

Draft Revised KZC Chapter 70 HOLMES POINT OVERLAY (HPO)ZONE

KZC Sections (current sections):

- [70.05](#) Purpose
- [70.15](#) Standards
- [70.25](#) Variations from Standard

Draft sections:

- 70.05 Purpose and Intent (Revised)
- 70.06 TREE REMOVAL
- 70.07 TREE PROTECTION STANDARDS
- 70.08 Tree retention and replacement standards
- 70.09 Tree Protection and design Measures
- 70.15 Impervious surface standards (revised)
- 70.19 Tree Protection and design measures
- ~~70.25 Variations/Exceptions from standards (eliminated)~~
- 70.30 Types of landscaping
- 70.35 Street ROW landscaping
- 70.40 Front lot line landscaping
- 70.45 Required landscape plants
- 70.50 Plant material and size
- 70.55 Plant/Tree maintenance
- 70.60 Modifications
- 70.65 Landscape bonds
- 70.75 Tree Account
- 70.80 Enforcement
- 70.85 Requirements for tree services and others doing land clearing and tree removal.
- 70.90 Qualified tree professional.
- 70.95 Education

Ken has modified this existing HPO adding best practices from the following and abbreviated as:

- KUFMP Kirkland Urban Forestry Management Plan
- LFP Lake Forest Park zoning code
- RZC Redmond zoning code
- BZC Bothell zoning code
- CASS comments from Plant Amnesty's Cass Turnbull
- KEN comments and all strikethroughs

70.05 Purpose and Intent

KZC The purpose and intent of this chapter is to:

A – Establish minimum site disturbance development standards in the Holmes Point (HP) zone

B Allow infill at urban densities while providing an increased level of environmental protection for the Holmes Point area, an urban residential area characterized by a predominance of sensitive environmental

features including but not limited to steep slopes, landslidehazardareas and erosionhazardareas, and further characterized by a low level of roads and other impervious surfaces relative to undisturbed soils and vegetation, tree cover and wildlife habitat.

C These standards limit the allowable amount of site disturbance on lots in Holmes Point to reduce visual impacts of development, maintain community character and protect a high proportion of the undisturbed soils and vegetation, tree cover and wildlife

~~D Require an inspection of each site and the area proposed to be cleared, graded and built on prior to issuance of a building permit~~

E. (KEN Implement Kirkland Urban Forestry Management Plan KUFMP that was accepted by City July 2013. Where KUFMP shall protect, maintain and enhance the HP zone's urban forest, an integrated natural resource, through a balanced approach using education, incentives and regulations. Where:

1. *KEN An Urban Forestry Division (UFD) and public Tree Board (TB) is established to increase efficiency, public accountability and collaboration between City departments and to standardize public tree management. The UFD shall direct city departments to develop its staff priorities, annual operating plans and working plans so that urban forest goals and strategies are coordinated, linked to specific actions, and to assure daily efficient operations. Reactive management tactics due to budget constraints will be eliminated.*

F-(per KUFMP F-N). *Promote stewardship of the urban forest in the HP zone with community outreach and partnerships. Involve the community with long-range decisions regarding the urban forest.*

G-cluster homes to conserve trees,

H establish incentives to preserve significant-landmark-heritage trees in the HP zone

J-Determine the value, functions, and benefits of HP forest – Current inventory data can be used in conjunction with software to analyze the structure, value, and ecosystem benefits for urban forests and can assess a cost versus benefits ratio.

K-Develop a long-term planting program to increase canopy in key areas and to manage the asset for sustainability and urban forest succession. Records of all trees planted through the permit process shall be established and maintained

L-Development plans/permit applications: Any incomplete application will be billed for city time. To reduce amount of incomplete applications the city shall provide upfront education to the applicator so the following is included or not missed:

- Requirement to accurately show all trees with site plan
- Show significant changes in grade that are unaccounted for
- Show Installation of all utilities that present conflicts with tree roots
- Show accurately show to scale root zone and root disturbance limits

M-Code enforcement: higher fines. All to go into to Tree Fund to support UFD.

N-Tree service providers: to be provided training and will be subjected to stiffer fines for code violation, two code violation shall lead to city wide ban for operating in the city per section 70.85

O-KEN Fees: All fees collected for tree removal permits shall be reported at revenue and shall be collected by the UFB into a HP zone Tree Fund to support the HPO. Code enforcement fines and fees shall go into the Tree Fund.

LFP 16.14.020 Purpose and intent outlined in below P-U

P. Preserve and enhance the tree canopy of the HP zone by encouraging the protection of existing trees and stands of trees, and the replanting of new trees to replace those lost to old age, storms, development and other maladies

Q. Mitigate the economic, environmental, and aesthetic consequences of tree loss through protection and tree planting on public and private lands in the HP zone

R. Provide guidelines (KEN direction) to protect trees from adverse impacts during construction;

S. Encourage project designs that utilize existing trees in the landscape, or allow replacement of select native tree species to maintain the forested feel of HP zone

T. To protect private property rights and allow property owners to make reasonable use of their property while protecting suitable and appropriate trees for that site

U. Maintain and protect the public health, safety, and general welfare.

V. RZC Purpose and Intent:

1. *Providing varied and rich habitats for wildlife;*
2. *Absorbing greenhouse gas emissions;*
3. *Moderating the effects of winds and temperatures;*
4. *Stabilizing and enriching the soil;*
5. *Slowing runoff from precipitation and reducing soil erosion;*
6. *Improving air quality;*
7. *Improving water quality;*
8. *Masking unwanted sound;*
9. *Providing visual relief and screening buffers;*
10. *Providing recreational benefits;*
11. *Enhancing the economic value of developments; and*
12. *Providing a valuable asset to the community as a whole*

W. RZC Assure there is no net tree loss

70.06: LFP 16.14.040 TREE REMOVAL: this chapter is to address application for permits, posting required & review criteria

A. Permit Required. No person or their representative, directly or indirectly, shall remove or destroy any significant tree located within the HP zone without first obtaining a tree permit in accordance with this chapter. (NOTE KEN LFP tree board suggest revise below to one permit where both are based on established canopy goal) Tree removal permits shall be reviewed according and must be authorized by one of the following standards:

1. Permits not Requiring Arborist Review. Removal of two or fewer significant trees within any 36-month period may be authorized without arborist review, unless the trees are located in an environmentally sensitive area or sensitive area buffer, or if Major Development Activity has occurred within the past five years. The Administrator may require that the proposed tree removal be reviewed by the City's Qualified Tree Professional if the Administrator determines that the removal could result in a threat to persons or damage of property, or if the tree removal may result in the property dropping below its canopy coverage goal as defined in Table 1 in LFPMC 16.14.080.

2. Permits Requiring Arborist Review. Review by the City's Qualified Tree Professional shall be required under the following circumstances:

- a. When one or more Landmark Trees is proposed for removal.
- b. When three or more Significant Trees are proposed for removal within any 36-month period.
- c. When any tree proposed for removal, regardless of size, is located in an environmentally sensitive area or buffer as defined by LFPMC 16.16.
- d. When any Major Development Activity or Minor Development Activity is proposed, unless found to be an exception in LFPMC 16.14.050
- e. When trees are proposed for removal on a property on which Major Development Activity has occurred within the last five years.
- f. When an applicant has submitted a Five-Year Forest Management Plan for approval.

C. Tree removal permits expire one year (365 days) after the date the permit is issued, unless the Administrator and City's Qualified Tree Professional have approved a Five-Year Forest Management Plan, in which case the permit shall expire five years after the date the permit is issued. The Administrator may grant an extension of up to six months if the applicant provides a written request prior to expiration.

D. Posting Requirements.

1. Notice of Application. Notice of application shall be posted on-site, in a place where it can be read from the nearest public street. If the property is located on a private street, notices shall be posted on-site, in a place where it can be read from the private street, as well in a place where it can be read from the nearest public street.

a. For permits not requiring arborist review, the notice of application shall be posted for a minimum of two business days prior to permit decision, and shall remain posted until a decision is issued. The applicant must sign and attest that no landmark trees are being removed.

b. For permits requiring arborist review permits, the notice of application shall be posted for a minimum of at least 14 calendar days prior to permit decision, and shall remain posted until a decision is issued approval.

2. Notice of Decision.

3. Tree removal may commence immediately upon posting of an approved tree permit on the subject site. The tree permit shall remain posted at least one week (7 calendar days) after the approved activity has been completed.

a. For tree permits associated with a Five-Year Forest Management Plan, the permit must be posted on the subject site, in the same manner described in LFPMC 16.14.040(D)(1), each time tree removal occurs, and at least one week (7 calendar days) after the approved activity has been completed.

E. Appeals. Appeals of tree permit decisions shall follow Chapter 2.39 LFPMC.

F- Environmentally Sensitive Areas. Removal of trees in landslide hazard area and in erosion hazard areas and their buffers is prohibited, unless noted below. Any tree removed in these areas must have a qualified geologist or geotechnical engineer shall certify that the tree can be safely removed or the proposal can be designed so the landslide hazard risk to the property or adjacent property is eliminated or mitigated.

1. When the City's Qualified Tree Professional determines that the trees proposed for removal are medium-, high-, or extreme-risk.
2. When trees proposed for removal are Nuisance Trees in sensitive area buffers.
3. When trees proposed for removal are invasive trees, as defined in LFPMC 16.14.050(B)(4).
4. When trees proposed for removal are part of an approved enhancement plan The City's Qualified Tree Professional shall undertake annual site visits at the expense of the applicant and submit annual progress reports to the Administrator for the five years after the work is completed.
5. When trees proposed for removal are part of an approved reasonable economic use request submitted to planning and review by hearing examiner. The hearing examiner shall grant an exception from the requirements of this chapter only to the minimum necessary extent to allow for reasonable economic use of the applicant's property

70.07: LFP TREE PROTECTION STANDARDS: Subdivisions and short-subdivisions (KEN for all single family, multi family and commercial property). The designation of a tree tract (KEN Natural Tree Plant Tract, NTPT) is required in accordance with 70.08 (Tree retention and replacement standards). In environmentally sensitive areas and sensitive area buffers, the Administrator ~~may~~ shall require review by a qualified geologist, geotechnical engineer, wetland biologist, wildlife biologist, or other qualified professional, at the applicant's expense, ~~if the proposed removal is substantially likely to cause damage to the sensitive area or buffer.~~ Permits may be conditioned based on the recommendations of these qualified professionals.

1. If the canopy coverage after removal is below the minimum threshold established for the size of lot (as established in 70.08 (Tree Retention and replacement standards) the applicant shall be required to replace the removed Significant Tree(s) according to the standards set forth in 70.08 (Tree Retention and replacement stds)
2. If tree replacement is necessary, then a tree replacement plan showing the location(s) and species of the new tree(s) shall be submitted prior to permit issuance. Also, a Tree Removal and Canopy Assessment in Association with a Five-Year Forest Management Plan ~~may be~~ shall be required. The Administrator and City's Qualified Tree Professional may approve a five-year tree removal and replacement permit based on the following:
 - a. The completed permit application.
 - b. A tree inventory and assessment report prepared by a Qualified Tree Professional. Information on tree species, diameter at breast height (DBH), condition (health), location, and the minimum required critical root zone (CRZ) should be collected.
 - c. A timeline for tree-related activity, including tree removal, replacement, and maintenance.
 - d. The applicant shall be required to replace the removed Significant Tree(s) according to the standards set forth in 70.08 (Tree retention and replacement standards)
 - e. If tree replacement is necessary, then a tree replacement plan showing the location(s) and species of the new tree(s) shall be submitted prior to permit issuance.
 - f. The City's Qualified Tree Professional shall undertake annual site visits at the expense of the applicant and submit annual progress reports to the Administrator for the five years that the permit is valid. Changes to the approved plan may only be made with approval of both the Administrator and the City's Qualified Tree Professional.

~~3 RZC. Tree Protection: In all new developments, including additions to existing non-single-family buildings and parking areas, a minimum of 35 percent of all significant trees shall be retained. Trees that are located within Native Protection Areas (NPA), sensitive critical areas, and their associated buffers as provided in RZC 21.64, Trees In sensitive critical areas shall not be removed. Exceptions to this standard shall be reviewed by hearing examiner (Andy). Exceptions-2. Landmark Trees. Landmark trees shall not be removed unless an exception has been applied for and granted by the hearing examiner furthermore, Hazardous trees or dead trees posing a hazard, outside of NGPAs, critical areas and buffers, should be removed and are not considered significant trees.~~

~~4. RZC Site Design Standards: Site improvements shall be designed and constructed to meet the following standards:~~

1. Site improvements shall be designed to protect trees with the following characteristics, functions, or location, with priority given to protection according to the following items, arranged from most important to least important:

- a. Existing stands of healthy trees;*
- b. Trees providing habitat value, such as riparian habitat;*
- c. Trees having a significant land stability function;*
- d. Trees adjacent to public parks and open space;*
- e. Trees within the required yard setbacks or around the site perimeter; and*
- f. Trees that have a screening function or provide relief from glare, blight, or commercial or industrial harshness.*

5. RZC In considering trees for protection, applicants and the City shall avoid, to the extent known, the selection of trees that may become hazardous because of wind gusts, including trees adjacent to utility corridors where falling trees may cause power outages or other damage. Remaining trees may be susceptible to blowdowns because of loss of a buffer from other trees, grade changes affecting the tree health and stability, and/or the presence of buildings in close proximity.

6. RZC Grading and Proximity to Structures, Utilities, and Roadways: To ensure that structures, utilities, and roadways are located an adequate distance from the drip line of a protected tree to allow adequate room for construction activities, the construction limit line for a structure, utility, or roadway shall be located no closer than five feet outside of the drip line of a protected tree.

a. No proposed structure, utility, or roadway shall be located within five feet of the drip line of a protected tree, except where such structure is a raised deck, bay window, or cantilevered or otherwise raised above the ground's surface so as not to disrupt the tree's roots.

b. Sidewalks and utilities may be located within the drip line of a protected tree, provided that construction methods and materials used will result in minimal disruption of the tree's roots, and that additional measures for tree protection are proposed and approved which will ensure the long-term viability of the tree.

7. RZC The Administrator may allow construction limits or an alteration of grades within five feet of the drip line of a protected tree, provided that the applicant submits an evaluation by a certified arborist which demonstrates that the proposed construction will not reduce the long-term viability of the tree.

8. The Administrator may require an evaluation by a certified arborist to determine if protective measures should be required beyond five feet of the drip line of a protected tree.

9. RZC Designation of Protected Trees: The tree protection and replacement plan and any application and permit plans that cover such areas shall show all trees designated for protection. These areas may be shown by labeling them as "protected trees," "Native Growth Protection Areas," "critical areas," "critical area buffers," or such other designation as may be approved by the Administrator. Protected vegetation, including protected trees, shall not be modified, harmed, or removed except as provided in this section.

a. The Administrator may require that protected trees be permanently preserved within a tract, easement, or other permanent protective mechanism. When required, the location, purpose, and limitation of these protected areas shall be shown on the face of the deed, plat, binding site plan, or similar document, and shall be recorded with the King County Department of Records and Elections or its successor. The recorded document shall include the requirement that the protected areas shall not be removed, amended, or modified without the written approval of the City of Redmond.

10. Incentives for Higher Levels of Tree Protection.

1. The Administrator may grant adjustments to site development standards for developments on which ten or more healthy significant trees per exist acre, as follows:

- a. Developments that preserve 40 percent or more of the healthy significant trees shall be entitled to the Administrative Design Flexibility provisions for residential or commercial properties as outlined in RZC 21.76.070.C, .*

70.08 LFP 16.14.080 Tree retention and replacement standards: This section provides standards for determining when and how trees must be retained or replaced within the HP zone. The City will apply these standards when considering an application for a tree permit as described in 70.06. A-1

- A. The minimum standard for tree retention in the HP zone is determined by tree canopy coverage goal for the lot sizes and land use types set forth in Table 1 below. Tree canopy coverage is measured by the percentage of canopy provided by existing trees or the projected canopy coverage to be provided by newly planted or immature trees (when such trees reach 30 years of age) (KEN when such tree reach 20

years of age)

Table 1 Canopy Coverage Goal

Single-family lots greater than 15,000 square feet	58% (KEN should this be higher?)
Single-family lots 10,000 – 15,000 square feet	39% (KEN should this be higher)
Single-family lots less than 10,000 square feet	28% (KEN should this be higher)
Multifamily	15% (KEN 24%)
Commercial	15% (KEN 24%)
Southern Gateway	15% (KEN na)
Single Family Southern Gateway Transition	10% (KEN na)
Southern Gateway Corridor	5% (KEN na)

B. Canopy coverage shall be defined by the City's Qualified Tree Professional for all permits requiring arborist review. For permits not requiring arborist review, the Administrator may waive replacement requirements only when he or she can determine that the remaining canopy after removal will exceed the canopy coverage goal by at least ten percent.

C. Tree Replacement Requirements.

1. For all permits requiring arborist review, the number of required replacement trees is determined by the number of trees that will, within thirty years (KEN 20 yrs), achieve tree canopy coverage equal to or greater than the minimum canopy coverage required by Table 1 above for the type of lot.
2. For permits not requiring arborist review, one (KEN should this be more. CASS says overplanting can actually hurt new trees) tree shall be replaced for each tree removed, except as stated in (B) above. (KEN The city shall deny the application to remove a significant/exceptional/landmark type tree if arborist or qualified tree professional finds the tree is low risk and worthy of long term retention. (KEN This determination can only be challenged in front of a hearing examiner.)
3. The replacement tree species shall be selected from the approved general tree list for the City which is maintained by the City. Furthermore, trees listed as noxious or invasive species by King County, or is on the county's watch list are prohibited. In environmentally sensitive areas or their buffers, replacement trees must be native trees or acceptable substitutes, as defined by the general tree list. Any substitution of trees that are not on the general tree, and any alternative methods of replacement, must be approved by the City's Qualified Tree Professional.
4. A person whose tree removal causes a lot's canopy coverage to fall below the canopy coverage goal (KEN for all New subdivisions, short sub plats, single family, multi family and commercial property) shown in Table 1 above shall obtain administrator approval of and implement a tree replacement plan that brings canopy coverage to the applicable percentage specified in Table 1 above (when the replacement trees reach 30 years of age (KEN should we change this to 20 yrs) (KEN All tree replacement plans shall be clearly documented with species, size specifications and location. Plan shall require approval by city arborist or qualified tree professional. Upon replanting the city shall visit the site and document and assure planting was completed per plan. Applicant shall provide three year maintenance bond to assure planting survival per section 70.65). . (KEN The city shall deny the application to remove a significant/exceptional/landmark type tree if arborist or qualified tree professional finds the tree is low risk and worthy of long term retention. (KEN This determination can only be challenged in front of a hearing examiner.)
5. Where the lot on which tree removal occurs is below the canopy coverage goal (KEN for all New subdivisions, short sub plats, single family, multi family and commercial property) shown in Table 1 prior to tree removal, the person removing the tree shall obtain administrator approval of and implement a tree replacement plan that brings canopy coverage to the percentage that existed prior to the proposed tree removal (when the replacement trees reach 30 years of age). KEN should it be 20 yrs. (KEN All tree replacement plans shall be well documented with species, size specifications and location. Plan shall require approval by city arborist or qualified tree professional. Upon replanting the city shall visit the site and document and assure planting was do per plan. Applicant will take out three year maintenance bond to assure planting survival per 70.65). (KEN The city shall deny the application to remove a significant/exceptional/landmark type tree if arborist or qualified tree professional finds the tree is low risk and worthy of long term retention. (KEN This determination can only be challenged in front of a hearing examiner.)
6. A person obtaining a tree removal permit associated with Major Development Activity (KEN for all New subdivisions, short sub plats, single family, multi family and commercial property) or a Five-Year Forest Management Plannew development shall obtain administrator approval of and implement a tree replacement plan that achieves the applicable minimum canopy coverage specified in Table 1 above (when the replacement trees reach 30 years of age). (KEN reach 20 yrs. All tree replacement plans shall be clearly documented with species, size specifications and location. Plan shall require approval by city arborist or qualified tree professional. Upon replanting the city shall visit the site and document and assure planting was completed per plan. Applicant shall provide three year maintenance bond to assure planting survival per section 70.65). . (KEN The city shall deny the application to remove a significant/exceptional/landmark type tree if arborist or qualified tree professional finds the tree is low risk and worthy of long term retention. (KEN This determination can only be challenged in front of a hearing examiner.)

7. All Viable Landmark Trees removed shall require replacement of twice the canopy coverage removed (when the replacement trees reach 30 years of age), (KEN 20yrs) regardless of canopy coverage goal.
8. In environmentally sensitive areas and sensitive area buffers, trees removed shall be converted to wildlife habitat trees and all vegetation cut shall remain in the sensitive area or buffer, unless authorized in writing by the City's Qualified Tree Professional.
9. The minimum size of replacement trees should be:
 - a. Deciduous trees, two inches caliper.
 - b. Conifers, a minimum of four feet tall.
10. All trees must be containerized or balled and burlap stock and be planted according to industry standards.
11. All trees shall meet the minimum standards for size and quality according to the current edition of the ANSI Z60.1 standard for nursery stock.
12. A (KEN three year) maintenance bond of 125 percent of the projected cost of tree replacement is required ~~for all Major Development Activity projects, unless a fee in lieu of on-site replacement is paid into the City Tree Account. This bond will be maintained for 60 months after planting of the new trees.~~
13. The applicant is required to provide watering until replacement trees are independently viable. Replacement trees that die prior to meeting the definition of Significant Tree must be replaced by a replacement tree meeting the criteria of this section and any canopy coverage goal requirements that the expired tree was intended to provide. The posted 3 yr maintenance bond will assure tree survival.

D. LFP ideas Tree Tract. New subdivisions, short sub plats, single family, multi family and commercial properties in the HP zone are required to create a tree tract equal to five percent (KEN or should this be a 25% Natural Tree Plant Tract NTPT) of the gross project area. This tract shall be selected to save existing high quality, windfirm, long-term existing trees on the site. If suitable trees are not present, then the tree tract should abut other existing stands of off-site trees, or sensitive areas. If all or portions of the tree tract are not treed, then the tract shall be replanted to achieve full canopy coverage when the newly planted trees reach 15 years of age. . (KEN The city shall deny the application to remove a significant/exceptional/landmark type tree if arborist or qualified tree professional finds the tree is low risk and worthy of long term retention. (KEN This determination can only be challenged in front of a hearing examiner.)

1. Criteria. A tree tract (KEN NTPT) shall meet the following criteria for approval:
 - a. The tree tract shall equal five percent (KEN 25% NTPT) of the gross project area.
 - b. A 15-foot setback shall be maintained from the edge of the tree tract and any structures.
 - c. A 5-foot setback shall be maintained from side-yard lot lines, unless the tree tract is contiguous to an existing stand of mature trees on the adjacent property.
 - d. The tract shall not overlap with a sensitive area tract.
2. Fee in Lieu. The Administrator may waive all or a portion of the tree tract requirement, provided that the applicant pay an amount into the City Tree Account equal to the valuation of trees that would provide full canopy coverage to the tract. An appraisal of the trees' value by the City's Qualified Tree Professional shall determine this amount, using the current edition of the International Society of Arboriculture's Guide for Plant Appraisal.

E. All subdivisions or short subdivisions receiving tree permits shall have a condition on the face of the subdivision or short subdivision plat stating that minimum canopy must be achieved and maintained on each lot.

F. For tree permits associated with any Major Development Activity, a notice on title in the form required by LFPMC 16.16.190 shall be recorded by the permittee disclosing the tree permit and associated tree retention conditions required by this subsection.

G. The priority for protection of healthy trees in developing, redeveloping, or existing lots that are being modified is:

1. Existing Viable Trees in groups or stands
2. Exceptional/Landmark Trees or other high -quality open-grown, windfirm trees(KEN The HPO allows the city to deny any tree cutting on single family, mulit family and commercial properties in the HP zone when the tree is low risk and worthy of long term retention
3. Trees that are interdependent with and therefore critical to the integrity of stands of other protected trees;
4. Other individual trees that will be windfirm, high quality trees if retained;
5. Other trees that provide wildlife or riparian habitat, screening, buffering or other amenities;
6. Trees that help to protect neighbors' trees from windthrow, or other trees within required yard setbacks or on the perimeter;
7. Trees next to parks or other open space areas.

H. The administrator may require an applicant to implement other measures designed to mitigate the loss of trees, such as requiring the restoration of all or parts of the forest landscape and its associated benefits, including but not limited to:

1. Creation of wildlife snags from trees which would otherwise be removed;
2. Replacement of ornamental trees with native shrubs and groundcover;
3. Replacement of hazardous or short-lived trees with healthy new trees more likely to survive;
4. Restoration of stream corridors with native vegetation; or
5. Protection of nonsignificant trees to provide for the successional stages of forest development.

E. Measurement of Canopy Coverage.

1. Existing Open-Grown Trees.
 - a. Measure the radius of the tree's canopy at its widest and narrowest points and calculate the average canopy radius for the tree.
 - b. Calculate the tree's canopy coverage (ft²) using the average canopy radius and the formula: πr^2 where $\pi = 3.1416$ and r = the canopy radius in feet.
 - c. Add up the calculated canopy coverage for all trees on the parcel in square feet and divide by the total lot area to determine the percentage canopy cover.

2. For contiguous stands of trees, traverse the perimeter of the stand within the parcel to calculate the area under the tree canopy and the resulting canopy percentage. In some cases, use of high-resolution aerial photography may be used for larger stands.

3. For newly planted or immature trees less than 30 years old, calculate the projected canopy coverage at age 30 using the information provided in the approved general tree list for the city of Kirkland. Sum these canopy coverage areas to project the lot canopy coverage as trees reach an age of 30 years.

F. Incentives for Higher Levels of Tree Retention for New Development. The administrator may grant reductions or adjustments to other site development standards if doing so will allow retention of a sufficient number of existing, healthy significant trees and tree canopy coverage in excess of the goal required by Table 2 above. On a case-by-case review, the administrator shall determine the balance between tree protection that exceeds the established minimum percentage and variations to site development requirements. (CASS TURNBILL Incentives: If applicant goes above and beyond required tree retention and or onsite stormwater treatment will get 'green' reduced water billing rate or reduced tree permit fees. Authorized adjustments include:

1. Reductions or variations of the area or width of required open space, tree tract requirement, and/or landscaping;
2. Variations in parking lot design and/or access requirements; or
3. Reduction in the width of certain easements.

G. Tree Replacement Requirements. For lots under the canopy coverage goal that propose tree removal activity requiring an arborist review permit, native conifers shall comprise at least 30 percent of the replacement trees. The number of required replacement trees is determined by the number of trees that will, at age 30 (KEN 20), achieve tree canopy coverage equal to or greater than the minimum canopy coverage required by Table 1 above for the type of lot. The replacement tree species shall be selected from the approved general tree list for the city of Kirkland which is maintained by the city. Trees listed as prohibited in the general tree list are not acceptable for replacement or mitigation trees. Any substitutions of trees that are not on the list or alternative methods of replacement must be approved by the city's qualified tree professional. (KEN No tree on King County's noxious weed/tree or weed/tree watch list shall be planted). (KEN The city shall deny the application to remove a significant/exceptional/landmark type tree if arborist or qualified tree professional finds the tree is low risk and worthy of long term retention. (KEN This determination can only be challenged in front of a hearing examiner.)

1. The minimum size of replacement trees should be:
 - a. Deciduous trees, two inches caliper (RZC is 2.5").
 - b. Conifers, a minimum of six feet tall.

H. On-Site Replacement. Replacement trees shall be planted on the site from which significant trees are removed. The administrator may waive the on-site tree replacement requirement; provided, that the applicant pays an amount determined by a qualified tree professional into the city tree account that is equivalent to the total cost for purchase and installation of each replacement tree and three years of maintenance for each replacement tree. (KEN administrator approval shall require Hearing Examiner's approval also)

I - LFP (Tree Board revision recommendation): To assure trees are replanted a voucher system shall be established in the HP zone where permittee pays the city value of replacement tree and city gives permittee vouchers that can used at local nurseries and nurseries bill city on a regular basis. Vouchers not used within one year expire and funds remain in tree fund

(KEN per LFP Ande-there is loophole in canopy replacement requirements for developers, she said developers almost incentivized, if developer wants to build a single fam house current reg unless proposed development triggers tree removal or protection, 'new development' is not required to meet canopy coverage goals. Possible solution broaden definition of 'new development' to include single fam, multi fam and comm construction)

70.15-KZC 70.15 Standards HPO bullets 1-10: To help assure the health of the HP zone urban forest tree canopy/plant asset the maximum impervious surface standards set forth in Chapter 18 KZC are superseded by this HP) suffix, and the following development standards shall be applied to all residential development:

1. When review under Chapter [85](#) KZC (Geologically Hazardous Areas) or Chapter [90](#) KZC (Drainage Basins) or the City of Kirkland's Surface Water Design Manual is required, the review shall assume the maximum development permitted by this (HP) suffix condition will occur on the subject property, and the threshold of approval shall require a demonstration of no significant adverse impact on properties located downhill or downstream from the proposed development. (KEN A tree inventory and assessment report shall be prepared by a Qualified Tree Professional and reviewed by planning, Urban Forest Division (UFD) and Tree Board (TB). Information on tree species, diameter at breast height (DBH), condition (health), location, and the minimum required critical root zone (CRZ) shall be collected). (KEN The city shall deny the application to remove a significant/exceptional/landmark type tree if arborist or qualified tree professional finds the tree is low risk and worthy of long term retention. This determination can only be challenged in front of a hearing examiner.)

2. Total lot coverage shall be limited within every building lot as follows:

- a. On lots up to 6,500 square feet in size, 2,600 square feet;

- b. On lots 6,501 to 9,000 square feet in size, 2,600 square feet plus 28 percent of the lot area over 6,500 square feet;
- c. On lots over 9,000 square feet in size, 3,300 square feet plus 10 percent of the lot area over 9,000 square feet;
- d. On a lot already developed, cleared or otherwise altered up to or in excess of the limits set forth above prior to July 6, 1999, new impervious surfaces shall be limited to five (5) percent of the area of the lot, not to exceed 750 square feet;
- e. ~~For purposes of computing the allowable lot coverage within each lot, private streets, joint-use driveways or other impervious surfaced access facilities required for vehicular access to a lot in easements or within flaglots shall be excluded from calculations.~~

Summary Table:

<u>Lot Size</u>	<u>Maximum Lot Coverage</u>
Less than 6,500 sq. ft.	2,600 sq. ft.
6,501 sq. ft. to 9,000 sq. ft.	2,600 sq. ft. plus 28% of the lot area over 6,500 sq. ft.
9,001 sq. ft. or greater	3,300 sq. ft. plus 10% of the lot area over 9,000 sq. ft.
Developed, cleared or altered lots	New impervious limited to 5% of the total lot area, but not to exceed 750 sq. ft.

- 3. In addition to the maximum area allowed for buildings and other impervious surfaces under subsection (2) of this section, up to 50 percent of the total lot area may be used for garden, lawn or landscaping, provided:
 - a. All significant trees, as defined in Chapter [95](#) KZC, must be retained. The area limits set forth in this subsection are to be measured at grade level; the area of allowable garden, lawn or landscaping may intrude into the drip line of a significant tree required to be retained under this subsection if it is (KEN documented and reported by a qualified tree professional), not to cause root damage or otherwise imperil the tree's health. KEN this report shall be approved by city arborist
 - b. Total site alteration, including impervious surfaces and other alterations, shall not exceed 75 percent of the total lot area;
 - c. At least 25 percent of the total lot area shall be designated as a Protected Natural Area (PNA) (KEN Natural Tree Plant Tract NTPT), in a location that requires the least alteration of existing native vegetation. (KEN should the PNA be replaced with a tree/plant tract equal to 25%, not five percent gross project area which is what lfp does)

~~In general, the PNA (KEN NTPT) shall be located in one (1) contiguous area on each lot unless the City determines that designation of more than one (1) area results in superior protection of existing vegetation. The PNA (NTPT) shall (KEN shall not) be designated to encompass any critical areas on the lot and, to the maximum extent possible, consist of existing viable trees and native vegetation that meet the minimum vegetation condition standards set forth in subsection (4)(a) of this section.~~

~~If the lot does not contain an existing area meeting the vegetation requirements of subsection (4)(a) of this section or if the applicant demonstrates to the satisfaction of the Planning Official that retaining such vegetation area is not feasible because it would significantly restrict the ability to develop the subject property based on applicable zoning regulations, a PNA shall be restored or established to the standards set forth in subsection (4)(b) of this section;~~

KEN If the NTPT is disturbed in anyway during construction there will be an immediate stop work posted at the site and a \$3000 fine shall be issued. If party receives a second fine with in three years of the first his/her license to work within the city of Kirkland shall be suspended. The disturbed area can no longer be considered natural and can no longer be included as meeting requirements of the PNA (KEN NTPT). Revised plans must be submitted and approved by both planning and city arborist. A disturbed area cannot be replanted and then be considered natural.

d. If development on the lot is to be served by an on-site sewage disposal system, any areas required by the Department of Public Health to be set aside for on-site sewage disposal systems shall be contained as much as possible within the portion of the lot altered for garden, lawn or landscaping as provided by this subsection. If elements of the on-site sewage disposal system must be installed outside the landscaped area, the elements must be installed so as not to damage any significant trees required to be retained under subsection (3)(a) of this section, and any plants that are damaged must be replaced with similar native plants.

e. (KEN All permit applications for any property within the HP zone shall be reviewed by planning, Urban Forestry Division UFD and the Tree Board TB.)

4. Minimum Vegetation Conditions in the Protected Natural Area (NTPT). (KEN shall meet canopy goal as stated in 70.08 Tree retention and replacement standards) for the propertyt.

a. Existing Native Vegetation – Priority is given to designate contiguous areas containing native vegetation meeting the following standards

~~1) Trees – Viable trees at a tree density of 150 tree credits per acre within the PNA, calculated as described in KZC [95.33](#).~~

~~Example: A 10,000 square foot lot requires a 2,500 sq. ft. PNA (10,000 x 25% = 2,500 sq. ft.). Within the 2,500 sq. ft. PNA, nine (9) tree credits are required (2,500 sq. ft./43,560 sq. ft. = 0.057 acres x 150 tree credits = 8.6, rounded to nine (9) tree credits). Note: the tree density for the remaining lot area is 30 tree credits per acre.~~

2) (KEN Tree- To meet lot canopy goal as stated in 70.08 Tree retention and replacement standards)

2) Shrubs – Predominately 36 inches high, ~~covering at least 60 percent of the PNA.~~ (KEN To meet lot canopy goal as stated in 70.08 Tree retention and replacement standards)

3) Living Groundcovers – ~~Covering at least 60 percent of the PNA.~~ (KEN To meet lot canopy goal as stated in 70.08 Tree retention and replacement standards)

b. Vegetation Deficiencies

1) If the PNA (NTPT) contains insufficient existing vegetation pursuant to subsection (4)(a) of this section, ~~the applicant shall restore the PNA with native vegetation to meet minimum-~~

~~supplemental vegetation standards pursuant to subsection (4)(b)(3) of this section. (KEN the applicant shall restore the NTPT to meet lot canopy goal as stated in 70.08 Tree retention and replacement standards)~~

~~2) If the Planning Official determines that it is not feasible to retain an existing vegetation area, the applicant shall establish a PNA in a location approved by the Planning Official and planted in accordance with the supplemental vegetation standards in subsection (4)(b)(3) of this section.~~

3) Supplemental Vegetation Standards – The applicant shall provide at a minimum:

a) Supplemental trees, shrubs and groundcovers selected from the Kirkland Native Plant List, ~~or other native species approved by the Planning Official~~. KEN Plants on King County's noxious weed list or weed watch list shall not be allowed.

b) Trees – (KEN shall meet canopy goal as stated in 70.08 Tree retention and replacement standards) . ~~Planted with a tree density of 150 tree credits per acre as described in KZC [95.33](#). The minimum size and tree density value for a supplemental tree worth one (1) tree credit in the PNA shall be at least six (6) feet in height for a conifer and at least one (1) inch in caliper (DBH) for deciduous or broad-leaf evergreen trees, measured from existing grade.~~

c) Shrubs – ~~Planted to attain coverage of at least 80 percent of the area within two (2) years, and at the time of planting be between 2- and 5-gallon pots or balled and burlapped equivalents.~~ (KEN shall meet canopy goal as stated in 70.08 Tree retention and replacement standards)

d) Living Groundcovers – ~~Planted from either 4-inch pot with 12-inch spacing or 1-gallon pot with 18-inch spacing to cover within two (2) years 80 percent of the naturalized area.~~ (KEN shall meet canopy goal as stated in 70.08 Tree retention and replacement standards)

4) Soil Specifications – Soils in supplemental vegetation areas shall comply with KZC [95.50](#), particularly those areas requiring decompaction.

5) Mulch – Mulch in supplemental vegetation areas shall comply with KZC [95.50](#).

6) Prohibited Plants – Invasive weeds and noxious plants (**KEN and weeds on King County's watch list including ivy, laurel and holly**) listed on the Kirkland Plant List in the vicinity of supplemental plantings shall be removed in a manner that will not harm trees and vegetation that are to be retained.

7) Landscape Plan Required – ~~In addition to the tree retention plan required pursuant to KZC [95.30](#), application materials shall clearly depict the quantity, location, species, and size of supplemental plant materials proposed to comply with the requirements of this section. Plants installed in the PNA shall be integrated with existing native vegetation and planted in a random naturalistic pattern. The Planning Official shall review and approve the landscape plan.~~ (KEN as required in 70.08 Tree retention and replacement standards and reviewed by planning, UFB and TB)

8) (KEN The city shall deny the application to remove a significant/exceptional/landmark type tree if arborist or qualified tree professional finds the tree is low risk and worthy of long term

retention. This determination can only be challenged in front of a hearing examiner.)

5. Subdivisions and short subdivisions shall be subject to the following requirements:

a. New public or private road improvements shall be the minimum necessary to serve the development on the site in accordance with Chapter [110](#) KZC. The City shall consider granting modifications to the road standards to further minimize site disturbance, consistent with pedestrian and traffic safety, and the other purposes of the road standards. (KEN Said modifications shall be reviewed by planning, public works, Urban Forestry Division UFD and by the Tree Board TB)

b. Impervious surfaces and other alterations within each lot shall be limited as provided in subsections (2) and (3) of this section. In townhouse or multifamily developments, total impervious surfaces and other alterations shall be limited to 2,600 square feet per lot or dwellingunit in the R-6 and R-8 zones, and 3,300 square feet per lot or dwellingunit in the R-4 zone.

6. Tree Retention Plan – The applicant shall submit a tree retention plan required under KZC [95.30](#). In addition, it shall include **detailed report documenting** the location, health of all trees, shrubs and groundcover and (KEN size ~~general locations~~) on the subject property. (KEN shall meet canopy goal as stated in 70.08 Tree retention and replacement standards and shall be reviewed by Urban Forestry Division UFD and by the Tree Board TB). (KEN The city shall deny the application to remove a significant/exceptional/landmark type tree if arborist or qualified tree professional finds the tree is low risk and worthy of long term retention. This determination can only be challenged in front of a hearing examiner.)

7. The Department of Planning and Community Development shall conduct site inspections (KEN and document finds) prior to approving any site alteration or development on parcels subject to this (HP) suffix condition as follows:

a. Prior to issuing a permit for alteration or building on any individual lot subject to this (HP) suffix condition, the PlanningOfficial shall inspect the site to verify the existing conditions, tree and other plant cover, and any previous site alteration or building on the site. Prior to this inspection and prior to altering the site, the applicant shall (KEN submit a NTPT plan, approved by city qualified tree professional, UFD and TB) clearly delineate the proposed Protected Natural Area and the area of the lot proposed to be altered and built on with environmental fencing, 4-foot high stakes and high-visibility tape or other conspicuous and durable means, and shall depict this area on a site plan included in the application. (KEN if fencing is moved, altered or falls and isn't replaced a \$2000 penalty will be issued. If party is fined a second time within a five year period license to operate in Kirkland will be suspended. Fee shall go into Tree Account. The city shall deny the application to remove a significant/exceptional/landmark type tree if arborist or qualified tree professional finds the tree is low risk and worthy of long term retention. This determination can only be challenged in front of a hearing examiner.)

b. Prior to approving any subdivision or building permit for more than one (1) dwellingunit on any parcel subject to this (HP) suffix condition, the PlanningOfficial shall inspect the site to verify (KEN and document) the conditions, tree and other plant cover, and any previous site alteration or building on the site. Prior to this inspection and prior to altering the site, the applicant shall clearly delineate the proposed Protected Natural Area (KEN NTPT) and the area of the proposed grading for streets, flow control and other common improvements, with environmental fencing, 4-foot high stakes and high-visibility tape or other conspicuous and durable means, and shall depict this area

on a plot plan included in the application. Development of individual lots within any approved subdivision or short subdivision shall be subject to an individual inspection in accordance with subsection (7)(a) of this section. As part of the subdivision application, the applicant shall choose the tree retention plan options as required by KZC [95.30\(6\)](#). If the applicant chooses integrated review (rather than phase review) the applicant shall show the Protected Natural Area (PNA) NTPT on the face of the plat (KEN must be approved by a city qualified tree professional, UFD and TB. If fencing is moved or falls and not replaced stop work notice shall be issued and \$3000 fine shall be issued. Fee shall go into Tree Account. If party is issued second violation within five years of the first party's license to operate in Kirkland shall be suspended)

1. (KEN The city shall deny the application to remove a significant/exceptional/landmark type tree if arborist or qualified tree professional finds the tree is low risk and worthy of long term retention.)

8. Tree and Landscape Maintenance Requirements

a. Protected Natural Area(s) NTPT – The PNA(s) shall be retained in perpetuity. Prior to final inspection of a building permit, the applicant shall provide:

1) A final as-built landscape plan showing all vegetation required to be planted or preserved; and

2) A recorded PNA NTPT protection easement, in a form approved by the City Attorney, to maintain and replace all vegetation that is required to be protected by the City. The agreement shall be recorded with the King County Bureau of Elections and Records. Land survey information shall be provided for this purpose in a format approved by the Planning Official.

3) ~~Plants that die must be replaced in kind or with similar plants contained on the Native Plant List, or other native species approved by the Planning Official.~~ (KEN Final as built plan shall require approval by city arborist or qualified tree professional. Upon replanting the city shall visit the site and document and assure planting was done per plan. Applicant will take out three year bond to assure plantings survive.)

4) (KEN Applicant must provide three yr maintenance bond to assure plant watering/survival)

b. All significant trees in the remaining 75 percent of the lot shall be maintained in perpetuity, and tree removal will be allowed only for hazardous, and ~~nuisance~~ (KEN diseased) trees pursuant to KZC [95.23\(5\)\(d\)](#).

9. Pervious areas which are not geologically hazardous or environmentally sensitive areas governed by Chapter [85](#) or [90](#) KZC shall be maintained as openspace in an undisturbed state, except for the following activities:

a. Incidental trimming or removal of vegetation necessary for protection of property or public health and safety, or the incidental removal of vegetation to be used in the celebration of recognized holidays. Replacement of removed hazardous trees may be required;

b. Noxious weeds may be cleared as long as they are replaced with appropriate native species or other appropriate vegetation and bark mulched to prevent erosion;

c. Construction of primitive pedestrian-only trails in accordance with the construction and maintenance standards in the U.S. Forest Service "Trails Management Handbook" (FSH 2309.18, June 1987, as amended) and "Standard Specifications for Construction of Trails" (EM-7720-102,

June 1996, as amended); but in no case shall trails be constructed of concrete, asphalt or other impervious surface;

d. Limited trimming and pruning of vegetation for the creation and maintenance of views, and the penetration of direct sunlight, provided the trimming or pruning does not cause root damage or otherwise imperil the tree's health as allowed for in Chapter 95 KZC; and

e. Individual trees or plants may be replaced with appropriate species on a limited basis. Forested hydrological conditions, soil stability and the duff layer shall be maintained.

10. Conformance with this (HP) suffix condition shall not relieve an applicant from conforming to any other applicable provisions of the Zoning Code, Subdivision Ordinance, or Shoreline Master Program.

70.17 KEN Performance Assurance bulletts 1-4

1. KEN The Urban Forest Division (UFD) and Tree Board (TB) as established in 70.05.e.1 shall assure the execution of all above measures regarding any activity within any property within the HP zone.
2. KEN To help fund all above practices all permit and penalty fees regarding activity within the HP zone go into a HP zone Tree Account
3. KEN To assure all replanting measures are successful the applicant shall post a three year maintenance bond to assure plant water/survival)
4. LFP Tree Board revision recommendation: To assure trees are replanted as described within any HPO measure the UFD shall create a voucher system in the HP zone where permittee shall pay the city the value of replacement tree and city issues permittee vouchers that can used at local nurseries and nurseries. These business will then bill the city on a regular basis. Vouchers not used within one year expire and funds remain in HP zone tree fund account.

70.19 LFP 16.14.090 Tree protection & design measures. This measure same as RZC and LFP

A. Tree Protection Measures. To ensure long-term viability of trees identified for protection:

1. All required tree protection measures (RZC critical area mitigation plans, or other plans) shall be shown on the demolition, grading, and tree protection plan along with a timeline for tree protection activity.
2. All construction activities, including staging and traffic areas, shall be prohibited within five feet of the dripline of protected trees.
3. Tree protective fencing shall be installed, (KEN per plans), at the limits of disturbance and completely around trees to be protected prior to any land disturbance unless otherwise delineated by the qualified tree professional. (KEN The city shall visit the site and clearly document the fencing to have been installed per plan. If at any time the city finds the fencing to have been moved, modified or not replaced when fallen applicant will be find \$3000. This penalty fee shall go into the tree fund).
4. Tree protective fencing shall be a minimum of four feet high, constructed of chain link or polyethylene laminar safety fencing or similar material, subject to approval by the city. The fence must be constructed on steel posts with a minimum spacing of eight feet on center. "Tree Protection Area – Keep Out" signs shall be posted visibly on all sides of the fenced areas.
5. Where tree protection areas are remote from areas of land disturbance, and where approved by the city, alternative forms of tree protection may be used in lieu of tree protective fencing; provided, that the critical root zones of protected trees or stands of trees are clearly delineated with continuous rope or flagging and accompanied by "Tree Protection Area – Keep Out. KEN Tree value \$7k" signs. (KEN if at any time the city finds the fencing to have been moved, modified or not replaced when fallen applicant will be find \$3000. This penalty fee shall go into the tree fund).

B. Tree Health. In addition, the applicant shall support tree protection efforts by employing, as appropriate, the following preventative measures, consistent with best management practices (BMPs) for maintaining the health of the tree:

1. Pruning of visible deadwood on trees to be protected;
2. Application of fertilizer to enhance the vigor of stressed trees;
3. Use of soil amendments and soil aeration in tree protection and/or replanting areas;
4. Mulching over tree dripline areas; and
5. Providing watering during and immediately after construction.
6. KEN Applicant shall post three year plant maintenance bond to assure plant watering/survival)

C. Alternative Methods. The city may approve the use of alternative tree protection techniques if a protected tree will be protected to an equal or greater degree than through the techniques listed above, as determined by the city's qualified tree professional. (KEN All alternative tree protection techniques shall be approved by the UFD and TB

D. Grading and Proximity to Structures, Utilities, and Roadways.

1. Structures, utilities, and roadways shall be set back at least five feet from the dripline or critical root zone (CRZ), whichever is greater of a protected tree, except where such structure is a raised deck, bay window, or other structure cantilevered or otherwise raised above the ground's surface so as not to disrupt the tree's roots.

2. Sidewalks, driveways, structures and utilities may be located within the dripline or critical root zone (CRZ) of a protected tree; provided, that construction methods and materials used will result in minimal disruption of the tree's roots, and that tree protection measures are proposed and approved by the city's qualified tree professional.
3. The administrator may allow activities such as trenching, construction or an alteration of grades inside the five-foot setback from the dripline or critical root zone of a protected tree; provided, that the tree protection plan prepared by the qualified tree professional which demonstrates that the proposed activity will not adversely affect the long-term viability of the tree. Generally, no more than 20 percent of the root system of a tree should be impacted by this activity.

E. Site Development and Modification Guidelines. Site improvements shall be designed and constructed to:

1. Incorporate trees as a site amenity and to reflect a strong emphasis on tree protection.
2. Retain a forested look, value, and function after development or modification. Trees should be protected within vegetated islands and stands rather than as individual, isolated trees scattered throughout the site.
3. Building footprints, parking areas, roadways, utility corridors and other structures shall be designed and located taking into consideration tree protection opportunities.
4. The project grading plans shall accommodate existing trees and avoid alteration to grades around existing significant trees.

G LFP tree board revision recommendation: Exceptional trees- The city shall deny the application to remove a significant/exception tree if arborist finds the tree to is low risk and worthy of long term retention

F. CASS TURNBILL -Incentives: If applicant retains trees than no charge permit. If applicant goes above and beyond required tree retention and or onsite stormwater treatment will get 'green' reduced water billing rate.

~~KZC 70.25 Variations from Standards~~-(KEN I deleted this entire section)

~~For developmentactivity occurring after July 6, 1999, upon written request from the applicant, the Planning Director may allow up to a 10 percent increase in impervious surface on individual lots over the limits set forth above, provided such increase is the minimum necessary to allow reasonable use of the property and meets all other applicable decision criteria for a variance as provided in Chapter 120 KZC, and one (1) or more of the following circumstances applies:~~

- ~~1.— Development of a lot will require a driveway 60 feet or longer from the lot boundary to the proposed dwelling unit;~~
- ~~2.— On-site flow control facilities are required by the Public Works Department;~~
- ~~3.— The requested increase will allow placement of new development on the site in such a way as to allow preservation of one (1) or more additional significanttrees, as defined in Chapter 95 KZC, that would otherwise be cleared; or~~
- ~~4.— The requested increase is necessary to provide additional parking, access ramp or other facilities needed to make a dwelling accessible for a mobility-impaired resident.~~

~~RZC 70.10 rzc 21.72.090 Exceptions (lfp doesn't' have a exceptions or variation section)~~

~~A. Exceptions Authorized. Where exceptional conditions exist that prevent full compliance with RZC 21.72.060, Tree Protection Standards, and/or RZC 21.72.080, Tree Replacement, the applicant may request an exception. A request for any exception shall be submitted in writing by the property owner for consideration by the Administrator, and shall accompany the application for a permit reviewed under this section. The written request shall fully state all substantiating facts and evidence pertinent to the exception request, and include supporting maps or plans. The Administrator may also require the recommendation of a certified arborist in reviewing an exception request.~~

~~B. Exception Criteria. An exception shall not be granted unless criteria B.1, B.2, B.3, and B.4 of this subsection are satisfied:~~

- ~~1. The exception is necessary because:

 - ~~a. There are special circumstances related to the size, shape, topography, location, or surroundings of the subject property; or~~~~

~~b. Strict compliance with the provisions of this code may jeopardize reasonable use of property; or~~

~~c. Proposed vegetation removal, replacement, and any mitigating measures proposed are consistent with the purpose and intent of the regulations; or~~

~~d. The granting of the exception or standard reduction will not be detrimental to the public welfare or injurious to other property in the vicinity; or~~

~~e. The strict compliance with the provisions of this code would be in conflict with the increased density of urban centers and result in development that would be inconsistent with the adopted vision for the neighborhood.~~

~~2. If an exception is granted below the required minimum retention standard of 35 percent, tree replacement shall be at a minimum of three trees for each significant tree removed. Tree replacement ratios may be modified for master plans within urban centers to allow for 1:1 replacement when accompanied by a three-tier vegetative replacement plan.~~

~~3. Native Growth Protection Area (NGPA). Trees within an established Native Growth Protection Area shall not be removed, except when removal has its specified purpose:~~

~~a. To remedy a hazardous tree;~~

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~~b. To establish a nonmotorized trail as part of a private environmental interpretation program or City of Redmond trail system;~~

~~c. To relocate or consolidate existing trails for the purpose of controlling human impacts to vegetation~~

~~d. To stabilize slopes;~~

~~e. To add or restore native plants;~~

~~f. To control and replace nonnative vegetation;~~

~~g. To restore degraded watercourses or wetlands; or~~

~~h. To implement a City of Redmond long-term restoration or management plan.~~

~~4. Proposed tree removal, replacement, and any mitigation proposed are consistent with the purpose and intent of this section.~~

70.30 BZC 12.18.040 Types of landscaping in the HP zone (KEN is this section were the word landscaping is used I replaced with the words landscaping/replanting)

Types of landscaping/replanting are as follows. In cases where two types are specified for one area, the more intensive landscape/replanting type shall be required.

Type	Purpose	Tree Planting	Shrubs/Ground Covers	Other
I	Type I landscaping is intended to provide a solid sight barrier to totally separate incompatible uses. Coniferous materials are selected to provide maximum year-round screening.	A planting strip with two offset rows of coniferous trees at an average spacing of 10 feet triangulated on-center.	Mixture of shrubs, ground covers and other plant material to provide 85 percent surface coverage within two years from planting.	Either earth berming at a minimum height of two and one-half feet or a six-foot-high sight-screening fence.

Type	Purpose	Tree Planting	Shrubs/Ground Covers	Other
II	Type II landscaping is intended to create a semi-sight-obscuring buffer between incompatible uses and against building facades. The majority of selected plant materials shall be coniferous to provide the intended buffering year-round.	A planting strip planted with trees, of which a maximum of 30 percent may be deciduous, at an average spacing of 20 feet on-center.		
III	Type III landscaping is intended to provide visual relief between incompatible uses and against building facades. A mixture of deciduous and coniferous plant material shall be provided using a minimum of coniferous material to provide visual relief on a year-round basis.	Planting strip planted with coniferous or a maximum of 75 percent deciduous trees at an average spacing of 25 feet on-center.		
IV	Type IV landscaping is intended to provide visual relief within parking areas and adjacent to building facades. Deciduous tree materials are selected to provide shade and clear sight-lines within parking areas.	At least one deciduous tree for each 150 square feet of landscaped area at an average spacing of 30 feet on-center.		
V	Type V landscaping is intended to provide visual relief and add to the overall quality of a development by softening the effect of the new building upon the landscape.	At least one evergreen or deciduous tree for each 500 square feet of landscaped area.		
VI	Type VI landscaping is intended to revegetate, restore, or enhance existing or damaged areas of native plantings.	A mixture of coniferous trees which shall range from one to six feet at installation. Deciduous trees shall range from “whips” to one and		Native wetland plants shall be preferred for wetland areas.

Type	Purpose	Tree Planting	Shrubs/Ground Covers	Other
		one- half-inch caliper at installation.		

70.35 BZC 12.18.050 Street right-of-way landscaping/replanting in HP zone

Landscaping/replanting shall be installed within (KEN all) street rights-of-way ~~abutting all subdivisions, multifamily residential and commercial developments-~~ (KEN in the HP zone). For the purposes of this section, “street right-of-way landscaping.replanting” shall be that landscaping/replanting installed within the right-of-way. Street right-of-way landscaping/replanting includes landscaping installed between the curb and sidewalk, within planter strips, landscaping behind sidewalks, and landscaping installed within medians.

A. Landscaping shall be installed between the curb and sidewalk within a planter strip, pursuant to the following table:

Street Classification	Trees	Shrubs and Ground Covers
Local access street	One deciduous tree, at an average spacing of 30 feet on center. Trees to be selected from the list contained in BMC 12.18.140(G) .	Turf grass of ground covers as approved by director
Collector	Pursuant to Type IV standard	Pursuant to Type IV standard
Arterial street	Pursuant to Type IV standard	Pursuant to Type IV standard
Boulevard street	See BMC 12.18.060	See BMC 12.18.060

B. Landscaping installed within the street right-of-way between the sidewalk and the front property line shall meet or exceed a Type IV (KEN type II) landscape standard. Other portions of abutting street right-of-way which do not contain roadway, gutters, curbing, street furniture, sidewalks or walkways or other hard surfaces shall be landscaped in accordance with a Type IV (KEN II) standard. Individual single-family and duplex residences are exempt from the provisions of this subsection.

~~C. Landscaping installed within city approved traffic medians, islands, or other landscape features installed within street rights-of-way shall meet a Type IV landscape standard. All deciduous and coniferous trees installed within traffic medians or islands shall be selected from the Bothell boulevard median tree list as contained under BMC [12.18.060](#).~~

D. All landscaping installed within the street right-of-way shall comply with the sight distance requirements as set forth in the City of Bothell Design and Construction Standards and Specifications.

E. Property owners shall be responsible for maintaining any landscaping within abutting public rights-of-way.

F. The landscaping requirements in this section may be modified by the director when their strict application could create conflicts with overhead or underground utilities, traffic control signs, or other structures or conditions within the right-of-way

70.40 BZC 12.18.080 Front lot line landscaping and interior lot line landscaping/replanting in the HP zone

The required front lot line landscaping and interior lot line landscaping as set forth in the table in subsection C of this section shall be entirely on the subject property. For the purposes of this section, “front lot line landscaping” shall be that landscaping installed on the subject property immediately adjacent to the front or street lot line. “Interior lot line landscaping” is that landscaping installed on the subject property adjacent to the interior or side and rear lot line.

- A. The width of the landscaping may be averaged but in no case shall be less than five feet.
- B. Where a building is proposed to be located on a property line abutting a street right-of-way, alternative landscaping shall be installed to soften the appearance of the building. Examples of such landscaping include window boxes, hanging planters, ivy, large potted plants, and trees and shrubs planted against the building wall.
- C. Front lot line landscaping and interior lot line landscaping shall comply with the table below. The land uses below correspond to those listed in Chapter [12.06](#) BMC.

70.45 BZC 12.18.130 Required landscape/replanting plan in HP zone

- A. A dimensioned landscaping plan showing existing and proposed landscaping, irrigation and utilities shall be submitted with the project application for any development except that for individual single-family dwellings and duplexes; the plan shall only address landscaping within the right-of-way, in accordance with BMC [12.18.050](#). These landscaping plans shall be prepared by a licensed landscape architect or Washington State Certified Nurseryman, ~~except that this requirement shall not apply to individual single-family dwellings, or duplexes, or multiple-family commercial, or industrial projects proposing 2,000 square feet of landscaping or less over the entire development area.~~ Plants shall be identified by botanical and common names, and by caliper (deciduous trees), height (shrubs or coniferous trees), or container size of plant material (ground covers). (KEN plans shall be reviewed and approved by planning, UFD and TB)
- B. Irrigation system plans shall be provided, to consist of the following, as may be determined necessary by the community development director based on the size, scale and location of the proposed project:
 - 1. Adequate water pressure and spacing to serve all landscaped areas in non-single-family developments;
 - 2. Moisture or precipitation sensors;
 - 3. Automatic timers set for operation during periods of minimum evaporation and that assure adequate moisture levels;
 - 4. Pressure regulating devices;
 - 5. Backflow prevention devices;
 - 6. Separate irrigation zones for turf and planting beds.
- C. Utility plans shall identify the location and size of existing and proposed sewer, water and storm drains and other utilities, both above and below ground. Potential conflicts between landscaping and utilities shall be minimized or avoided.

D. The normal scale for landscape plans shall be one inch equals 20 feet. However, in large projects, the landscape plans shall be at the same scale as all other construction drawings with supplemental drawings at one inch equals 20 feet if necessary to provide sufficient detail. This determination shall be made by the community development director.

E. Final landscaping plans shall be submitted as part of the construction drawing package with one additional copy of the landscaping plan, except as other provisions of this title may require earlier submittal.

F. Final plans shall be approved by the community development director prior to project construction. Changes to approved plans must be approved by the community development director prior to changes being made.

G. (KEN Assure replanting occurs the UFD shall establish a voucher system for the HP zone where permittee pays the city value of replacement trees/plants and city issues permittee vouchers that can used at local nurseries and nurseries bill city on a regular basis. Vouchers not used within one year expire and funds remain in tree fund)

70.50 BZC 12.18.140 Plant materials and sizes

A. The community development director shall adopt a list of plant materials which may be used to comply with the provisions of this chapter. A copy of this plant list will be available for inspection and copying in the department of community development during regular business hours.

B. The applicant may use plant materials on the adopted plant list or other plant materials as approved by the city. The city may require the applicant to modify his/her plant choice to:

1. Provide a desired diversity of species;
2. Make the plantings more in scale and compatible with the uses in the immediate vicinity of the subject property;
3. Provide plant materials which will fulfill buffering or landscaping purposes on a year-round basis;
4. Provide Pacific Northwest indigenous plant species, particularly drought resistant species that minimize water, maintenance, and fertilizer requirements.

C. Nonvegetative material shall not be considered a substitute for plant material. Bark, mulch, gravel, or other nonvegetative material shall only be used in conjunction with landscaping to assist vegetative growth, retain soil moisture, and assist in maintenance.

D. Plant sizes, excluding Type VI landscaping, shall be as follows:

1. Evergreen trees shall be a minimum height of six feet above finished grade, except that evergreen trees in Type I/II landscaping shall be a minimum height of 10 feet above finished grade.
2. Deciduous trees in street frontage landscaping, the Bothell boulevard system and Type II landscaping areas shall be at least two and one-half inches in diameter measured six inches above grade. All other deciduous trees shall be at least one and one-half inches in diameter measured six inches above grade. Where sight distance needs to be maintained, deciduous trees shall have a clear trunk area of at least eight feet above the ground.

3. All shrubs shall be at least 21 inches in height above finished grade and spaced at maximum three feet on center. Dwarf varieties or others approved by the department of community development may be installed at smaller heights and spacing. Varieties significantly larger than 21 inches in height may be installed at greater heights and spacing subject to approval by the community development director.
4. Ground cover spacing for one gallon plantings shall be 18 inches on center maximum or four-inch pots planted at maximum 12 inches on center.
5. Shrubs and ground cover shall provide an immediate surface coverage of at least 50 percent with an 85 percent coverage within two years.

~~E. Those developments where reduced landscaping is approved, pursuant to BMC [12.18.150](#), may be required to install street trees utilizing tree pits. Tree pits shall be a minimum of four feet by four feet depending on size potential of the tree.~~

F. All plant materials shall conform to the standards of the American Association of Nurserymen.

G. Street trees installed along residential local access streets shall be chosen from the following list:

Red Maple (Non-columnar) (*Acer rubrum*)

Norway Maple (*Acer platanoides*)

Redmond Linden (*Tilia americana* 'Redmond')

Zelkova (*Zelkova serrata*)

English Oak (*Quercus robur*)

White Oak (*Quercus alba*)

Katsura tree (*Katsura japonica*)

European Hornbeam (Non-columnar) (*Carpinus betula*)

Other trees as reviewed and approved by the community development director

70.55 BZC 12.18.150 Tree/Plant maintenance

A. The applicant shall follow accepted nursery standards and practices (KEN G. ANSI A300 standards and ISA best management practices) in the planting and maintenance of vegetation required by this chapter.

B. All shrubs and trees used in the landscaping and screening of a zone or use shall be maintained in a healthy, natural growing condition.

C. With the exception of dead, diseased or damaged trees specifically retained to provide wildlife habitat, other dead, diseased, damaged or stolen shrubs or trees shall be replaced immediately, and the planting area shall be maintained reasonably free of weeds and trash in perpetuity.

D. Fertilizer and pesticides applications within shorelines areas shall comply with the Bothell shoreline master program. Elsewhere, care shall be exercised to prevent entry into creeks, wetlands and stormdrains.

E. The use of plant material requiring excessive pesticide applications to be kept healthy and attractive is discouraged. Pesticide applications shall be made only for the control of specific pests, using proper materials at a correct rate, applied at the proper time to obtain the desired results. All pesticide applications practices shall conform to federal and state regulations and be in accordance with the product labels.

F. (KEN Applicant to post three year maintenance bond to assure plant watering/survival)

70.60 BZC 12.18.160 Modifications

The applicant may request and the community development director may grant a modification to the requirements of this chapter under one or more of the following circumstances:

~~A. The existing or finished grade of the subject property or adjoining property decreases or eliminates the need for the required landscaping;~~

~~B. The modification will be more beneficial to the adjoining property than the required landscaping by causing less impairment of view or sunlight;~~

~~C. It is reasonable to anticipate that the adjoining property will be rezoned in the near future to a zone which would require no buffer or a less intensive buffer, based on land use designations in the adopted Imagine Bothell... Comprehensive Plan;~~

D. The modification is necessary to allow for maximum efficiency of an active or passive solar energy system on the subject property or a nearby adjoining property;

E. The required landscaping would substantially conflict with existing utility lines;

F. If required biofiltration swales are required and proposed within landscape areas; provided the intent for the required type of landscaping is met by meandering the swale or increasing the landscape buffer to accommodate both;

~~G. If there are unique or unusual existing site configurations or structures which preclude landscaping requirements, they may be transferred elsewhere on-site;~~

H. If application of these landscaping standards would block transmission or reception of a telecommunications signal.

70.65 BZC 12.18.170 Landscaping bonds

A. All landscaping and required irrigation shall be installed and shall pass inspection by the city prior to final occupancy. To accommodate temporary occupancy permits, the city may accept a performance bond or other monetary surety as approved by the city

attorney in lieu of immediate installation for 120 percent of the labor and materials cost to install the approved landscaping and required irrigation.

B. A landscaping maintenance bond or other approved monetary security for 10 percent (KEN 50%) of the labor and materials cost to install the approved landscaping shall be submitted prior to occupancy or release of any landscaping performance security held by the city. The maintenance security shall be released in three years after completion of the landscaping if the landscaping has been maintained in a healthy, growing condition, and if any dead, dying, or missing plants have been replaced.

70.75 LFP 16.14.110 City tree account.

A. The City Council shall establish in the budget ordinance a City tree account in the general fund (KEN For the HP zone).

B. The City shall credit to the City tree account:

1. All money paid to the City under LFPMC 16.14.080 and 16.14.120 (A); and (KEN for any permit or penalty fine in the HP zone)
2. ~~Other monies allocated by the City Council.~~

C. The City UFB shall use the City (HP zone) tree account funds for the following purposes:

1. Acquiring, maintaining, and preserving forested areas within the City;
2. Planting and maintaining trees within the City; or (KEN HP zone)
3. Other purposes relating to trees as determined by the City Council. (KEN UFB)

70.80 LFP 16.14.120 Enforcement.

A. Violations. Violations of this chapter may be addressed by the administrator (KEN UFB and TB) pursuant to the provisions set forth below. As an additional or alternative remedy and/or penalty, the administrator may also enforce the provisions of this chapter using the procedures set forth in Chapter 18.71 LFPMC. (KEN and approved by the UFD and TB)

1. Removal of existing trees in violation of this chapter will require an appraisal of the tree value by the qualified tree professional using the current edition of the International Society of Arboriculture's Guide for Plant Appraisal. The cost of the appraisal shall be paid by the person(s) who removed existing trees in violation of this chapter.
2. Tree replacement to the value of the appraised value of removed trees is required. *RZC Remedial measures must conform to the purposes and intent of this subsection. In addition, remedial measures must meet the standards specified in RZC 21.72.080, Tree Replacement, except that the number of replacement trees for significant trees damaged, destroyed, or removed shall be as follows: 6 inches 2 Greater than 6 to 9 inches 3 Greater than 9 to 12 inches 4 Greater than 12 to 16 inches 5 Greater than 16 inches 6 Replacement trees shall be replanted with trees as follows: Deciduous 3 inches in diameter at breast height (d.b.h.) Evergreen 12 feet in height.*
3. Trees can be planted on the lot where trees were removed or the monetary value of the unplanted trees can be paid into the City tree account.

B. Increased Permit Fees. In addition to or in place of any other remedy or penalty authorized by this code, the administrator may charge a fee equivalent to triple the fee determined for with an after-the-fact consult permit to any person who conducts unpermitted activity requiring a tree removal, arborist consult or arborist review permit, or who fails to provide sufficient evidence that such activity met the requirements of LFPMC 16.14.050, Exemptions and Exceptions.

C. Stop Work Order. If a violation of this chapter or an approved tree permit occurs on property on which work is taking place pursuant to a City of Kirkland development or building permit, the building official may suspend some or all of the work as appropriate through issuance of a stop work order. The building official shall remove the stop work order when the City determines that the violation has been corrected or when the City has reached an agreement with the violator regarding rectification of the violation.

D. Any person who removes a tree in violation of the conditions of a tree removal permit or in violation of this chapter may be required to perform remedial measures ordered by the administrator. The following provisions shall apply in instances where such remedial measures are required:

1. All work shall be performed in accordance with permits obtained pursuant to this chapter.

E. Penalties. The administrator may, in addition to the replacement tree requirement, impose a penalty of up to \$5,000 per tree for removal of or damage to significant (KEN significant/landmark/) trees in violation of this chapter. This penalty may be imposed in addition to or in lieu of any penalty imposed pursuant to the procedures of Chapter 18.71 LFPMC. A person may obtain administrative review of a penalty imposed under this subsection in accordance with the provisions of LFPMC 18.71.070. (Ord. 1015 § 2, 2010). (KEN Fees to be deposited in HP tree account fund)

F Remedial measures must conform to the purposes and intent of this chapter and meet all requirements and standards of this chapter.

G Remedial measures must be completed (ssary to correct violation(s) of this chapter shall be borne by the property owner and/or applicant.

I. -CASS TURNBILL Enforcement/fees: When people break ordinance they can be fined value of the tree maybe triple damage maybe \$3k tree plus \$15k for value of the View Pdx has this and repeat offenders pay more. To assure planted trees survive devloper must post three year bond. Atlanta dev great energy to tree

preservation tree must live three yrs after dev must water if don't huge fine they tie dev cost to tree preservation protects root zone tree can be damaged just by driving over roots must post three yr bond. If tree canopy decrease permit fees increase. Collect fees when tree taken and take money to forest plan then procure easement which then is law

70.85 LFP 16.14.130 Requirements for tree services and others doing land clearing and tree removal.

A. In order to assure compliance with the standards and requirements of this chapter, private foresters, arborists, and logging and land clearing contractors or others and heavy equipment operators involved in land clearing operations in the City shall be required to sign and submit a statement of tree canopy preservation and enhancement acknowledgment to the City. This statement shall attest such arborist, forester, or contractor's knowledge of the City tree protection requirements. This statement shall be required in addition to the city business licensing requirements set forth in Chapter 5.02 LFPMC and applicable to persons performing work in the City. The required statement shall be in substantially the following form:

1. I, _____, a duly licensed professional contractor in the State of Washington, or professional forester, hereby attest that I have read and am knowledgeable of Chapter 70 of the City Municipal Code.
2. I further attest that, as a professional doing land clearing work in the City, I am accountable for following the City's Tree Canopy Preservation and Enhancement requirements, including obtaining a tree removal permit, or exemption, or exception prior to performing tree removal or clearing work, as defined by Chapter 70 of the City Municipal Code, as well as following all conditions and requirements of said permit, exemption, or exception. I agree to adhere to the tree maintenance standards of this chapter, the International Society of Arboriculture, and ANSI 300, including a prohibition on topping trees or exemption.
3. I attest that if I fail to follow tree protection requirements, I will be held jointly responsible with the landowner for any restitution required as a result of environmental damage determined by the City Qualified Tree Professional to be the result of improper tree removal or land clearing activities at the site. This may result in claims against my bond pursuant to Section 70.65 and other monetary penalties as allowed by this Chapter or State law.

B. Private professionals involved in land clearing operations who do not provide the above statement shall be prohibited from performing tree removal and land clearing services in the City. Said professionals who do not provide this statement and perform land clearing services in the City shall be considered in violation of this chapter and may be prosecuted under this chapter, the City's civil penalties ordinance, or as otherwise provided by law. All professional arborists, foresters, loggers, or other land clearing contractors or heavy equipment operators involved in land clearing operations shall be jointly responsible with the landowner for any land clearing violation and restitution required at a site as a result of improper land clearing activity.

70.90 LFP 16.14.150 Qualified tree professional.

A. The City shall contract with one or more professionals that qualify as a qualified tree professional under the definition of this chapter. Said professional or professionals shall be responsible for providing the information and services required of the City's Qualified Tree Professional described herein.

B. Individual applicants will be responsible for payment of the costs and fees of the City's Qualified Tree Professional for projects necessitating work to be performed by the City's Qualified Tree Professional. (Ord. 1015 § 2, 2010)

70.95 KEN Education

A. KEN To help the city attain its tree canopy and stormwater goals the UFD and TB shall establish a tree/plant education program for HP stakeholders thru the permit process. This program shall educate residences and developers the economic and social benefit of applying tree and stormwater BMP. (CASS Thru this process the stakeholders will understand trees are now part of land use planning and cost of retaining trees must be included into the cost of the development just like developers now include in the cost of developing a difficult lot to build on such as a lot on a steep slope. Stakeholder will also learn how trees increase property value. Stakeholders will learn they have reasonable rights to develop and will never be told they can't develop but may be told where site structure can exist on the parcel if trees can be retained). The UFD may include below findings from the Center of Urban Forest Research-UC Davis into their education program:

1-Increase property value: A 24 inch Doug Fir will raise the property value by \$128/year. Real estate agents have long known that trees can increase the "curb appeal" of properties thereby increasing sale prices. Research has verified this by showing that home buyers are willing to pay more for properties with ample versus few or no trees. We now have formula's and calculators to establish these values.

2-Stormwater: A 24 inch Doug Fir will intercept 2,964 gallons of stormwater runoff this year. Trees act as mini-reservoirs, controlling runoff at the source. Trees reduce runoff by: Intercepting and holding rain on leaves, branches and bark, Increasing infiltration and storage of rainwater through the tree's root system, reducing soil erosion by slowing rainfall before it strikes the soil. Urban stormwater runoff washes chemicals (oil, gasoline, salts, moss killers, phosphate fertilizers etc.) from surfaces such as roadways, roofs and yards into Lake Wa 300 yards away. The more impervious the surface (e.g., concrete, asphalt, rooftops), the more quickly pollutants are washed into Lake Washington. Aquatic life and the health of our entire ecosystem can be adversely effected by this process.

3-CO2 sequestering: A 24 inch Doug Fir will reduce atmospheric carbon by 466 pounds. Trees educe atmospheric carbon. They sequester CO2 in their roots, trunks, stems and leaves while they grow, and in wood products after they are harvested. Most car owners of an "average" car (mid-sized sedan) drive 12,000 miles generating about

11,000 pounds of CO2 every year. Trees near buildings can reduce heating and air conditioning demands, thereby reducing emissions associated with power production.

B. KEN The UFD shall also provide above educational training every two years to any planner/public works employee that may work on an application in the HP zone to remain current on tree benefit/value BMP.