issuance of a demolition, grading, or building permit.

C. Inspection of Rough Grading

The project arborist shall perform an inspection during the course of rough grading adjacent to the **TPZ** to ensure trees will not be injured by compaction, cut or fill, drainage and trenching, and if required, inspect aeration systems, tree wells, drains and special paving. The contractor shall provide the Project Arborist at least 48 hours advance notice of such activity.

D. Monthly Inspections

The Project Arborist shall perform monthly inspections to monitor changing conditions and tree health and submit a written report to the Town Arborist.

E. Special Activities within the Tree Protection Zone

Work in this area (TPZ) requires the direct onsite supervision of the Project Arborist.