
7.7.4 Tree Preservation.

- A. **Purpose and Intent.** The Comprehensive Plan identifies the importance of environmental management, while allowing reasonable and responsible development of land within the city. Towards this end, the purpose of these regulations is to promote the preservation and expansion of tree canopy, facilitate site design and construction that contributes to the long term viability of existing trees, and to establish a process to manage the removal of tree canopy. Further, this section is intended to accomplish the following public purposes:
1. Protect trees and promote the ecological, environmental, and aesthetic values of the city;
 2. Maintain and enhance a positive image of the city through the preservation, mitigation, and planting of trees;
 3. Prevent the untimely and indiscriminate removal or destruction of trees and clear-cutting of land;
 4. Provide for a permitting and enforcement procedure;
 5. Preserve the public health, safety, and general welfare of citizens;
 6. Encourage the protection of healthy trees and provide for the replacement and/or replanting of trees that are necessarily removed during construction, development, or redevelopment;
 7. Provide for the preservation and protection of larger native and/or established trees, which provide a valuable amenity to the urban environment and which, once destroyed, can only be replaced after generations, if at all;
 8. Enhance and preserve established tree stands adjacent to Environmentally Sensitive Areas in order to further protect wildlife habitats and reduce impacts from new developments;
 9. Provide for shade, windbreaks, and the cooling of air; thereby, reducing the requirements for air conditioning and heating and the utilization of nonrenewable energy sources; and
 10. Provide for open space and more efficient drainage of land; thereby, reducing the effects of soil erosion and the need for additional drainage facilities.
- B. **Applicability and Exemptions.**
1. Unless exempted in paragraph 2. below, the requirements of this subsection shall apply to:
 - a. Undeveloped land;
 - b. All nonresidential and multifamily property to be redevelop~~ed~~^{ment} including additions or alterations, but not including interior alterations or exterior alterations that do not change the footprint of the building, and that do not require the removal of trees; and
 - c. Existing single-family and duplex dwelling properties applying for a ~~demolition~~ tree removal permit ~~for the principal structure~~, provided that the minimum DBH ~~dbh~~ for protected trees shall be 10 inches or greater.
 2. The following activities shall be exempt from this subsection:
 - a. Agricultural operations under Tex. Agric. Code Sec. 251.002(1);
 - b. Property on which a single-family or duplex dwelling unit(s) exists and is used as a residence, provided that trees designated for preservation on an approved Tree Survey or Preservation Plan and/or an associated Plat shall be preserved unless otherwise exempt under TLGC 212.905 or its successor, and trees proposed for removal are less than 10 inches in DBH;

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- c. Any tree determined to be diseased beyond recovery, dying, dead, creating a public nuisance or damaging a foundation by a qualified professional;
 - d. Any tree determined to be causing a danger, or to constitute a hazardous condition, as a result of a natural event such as tornado, storm, flood or other act of God, that endangers the public health, welfare or safety and requires immediate removal;
 - e. Any tree listed on the [Texas Invasives list found at www.Texasinvasives.org](http://www.Texasinvasives.org), and as amended ~~Texas Department of Agriculture Noxious and Invasive Plant List~~;
 - f. Clearing of understory necessary to perform soil borings, boundary surveying of real property, to conduct tree surveys or inventories, [general survey \(e.g., of easement boundary\)](#), or to install tree protection fencing, ~~provided that c~~Clearing for surveying, [as defined above](#), shall not exceed a width of four feet. ~~for general survey (e.g., of easement boundary), and eight feet for survey of property boundary lines.~~ [A clearing of twelve feet shall be allowed for geotechnical survey.](#) ~~and p~~[Provided that any protected tree having a dbh DBH of 10 6 inches dbh or greater may not be removed under this exemption. For the installation of tree protection fencing, the clearing shall not exceed a width of four feet, measured radially from the trunk, and must not encroach into the dripline or critical root zone of any tree to be protected. Greater clearance width may be approved via determination by the Director;](#) or
 - g. Site plan, preliminary, or final plat applications, or a building permit application deemed complete as of the effective date of this subchapter.

C. **Tree Removal Permit.**

1. **New Development/Construction.**

- a. In the event it becomes necessary to remove a tree for development or construction, a tree removal permit is required. No protected tree may be removed for development or construction until the final plat has been approved and the Building Official has properly issued a tree removal permit for that purpose. In instances where a final plat is not required, proposed removal of protected trees shall be reviewed with any required site plan for development.
- b. All areas within the public rights-of-way, utility easements or drainage easements, as shown on an approved plat, and areas designated as cut/fill on the related drainage plan approved by the City Engineer, shall be subject to the requirements of this section.

[c. Dead or diseased trees within 50 feet of proposed improvements shall be noted for removal on the Tree Preservation Plan and removed during the construction phase of development.](#)

- 2. **Municipal/Public Property.** Property owned by the City of Denton, State of Texas, a political subdivision of the State of Texas, or any public school, public school district, or nonprofit charter school shall be subject to requirements of Subsection 7.4.3.

3. **Tree Removal Permit Required.**

- a. No protected trees may be removed or transported until authorized by a tree removal permit. It shall be an affirmative defense to prosecution that permitting is exempted by Subsection 7.7.4B.

4. **Tree Removal Permit Review and Approval Process.**

- a. Applicant submits a complete application, along with the applicable fees.
- b. A tree survey and tree preservation plan is required for all new development, in accordance with Subsection 7.7.4D.

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- c. A tree removal permit is valid for 180 days, or for the duration of a building permit, clearing and grading permit, or clearing and grubbing permit issued in conjunction with the tree removal permit, whichever is longer.
 - d. Protected trees shall not be removed until:
 - i. Proper mitigation or replacement requirements have been determined and approved for the lot or site on an approved tree survey and preservation plan; and
 - ii. A preconstruction meeting has been held with proper city staff authorizing grading and construction activities to begin on the lot or site; and/or
 - iii. A tree removal permit has been issued for the lot or site.
5. **Standards for Relocating Heritage and Quality Trees.** All permitted tree relocations shall be in accordance with the [Landscape and Tree Preservation Criteria Manual](#). ~~applicable American National Standards for Tree Care Operations ANSI A300.~~
6. **Permits Issued for Public Need, Danger, or Calamity.** The Director or designee may issue a permit for the removal of a protected tree provided that it:
- a. Is determined to be in a hazardous or dangerous condition so as to endanger the public health, welfare, or safety;
 - b. Hinders or obstructs the construction, maintenance, repair, or replacement of city streets, water and sewer lines, and drainage and storm sewer;
 - c. Is located in any right-of-way required under the mobility/thoroughfare plan to be dedicated to, and accepted by the city. This does not include trees being removed for proposed driveways, right and left turn lanes, or median openings required or warranted by a development. Trees removed in these instances shall be replaced per paragraph 7.7.7F.5;
 - d. Hinders or obstructs the construction, repair, maintenance, or replacement of public improvement projects including, but not limited to, major collection lines for sanitary sewer, distribution lines for water, collection and management of storm water runoff, and thoroughfares designated for construction in the City's Capital Improvement Project Plan, Water and Sanitary Distribution Line Maps, or Mobility/Thoroughfare Plan;
 - e. Is damaged [beyond repair](#) or killed by a tornado, ice or wind storms, flooding, or other acts of nature; or
 - f. Is otherwise required by statute.

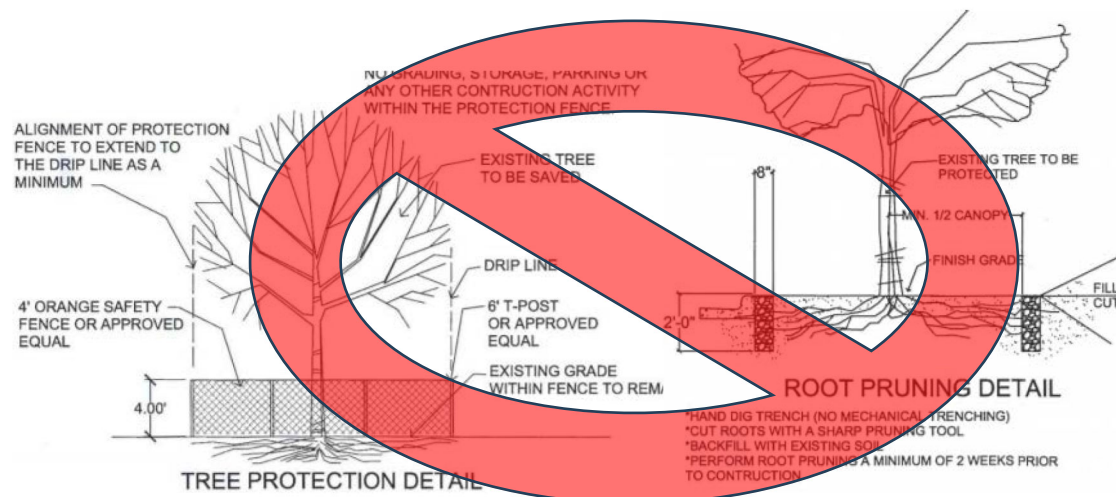
7. **Trees Removed Without a Permit** Trees removed without a permit will be charged fees per the city's adopted fee schedule.

- D. **Tree Protection Requirements During Construction.** Property owners shall adhere to the following tree protection measures on all construction sites, consistent with [details and standards provided for in Landscape and Tree Preservation Criteria Manual](#). ~~Figure 7.7-1: Tree Protection and Root Pruning Details.~~
- 1. Prior to grading, brush removal, or construction, the developer shall clearly tag ~~or mark~~ all trees to be preserved [with a round metal tag affixed on the south side of the trunk. If the tree is located on the southern property boundary, the metal tag shall be affixed on the northern side of the trunk.](#)
 - 2. **Tree protection fencing:**
 - a. The developer shall erect ~~a~~ [UV resistant, heavy duty, reusable](#) orange plastic mesh fence, or other approved fencing material, a minimum of four feet in height around each quality tree or

group of trees to prevent the placement of debris, equipment, or fill within the dripline or critical root zone, as depicted on a plan approved by staff.

- b. When a heritage tree or group of heritage trees is fenced separately from other trees to be preserved: The developer shall erect a minimum six-foot-tall chain link fence around each heritage tree or group of heritage trees to prevent the placement of debris, equipment, or fill within the dripline or critical root zone, as depicted on a plan approved by staff.
 - c. The fencing shall be placed at the Dripline of trees to be preserved.
 - i. Fencing may be located at the edge of the Critical Root Zone if additional protection, as specified in the Landscape and Tree Preservation Criteria Manual, is provided, and in accordance with DDC 7.7.4.D.3.
 - ii. At no time shall the fencing be located within the Critical Root Zone.
 - d. One tree protection zone sign shall be installed for every 20 linear feet of tree protection fencing in accordance with the Landscape and Tree Preservation Criteria Manual.
 - e. The fence shall be installed prior to the release of any permit. If the protection fence is found removed, damaged, or altered at any time during construction prior to final inspection or landscape installation, a stop work order may be issued by the Building Official.
3. In instances where 20% or more of the area within the Dripline of a preserved tree is proposed to be impacted, a signed and notarized letter from an arborist an ISA certified arborist or ASCA registered arborist a shall be required. This letter shall include additional protection methods, a maintenance plan, and any root pruning, fungicide, or growth hormone treatments.
- ~~4~~ 3. During the construction phase of development, the developer shall prohibit cleaning, parking, or storage of equipment or materials under the canopy of any tree or group of trees required to be preserved. The developer shall not allow the disposal of any waste material harmful to tree growth and health, such as, but not limited to, paint, oil, solvents, asphalt, concrete, or mortar in the dripline area.

Figure 7.7-1: Tree Protection and Root Pruning Details



4. No attachments or wires of any kind, other than those intended to identify or protect a protected tree, shall be attached to any tree.

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5. No fill or excavation four inches or greater in depth may occur within the ~~d~~Dripline of a tree to be preserved unless there is a specific approved plan for use of tree wells or retaining walls.
 - a. Any change in grade surrounding preserved trees shall maintain positive drainage away from the tree to avoid standing water.
 - b. If positive drainage is not attainable then subsurface drainage shall be installed.
 - c. Trenching, if necessary, within the Dripline of a tree shall be done with the approval of an ISA Certified Arborist.
 6. Any plan proposing the use of tree wells or retaining walls within the ~~d~~Dripline of a tree to be preserved shall be designed by a licensed landscape architect, and in accordance with the following:
 - a. Major changes of grade (four inches or greater) will require additional measures to maintain proper oxygen and water exchange with the roots in accordance with ANSI A300 as revised. ~~In addition, the developer should adhere to the following guidelines to protect the trees to be preserved:~~
 - ~~b. a.~~ With grade changes, a Any proposed reinforced retaining wall or tree well (including required footings) of a design must be approved by the city ~~should and shall~~ be constructed around the tree outside of the Critical Root Zone. ~~no closer than half the distance between the trunk and the drip line.~~
 - ~~b.~~ ~~At no time should a wall, pavement, or porous pavement be placed closer than five feet or one foot for every two inches in caliper, whichever is greater, to the trunk of the tree.~~
 - c. The retaining wall ~~should~~shall be constructed so as to maintain the existing grades around a tree or group of trees.
 - ~~d. e.~~ In instances where tree wells or retaining walls are approved, root pruning in accordance with ANSI A300 as revised may be necessary when the ~~critical root zone~~Dripline is to be disturbed. ~~See Figure 7.7-1.~~
 - e. Tree wells or retaining walls must be constructed within two weeks of initial site grading. Extensions may be approved subject to Director approval.
 - ~~7. d.~~ If a patio, sidewalk, drive, parking lot, or other paved surface must be placed within the drip line of an existing tree, material such as a porous pavement or other approved construction methods that will allow the passage of water and oxygen ~~may~~ shall be required. However, at no time shall said paved surfaces, including porous pavement or other approved construction methods, be placed closer than five feet or one foot for every two inches in caliper, whichever is greater, to the trunk of within the Critical Root Zone of the tree.

E. Tree Survey and Preservation/Replacement Plan.

1. A tree survey and preservation/replacement plan is required for the development impact areas, along with Conservation Easements or Preserved Habit where credits are being sought and shall accompany the initial application for a site plan, Civil Engineering Plan, ~~preliminary plat, replat,~~ gas well site plan, or a ~~clear-and-grade~~ permit where tree preservation is applicable, regardless of the number of trees present on a property.
2. A tree survey and preservation/replacement plan ~~may~~ shall be required to accompany a zoning application, specific use permit, or a planned development amendment where tree and landscaping requirements are relevant to the requested zoning or development amendment, as determined by the Director.

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3. Each tree survey and preservation/replacement plan shall contain, but not be limited to, the following required elements:
 - a. The locations of all trees to be preserved and removed on the subject site.
 - i. Trees to be preserved shall be represented by a symbol equivalent to the Dripline.
 - b. A table containing the following information for all trees:
 - i. Tree number;
 - ii. Common name of each tree;
 - iii. Botanical name of each tree ~~Circumference of each landmark tree;~~
 - iv. Diameter (~~dbh~~ DBH) of each tree, rounded down to the nearest whole number;
 - v. General health and condition of each tree;
 - vi. Average canopy spread (calculated as $R^2 \times 3.14$, where R= the DBH value provided in the inventory table);
 - vii. Classification (quality, heritage, landmark, secondary, or non-protected) and status (preserve or remove) for each tree; and
 - viii. Mitigation worksheet as shown in Table 7.C.
 4. The tree survey and preservation/replacement plan shall be prepared by or under the supervision of an ISA certified or ASCA registered arborist, a SAF certified forester, botanist, registered landscape architect, or a professional land surveyor in coordination with an ISA certified arborist, TFA Accredited Forester, or ASCA registered arborist. ~~professional land surveyor that has documented completion of at least eight hours of training in Texas tree identification, or a registered landscape architect.~~
 5. Residential subdivisions that are to be developed in phases must provide a plan that complies with the preservation requirements at full build-out as approved on the preliminary plat, final plat, zoning compliance plan, or approved development plan as part of a planned development. ~~or general development plan.~~
 6. Any subsequent redevelopment of property shall preserve the minimum percentage ~~dbh~~ DBH inches as indicated by the initial tree survey and preservation/replacement plan.
 7. A notation must be placed on the preliminary plat, and final plat, stating that a tree survey and preservation/replacement plan will be required prior to development and the release of building permits in accordance with the City of Denton Standard Plat Notes. If an approved TPP exists: a notation shall be placed on the ~~site~~ Final Plat, Zoning Compliance plan, Specific-Use Permit Site Plan, Planned Development District Development Plan, and building permit referring to the approved tree survey and preservation/replacement plan. ~~identifying the dbh of trees to be preserved and the location of the lots that contain preserved trees.~~ The notation shall limit any future unauthorized land disturbing activity or construction that would impact and/or damage the tree(s) preserved.
 8. A tree survey and preservation/replacement plan shall be approved if the minimum preservation and replacement requirements are met.
 9. If there are no protected trees on a property, then a signed and notarized letter indicating such shall be prepared by or under the supervision of an ISA certified or ASCA registered arborist, a SAF certified forester, botanist, registered landscape architect, or a professional land surveyor in coordination with an ISA certified arborist, TFA Accredited Forester, or an ASCA registered arborist ~~professional land surveyor that has documented completion of at least eight hours of training in Texas tree~~

~~identification, or a registered landscape architect~~ and submitted with the initial development application.

10. Tree Survey Expiration:

a. Tree surveys must be completed within 6 months of the initial project submittal.

b. Tree surveys shall expire 24 months after initial submittal if progress toward completion of the project has lapsed for a period greater than 9 months. A 6-month extension may be granted subject to Director approval.

c. Should a Tree survey expire, a new tree survey and preservation plan shall be conducted and submitted for review.

F. Alternative Tree Preservation/Replacement Plan.

1. **Description and Intent.** The alternative tree preservation/replacement plan provides the option to further the purpose and intent of these regulations through a flexible process reviewed and approved by the Director for one of the following purposes:
 - a. To allow trees measuring below the minimum ~~dbh~~ DBH to be counted for Protected Trees when:
 - i. The allowance would result in the preservation of a greater number of ~~post-oak~~ Heritage trees, regardless of ~~dbh~~ DBH; or
 - ii. The preservation of protected tree(s) would cause a substantial burden, but smaller ~~dbh~~ DBH non-secondary trees are located in such a way that the trees can be incorporated into the site design such as the parking lot, buffer, or front yard landscaping.
 - b. To allow secondary trees to count towards the minimum required preservation instead of quality trees.
2. **Criteria for Approval.**
 - a. The proposed alternative tree preservation/replacement plan adequately achieves, or is an improvement on, the intent of the requirements of this subsection; and
 - b. The proposed site design has minimized the loss of protected trees to the greatest extent possible or has maintained existing tree stands.
3. **Replacement Trees.** Required replacement and mitigation contained in paragraphs 7.7.4H and 7.7.4I shall be required for those alternatives in paragraph 7.7.4F.1 above.

G. Minimum Preservation Requirements.

1. **Tree Types and Required Preservation.**
 - a. **Landmark Trees.** One hundred percent of all Landmark trees shall be preserved.
 - b. **Heritage and Quality Trees.** A minimum of 30 percent of the total ~~dbh~~ DBH shall be preserved within the development impact area. Removal of trees shall be replaced in accordance with Subsection 7.7.4H or 7.7.4I.
 - i. The 30 percent minimum preservation requirement may be reduced to 20 percent provided:
 - a. The 20 percent preserved ~~dbh~~ DBH is in either a dedicated conservation easement or in a preserved habitat. All protected and non-~~invasive~~ protected trees, unless dead or diseased, that are greater than six inches ~~dbh~~ DBH may be counted toward meeting the 20 percent requirement.

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- b. Preserved habitats may be dedicated as a conservation easement, and if not dedicated as a conservation easement must otherwise be restricted on a plat. Preserved habitat shall contain the prescribed minimum preservation amount, contain a stand of trees and understory, and shall be the greater of 10 percent of the property or 5,000 square feet.
 - c. All other trees remaining in the development impact area but removed shall be replaced in accordance with subsection 7.7.4H or 7.7.4I., if applicable.
 - ii. Properties without a preserved habitat or conservation easement may reduce the 30 percent minimum to 20 percent provided:
 - a. ~~The 10-percent reduction~~ Trees proposed for removal shall be mitigated at the following rates: heritage trees at four ~~two-and-three-quarters~~ inches for every inch removed; and quality trees at ~~two-and-one-quarter~~ three inches for every inch removed.
 - b. All other trees remaining in the development impact area but removed shall be replaced in accordance with Subsection 7.7.4H or 7.7.4I., if applicable.
 - iii. Properties without a preserved habitat or conservation easement may reduce the 30 percent minimum to 10 percent provided:
 - a. Removed trees shall be mitigated at the rates prescribed in 7.7.4.G.1.b.ii.a, above;
 - b. Subject lot meets the definition of Infill Development;
 - c. Fewer than 10 protected trees exist on site; and
 - d. Multifamily and non-residential uses outside of the MD zoning district as identified on the Official Zoning Map of City, as amended, shall provide an additional 10 landscape points from Table 7.E: Landscape Area Points System.
 - c. **Secondary Trees.** There is no minimum preservation of secondary trees required when there are quality and heritage trees located on a property. In instances where there are no quality or heritage trees located on a property, then a minimum of 20 percent of the total ~~dbh~~ DBH for secondary trees on the property must be preserved within the development impact area.
 - d. **Preservation Relief.** ~~City Council~~ The Zoning Board of Adjustment may approve relief of the Preservation Requirements in accordance with Tree Preservation Relief Provisions in Subsection 7.7.4J, and where required by State law.

H. Tree Replacement.

1. In the event that it is necessary to remove a protected tree(s) as allowed in this section, the applicant shall be required to replace the tree(s) being removed with healthy trees or pay a mitigation fee as explained hereafter.
 - a. If it is determined that tree replacement is required, the tree preservation/replacement plan must be approved prior to approval of a final plat or replat and a note shall be placed on that plat referencing the approved tree replacement plan.
 - b. If platting is not required, the tree replacement plan shall be included as part of a site plan approval or tree removal permit.
2. In accordance with TLGC, § 212.905, as amended, replacement trees must:
 - a. Be planted on property in which they were removed; or

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- b. Be planted at a location mutually agreed upon by the city and the property owner; and
 - c. Measure at least two inches ~~dbh~~ DBH when planted.
 3. In order to ensure biodiversity and protect against tree diseases, if 20 or more replacement trees are planted, no one species of tree may exceed ~~30~~ 20 percent of the total new trees on the site-, and no more than 30 percent of the same genus may be planted on-site.
 4. To determine the replacement inches required by this section, the applicant shall inventory and combine the total inches of ~~dbh~~ DBH of all protected trees that are to be removed and that are located within the development impact area.
 5. This inventory shall be separated into inches of ~~dbh~~ DBH removed per protected tree classification as calculated using the following replacement rates:
 - a. Healthy
 - i. Heritage Trees:
 - a. Between 6 and 12 inches: Two inches for every inch removed
 - b. Between 13 and 24 inches: Two and one-half inches for every inch removed
 - c. Greater than 24 inches: Three inches for every inch removed
 - ii. Quality Trees
 - a. Between 6 and 12 inches: One and one-half inches for every inch removed
 - b. Between 13 and 24 inches: One and three-quarters inches for every inch removed
 - c. Greater than 24 inches: Two inches for every inch removed
 - iii. Secondary Tree - Four inches for every tree removed.
 - b. Fair
 - i. May only be used when:
 - a. This classification may only be utilized if surveyed by or under the supervision of an ISA certified or ASCA registered arborist, a SAF certified forester, Landscape Architect, or botanist.
 - b. 30% preservation is achieved
 - ii. Heritage Replacement Rate:
 - a. One and one-half inches for every inch removed
 - iii. Quality Replacement Rate:
 - a. One inch for every inch removed
 - c. Secondary Tree - Four inches for every tree removed.
 6. The total of the required inventories represents the replacement inches that shall be replaced through new tree plantings or preservation of existing trees. New trees required to satisfy the landscaping provisions of this section shall be counted towards satisfying this requirement.
 7. Once each tree on the site is inventoried, tree mitigation shall be calculated as follows and as shown in Table 7.C: Sample Tree Mitigation Worksheet. The calculated ~~dbh~~ DBH of each tree shall be the ~~dbh~~ DBH of the tree multiplied by the appropriate classification ratio as described in paragraph 4 above. The total calculated ~~dbh~~ DBH shall be the sum of all these trees.

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8. ~~In accordance with TLGC, § 212.905, as amended, a credit of 50 percent shall automatically be given to the total calculated dbh DBH for all residential development, and 40 percent for nonresidential development. The preliminary mitigation dbh DBH is 50 percent of the total calculated dbh DBH for all residential, or 40 percent for nonresidential. Mixed-use developments shall be credited at the residential rate of 50 percent.~~

Trees proposed to be credited against the required mitigation total shall be:

- a. Of a native species and categorized as a large or medium canopy tree.
 - b. Planted in an area with a minimum soil surface area of 450 square feet
9. After calculating the preliminary mitigation ~~dbh DBH~~ and subtracting the preserved credits, any remaining ~~dbh DBH~~ is defined as the mitigation ~~dbh DBH~~. The mitigation ~~dbh DBH~~ is required to be satisfied either by the planting of new trees on-site ~~with an equivalent total dbh~~ or by using one of the alternative methods described in Subsection 7.7.4J.
10. If any preserved ~~and/or replacement~~ tree(s) dies or shows signs of decline within ~~three~~ five years of initial planting or issuance of certificate of occupancy, the current property owner shall be subject to the same replacement requirements per these requirements, unless otherwise exempt or deemed a non-protected tree.
- I. **Tree Preservation Credit.** Additional credit shall be given for all protected trees that are preserved. Preserved credits shall be the sum of:
1. A four-inch credit against mitigation for each one-inch of preliminary mitigation ~~dbh DBH~~ shall be applied to the preservation of any landmark tree, or any trees preserved within a conservation easement or preserved habitat;
 2. A three ~~and one-half~~ -inch credit against mitigation for each one-inch preliminary mitigation ~~dbh DBH~~ shall be applied to the preservation of any other healthy heritage tree; and
 3. A two-inch credit against mitigation for each one-inch of Preliminary Mitigation ~~dbh DBH~~ shall be applied to the preservation of any other healthy quality tree.
 4. Trees categorized as being in "Fair" condition shall be credited against the Preliminary Mitigation at the following rates:
 - a. A two-inch credit against mitigation for each one inch of Preliminary Mitigation shall be applied to the preservation of any "Fair" Heritage Tree
 - b. A one-inch credit against mitigation for each one inch of Preliminary Mitigation shall be applied to the preservation of any "Fair" Quality tree
 5. An additional preserved credit may be credited against preliminary mitigation ~~dbh DBH~~ for preserved secondary trees, provided:
 - a. The minimum preservation of 30 percent is achieved for heritage and quality trees;
 - b. A one-half inch credit against mitigation for each one-inch preliminary mitigation ~~dbh DBH~~ shall be applied to the preservation of secondary trees; and
 - c. Credit for preserved secondary trees may not exceed 50 percent of the preserved ~~dbh DBH~~ of quality trees.

TABLE 7.C: Sample Tree Mitigation Worksheet			
DBH (Diameter at Breast Height)			
	Diameter at Breast Height (inches)		
Total DBH	1294		
Non-protected DBH	172		
Total Protected DBH	1122		
Required Preservation (30 percent)	337		
Dead Tree DBH	0		
Protected Trees Removed			
Type	DBH Removed (inches)	Replacement Ratio	Calculated DBH (inches)
Healthy Heritage Total	150		
Type A: 6-12"	80	2:1	160
Type B: 13-24"	40	2.5:1	100
Type C: 25+"	30	3:1	90
Healthy Quality Total	350		
Type A: 6-12"	184	1.5:1	276
Type B: 13-24"	120	1.75:1	210
Type C: 25+"	46	2:1	92
Fair Heritage Total	35	1.5:1	52.5
Fair Quality Total	65	1:1	65
Subtotal			1045.5
	Trees Removed	Replacement Ratio	Calculated DBH
Secondary	8	4":1 tree	32
Total			1077.5
Trees Preserved			
TYPE	DBH Preserved (inches)	Credit Ratio	Preserved credit (inches)
Healthy Heritage	41	3.5:1	143.5
Healthy Quality	84	2:1	168
Fair Heritage	39	2:1	78
Fair Quality	156	1:1	156
Secondary	130	0.5:1	65
Additional Cluster Credit Incentive	90	1.15:1	103.5
Additional Understory Preservation Incentive	60	1.15:1	69

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Total (less additional credit incentives)	450	783
MITIGATION DBH		294.5
Upland Habitat ESA Preservation 15% Reduction		250.325

Table 7.C: Sample Tree Mitigation Worksheet			
dbh DBH (Diameter at Breast Height)			
	Diameter at Breast Height (inches)		
Total dbh DBH	120		
Non-protected dbh DBH	20		
Total Protected dbh DBH	100		
Required Preservation (30 percent)	30		
Dead Tree dbh DBH	0		
Protected Trees Removed			
TYPE	dbh DBH Removed (inches)	Replacement Ratio	Calculated dbh DBH (inches)
Heritage	40	2.5:1	100
Quality	30	2:1	60
Subtotal	70		160
	Trees Removed	Replacement Ratio	Calculated dbh DBH
Secondary	4	4": 1 tree	16
TOTAL			176
Preliminary Mitigation dbh DBH		50 percent reduction	88
Trees Preserved			
TYPE	dbh DBH Preserved (inches)	Credit Ratio	Preserved Credit (inches)
Heritage	20	3:1	60
Quality	10	2:1	20
Secondary	5	0.5:1	2.5
TOTAL	30		82.5
MITIGATION dbh DBH			5.5

J. **Tree Preservation Relief Provisions.**

1. **Purpose.** The purpose of this provision allows a determination of whether the application of this DDC, as applied to a tree removal application and related development applications, would if not modified or other relief granted, may unreasonably burden the development of the property.
2. **Review Procedure.**

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- a. A property owner or his authorized agent may file an application for relief to the Zoning Board of Adjustment, in accordance with Subsection 2.8.1: Variance and the criteria below, to remove up to 100% of trees on-site in exchange for paying the assessed mitigation fee as noted in 7.7.4.G.1.b.ii.a. Trees to be preserved shall be credited against the mitigation total in accordance with 7.7.4.I. under this subsection following a final decision to deny or conditionally grant an application for a tree removal permit.
- b. ~~The Director has the authority to establish requirements for applications for tree preservation relief in the Application Criteria Manual.~~ No application shall be accepted for filing until the following have been completed:
- i. Payment of the fee established by the City Council ~~has been paid;~~
 - ii. Submittal of a tree survey, prepared in accordance with 7.7.4.E of the subject property prepared by or under the supervision of an ISA certified or ASCA registered arborist, a SAF certified forester, botanist, registered landscape architect, or a professional land surveyor in coordination with an ISA certified arborist, TFA Accredited Forester, or an ASCA registered arborist; and
 - ii. Submittal of a written narrative describing how the criteria for approval are met.
- c. ~~Upon approval of an application for relief in whole or in part by the City Council, the Director shall process the tree removal permit and related development applications pursuant to the relief granted on the application for relief approved by the City Council.~~ Staff shall review the application and recommend approval or denial of the relief request to the Zoning Board of Adjustment.
- d. ~~A denial of an application for relief by the City Council is a final determination.~~ A denial of an application for relief by the Zoning Board of Adjustment may be appealed to a district court or county court of law within 10 days after the date the decision is filed in accordance with TLGC, Chapter 211, pursuant to Subsection 2.8.1.
3. **Criteria for Approval.** The Zoning Board of Adjustment shall consider the criteria in Subsection 2.8.1D: Variance Approval Criteria. ~~In addition to deciding whether to grant relief to the applicant, the City Council shall consider whether there is any evidence from which it can reasonably conclude that the application of all or a part of the provisions of this DDC that apply to tree preservation may deprive the applicant of all economically viable use of the property, based on the following factors:~~
- a. ~~Whether there is a unique physical circumstance on the property.~~
 - b. ~~Whether the proposed design has minimized the loss of trees to the extent possible.~~
 - c. ~~Whether preservation and/or mitigation unduly burdens the development of the property.~~
- K. **Alternatives to Tree Replacement Requirements.** In order to satisfy the mitigation ~~dbh~~ DBH, the property owner may use any combination of alternative methods of compliance listed below. These alternative methods may also be used in combination with or in lieu of tree replacement, so long as the total replacement ~~dbh~~ DBH is satisfied by one or all methods.
1. **Payment in Lieu of Replacement.**
- a. Payment in lieu may be made in the amount prescribed separately and periodically by ordinance, and, if made, such a payment shall be deposited into the tree fund for the purposes described in this subsection. This amount is calculated by the average cost incurred by the city for the purchase, planting, and irrigation of a two-inch tree for three years.

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- b. The applicant must pay the fees contributed to the tree fund prior to the issuance of a gas well site plan, or the filing of a final plat in the Denton County Clerk's Office. If platting is not required, payment shall be prior to issuance of a tree removal permit.
 - c. Notwithstanding any other provision in this subsection, no tree mitigation fee may be collected or enforced in contravention of state law.
 2. **Tree Donation.** The developer may donate, [plant, irrigate, and warranty at the property owner's expense](#), the replacement tree(s) to the City's Parks Department for planting within the city, with the approval of the Parks Director.
 3. **Conservation Easement.** The property owner may request to grant a conservation easement by plat to the city that includes protected trees and non-protected trees beyond the minimum preservation amount, and with a combined ~~dbh~~ [DBH](#) equal to or exceeding the ~~dbh~~ [DBH](#) for which mitigation is being requested.
 - a. In addition to the tree survey and preservation/replacement plan, a detailed baseline document describing the property's physical and biological condition, the general age of any tree stands, locations of easements and construction, [conservation easement maintenance plan](#), and the conservation values protected by the easement, shall be required.
 - b. The city may decline the request for a conservation easement for any reason; however a request so declined will not satisfy the mitigation requirement and mitigation must be achieved in a different manner as described above.

L. Tree Fund.

1. The city shall administer and use the tree fund to:
 - a. Purchase, plant, and maintain trees;
 - b. Conduct maintenance on conservation easements dedicated in accordance with this subsection;
 - c. Preserve wooded property remaining in a naturalistic state in perpetuity;
 - d. Perform and maintain a city-wide tree inventory;
 - e. Educate citizens and developers on the preservation, care, maintenance, benefits and value of trees within the City of Denton; and
 - f. Support programs for the public purpose of increasing the tree canopy within the City of Denton as approved by City Council.
2. Proceeds from the tree fund shall not be used to meet any requirements for preservation, mitigation, landscaping, buffering, streetscaping, or similar requirements in this DDC or the Municipal Code of Ordinances.
3. Voluntary contributions for tree planting shall be placed in the tree fund.

M. Incentives.

1. **Energy Conservation Credit.** ~~Mitigated or p~~Preserved large canopy shade trees located on the western or southern exposures of a habitable building may receive additional tree replacement credit. The trees must be located a minimum of ~~10~~ [15](#) feet but a maximum of 30 feet in distance from the building. Required tree replacement may be credited at 1.5 times the existing or newly planted trees.↵
2. **Heritage Tree Credit.** A replacement credit of 4.0 times the ~~dbh~~ [DBH](#) of a heritage tree preserved beyond the minimum preservation requirements may be counted toward meeting the required replacement.↵

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3. **Conservation Easement Credit.** Required replacement trees may be credited 2.0 times if planted within the dedicated Conservation Easement.~~;~~
 4. **Tree Cluster(s).** In order to emphasize the importance of preserving trees in a cluster during development, additional mitigation credit will be given for a cluster(s) of three or more trees that are to be preserved. whose bases are located less than 10 feet apart and whose drip lines overlap. The trunks of each tree to be counted toward this credit must be located no more than 10 feet away from the central tree trunk of the cluster. Credit shall be calculated at 1.15 times the ~~dbh~~ DBH of each tree within the cluster.~~;~~ and
 5. **Parking Space Reduction.** Upon application and verification by the Director, an individual shall be entitled to a reduction in the minimum parking to help meet the minimum tree preservation requirements. ~~For the purpose of providing an incentive, t~~The minimum parking requirements in Subsection 7.9.4, may be reduced by one parking space for every 12 inches ~~dbh~~ DBH of trees that have been protected ~~or mitigated~~ on a site. Up to 15 percent of the required spaces may be reduced in addition to the total reduction allowed in Section 7.9.5: Parking Alternatives.~~;~~ or
 6. ~~**Certification in Lieu of Mitigation.** The Director shall assist those who wish to have a site certified under the Denton Wildscape Program in lieu of meeting replacement requirements as long as 20 percent of existing trees on site are preserved.~~ **Upland Habitat ESA Preservation.** When Upland Habitat ESA exists within 100 feet of the DIA, or is proposed to be impacted by development: the owner may elect to preserve an additional 25% of the ESA, above the requirement set forth in DDC 7.4.8.a, in exchange for 15% reduction in required mitigation.
 7. ~~The enforcement and penalty provisions of Section 1.6 shall apply to this subsection.~~ **Height Increase.** An additional 10 feet of maximum building height allowed in the applicable zoning district in Section 3.2– 3.5 may be granted to accommodate for the preservation of one or more protected trees located on the subject property or an adjacent developed property with Driplines within 30 feet but no closer than 10 feet of a proposed building.
 - a. Generally
 - i. The amount of floor area on the additional story is limited to:
 - i. 25% of the first floor gross floor area for the preservation of each Quality Tree; and
 - ii. 35% of the first floor gross floor area for the preservation of each Heritage Tree.
 - ii. In no instance shall the total gross floor area added on an additional story exceed 10,000 square feet or 100% of the first floor gross floor area unless otherwise permitted elsewhere in this DDC.
 - iii. If this incentive is taken in combination with Section 2.12: Affordability Incentives Procedures, the additional building height granted herein shall be counted towards any height increase permitted as an Affordability Incentive.
 - iv. Height increases must comply with Section 7.10.6: Building Height in Transition Areas.
 - b. In Mixed-Use zoning districts:
 - i. In lieu of the additional 10 feet in height granted above: Multi-family developments may request an exemption to DDC 5.3.3.D.1 and Subsection 7.10.4.E.2.b, which require a first floor minimum height of 12 feet.
 - c. Sites not classified as Infill development:
 - i. Must provide a minimum of 25% tree preservation in order to qualify for this incentive
 - ii. When adjacent to Single-Family Residence:

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- i. An additional buffer 5 points shall be required between the developing use and the adjacent Single-Family Residence
 - ii. Buffer elements must include the preservation of protected trees, if applicable, and/or the planting of large canopy trees.
 8. **Reduced Setbacks.** Where the Dripline of a protected tree whose trunk lies within a required side yard setback, front yard setback, or an adjacent developed property encroaches into the buildable area, the opposite side yard setback may be reduced by the amount that the Dripline of the protected tree encroaches into the buildable area, provided the setback is reduced no more than 10 feet and that a required setback is no less than 5 feet.
 9. **Privet/Invasive Species Removal.** Submittal, approval, and execution of a privet/invasive species removal plan may reduce mitigation by 1% for every 200 sq ft of privet/invasive species removal area. Credited areas shall be located on the subject site and otherwise undisturbed. Mitigation shall not be reduced by more than 30%. Privet/invasive species removal that occurs as part of an Alternative ESA shall not be considered under this incentive. The following shall be provided with the Tree Preservation Plan:
 - a. Areas for privet/invasive species removal shall be clearly marked on the plan;
 - b. Photos of existing conditions shall be provided for verification; and
 - c. A written removal plan shall include the process of removal, timeline of work to be performed, five-year management plan preventing the return of invasive species, and name/contact information of the professional who will perform the work.
 10. **Understory Preservation.** In order to protect non-invasive understory habitat, preserved trees within an undisturbed area greater than or equal to the tree's Dripline may receive 1.15 times the amount of preservation credit prescribed in Subsection 7.7.4I.
 11. **Off-Site Trees.** Where a canopy of a protected tree on an adjacent developed lot or parcel overlaps with the subject property and no development is proposed under within the Dripline, the adjacent tree may receive 0.5 times the amount of the preservation credit prescribed in Subsection 7.7.4I. The off-site tree must be included on the Tree Survey and Tree Preservation Plan and protected in accordance with Subsection 7.7.4D in order to receive credit. Off-site trees shall not account towards the minimum preservation required in Subsection 7.7.4G.
 12. **Adjacent Residential Property.** Where protected trees lie within 10 feet of an adjacent property with an occupied residential use, preservation of said trees may receive 1.15 times the amount of preservation credit prescribed in Subsection 7.7.4I so long as no development activity occurs within the Dripline of said trees or 1.25 times the amount of preservation credit prescribed in Subsection 7.7.4I if a common area lot or conservation easement are designated on the plat encompassing the entire Dripline of the trees and providing for permanent preservation.

9.2 Definitions

Critical Root Zone (CRZ)

The area of soil extending from the tree trunk where roots required for future tree health and survival are located. This area can also be defined as a circle with a minimum ~~radius~~ diameter of one-foot for every one-inch in ~~trunk diameter~~ DBH at 4.5 ~~inches~~ feet above ground. The Critical Root Zone of Post Oak (*Quercus stellata*) and Blackjack Oak (*Quercus marilandica*) trees shall be calculated as 1.25 feet for every one inch in trunk diameter 4.5 feet above ground.

Diameter at Breast Height (~~dbh~~ DBH)

The tree trunk diameter measured in inches at a height of 4.5 feet above ground level. A tree shall be considered a multi-trunk tree where the stems meet at or below 4.5 feet above grade. For multi-trunk trees, combine the diameter of the largest stem or trunk with one-half of the diameter of each additional stem or trunk, all measured at four and one-half 4.5 feet above ground level.

Dripline

The area of soil extending from the tree trunk to the edge of the canopy. This area can be defined as a circle with a minimum diameter of two-feet for every one-inch in DBH.

Tree, Heritage ~~Tree~~

All ~~Quality trees with a dbh DBH greater than or equal to 18 inches; and all~~ Post Oaks (*Quercus stellata*) or Blackjack Oak (*Quercus marilandica*) trees with a ~~dbh~~ DBH of six inches or greater.

Tree, Non-protected ~~Tree~~

The following are considered Non-Protected Trees:

1. Dead or Unhealthy Trees;
2. Trees that pose an imminent or immediate threat to persons or property;
3. ~~Creape~~ Myrtles (*Lagerstroemia indica*) and ornamental pears;
4. Honey Mesquite (*Neltuma glandulosa*) unless part of a Preserved Habitat or Conservation Easement;
5. Common Honey Locust (*Gleditsia triacanthos*), unless part of a Preserved Habitat or Conservation Easement;
6. Black Locust (*Robinia pseudoacacia*), unless part of a Preserved Habitat or Conservation Easement;
7. Hercules Club (*Zanthoxylum clava-hercules*), unless part of a Preserved Habitat or Conservation Easement;
or
8. Any tree listed on www.TexasInvasives.org, and as amended ~~the Texas Department of Agriculture Noxious and Invasive Plant List.~~

Tree, Quality ~~Tree~~

All healthy non-secondary trees, except Post Oaks (*Quercus Stellata*) and Blackjack Oak (*Quercus marilandica*) trees, that measure greater than or equal to ~~between~~ six inches ~~and 18 inches dbh~~

Tree, Secondary ~~Tree~~

A healthy Ash (*Fraxinus spp.*); Bois D' Arc (*Maclura pomifera*), Hackberry (*Celtis laevigata* or *Celtis occidentalis*), or Cottonwood (*Populus deltoides*) tree, with a ~~dbh~~ DBH greater than six inches.

Tree, Healthy

A tree exhibiting a combination of the following: free of significant structural defects, no disease concerns, no evidence of fungal decay or fruiting bodies, minor pest issues, no significant root issues, good structure/form with uniform crown or canopy, foliage of normal color and density, average or normal vigor, will be wind firm if isolated or left as part of a grouping or grove of trees, suitable for its location

Tree, Fair

A tree exhibiting a combination of the following: minor to moderate structural defects not anticipated to result in failure, no disease concerns, minor evidence of fungal decay or fruiting bodies, moderate pest issues, no significant root issues, asymmetric or unbalanced crown or canopy, average or normal vigor, foliage of normal color, moderate foliage density, will be wind firm if left as part of a grouping or grove of trees, cannot be isolated, suitable for its location

Tree, Dead/Diseased

A tree exhibiting the following: major structural defects anticipated to result in failure, disease or significant pest concerns, significant evidence of fungal decay or fruiting bodies, decline due to old age, significant root issues, asymmetric or unbalanced crown or canopy, sparse or abnormally small foliage, poor vigor, not suitable for its location

Tree Stand

At least five or more native large and/or medium size canopy protected trees forming a continuous canopy.