35.13.7 Tree Preservation and Landscape Requirements

A. Purpose and Intent

1. The purpose of these regulations is to promote the preservation of heritage trees, historic trees and existing tree canopy, including but not limited to remnants of the Cross Timbers Forest. These regulations serve to protect trees during construction, and to facilitate site design and construction that contributes to the long term viability of existing trees which improves environmental conditions. These regulations also establish environmental standards that improve air and water quality, increase property values establish a process for controlling tree and serve to increase the City’s tree canopy through new plantings.

B. Definitions

1. Canopy – the foliar cover of trees or groups of trees. For the purposes of this code, canopy coverage for each tree will be measured using the following formula: [canopy coverage in square feet (ft²) = diameter² x 3.14] or by aerial photo delineation using Aerial Photo Method (see: 35.13.7.D.1.b).

2. Canopy Tree – a canopy tree is a tree of any species other than Hackberry, Mesquite, Bois D’ Arc, Locust, or Cottonwood, in good condition, with a trunk diameter of six (6) inches or greater that will be preserved in order to fulfill the minimum canopy requirements. To qualify as a canopy tree, a minimum of 75% of the tree’s Critical Root Zone must remain undisturbed. One hundred percent (100%) of the Critical Root Zone of Post Oak trees must remain undisturbed in order to receive credit for fulfilling tree canopy requirements.

3. Citizen’s Tree Committee – the adoption of this Subchapter will create a Citizen’s Tree Committee with volunteer members appointed by City Council. The Committee shall serve in an advisory capacity to make recommendations to the City Urban Forester and City Council regarding tree preservation, tree planting, identification of historic trees and Tree Fund expenditures.

4. Critical Root Zone – the minimum root area necessary to ensure survival and viability of a tree. Critical Root Zones are generally defined as the area represented by a circle with a radius of one (1) foot for each inch of trunk diameter. A minimum of seventy-five percent (75%) of the Critical Root Zone must remain undisturbed to provide for the health of the tree and the safety of the public. One hundred percent (100%) of the Critical Root Zone of Post Oak trees must remain undisturbed in order to receive credit for fulfilling tree canopy requirements.

5. Diameter – measurement of a tree at breast-height (4.5 feet above the ground). For the purposes of this ordinance, all existing trees on site will be measured using this method. Multi-stemmed tree diameters will be determined by the following formula:

a) Multistem tree diameter = the measurement of the largest stem + one half (1/2) the measurement of each subsequent stem.

b) Diameter is measured to the nearest inch.
6. Heritage Tree – a tree of any species (other than Hackberry, Mesquite, Bois D’ Arc, Locust, or Cottonwood, in good condition) with a diameter at least fifty (50%) of the diameter of a tree of that species listed on the Texas Big Tree Registry (maintained by the Texas Forest Service). One hundred (100%) percent Heritage Tree shall be preserved on site or mitigated at a one to three ratio (1:3) for the total canopy removed.

7. Historic Tree – A Historic Tree is any tree that possesses integrity with regard to unusual size or age, or location and setting. It may also be associated with significant historic events, places and/or persons. The Historic Landmark Commission will make recommendations for historic tree designations to the Planning and Zoning Commission (which will conduct a public hearing and include property owner notification) for ultimate approval by City Council. Upon designation, each tree shall be added to a Historic Tree Registry map to be maintained by the Planning and Development Department. One hundred percent (100%) of Historic Trees shall be preserved on site with no option to mitigate or remove the tree.

C. Permit Required

1. A Tree Removal Permit is required prior to any land or tree disturbing activity applicable under this Subsection.

2. No person, directly, or indirectly, shall cut down, destroy, or otherwise remove trees with a diameter of six (6) inches or greater without first obtaining a Tree Removal Permit and complying with the requirements of this Subsection.

3. No grading shall take place on any undeveloped property that contains trees with a diameter of six (6) inches or greater that are subject to this Subsection without obtaining all applicable permits, including a Tree Removal Permit.

D. Applicability

1. These regulations shall apply to:

    a) Undeveloped land

    b) All property to be redeveloped 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.

    c) Gas Well Development including but not limited to pad sites, ponds, storage batteries, new roads and gas well gathering and transmission lines.

    d) To the extent there is a conflict between this Subsection and any other Subsection including but not limited to Subsection 35.17.9 (Upland Habitat Development Standards) and Subsection 35.22.A.8.c (Gas Well Drilling and Production), the more stringent requirement shall apply that preserves the largest quantity of trees.

    e) Requirements for this subchapter will be applied to applications for residential
developments as a single unit regardless of the number of platted lots.

E. Exemptions

With the exception of historic trees, the following are exempted from these regulations:

1. Projects that have a completed application on file for a final plat, preliminary plat, or building permit for any development as of the effective date of this ordinance.

2. Any development for which construction has legally begun on infrastructure improvements pursuant to an approved three-way construction contract, including roads, as of the effective date of this ordinance. In the event that construction of all infrastructure improvements in such a development ceases for a continuous period of 180 days or longer, this exemption shall cease for a continuous period of 180 days or longer, this exemption shall cease to apply on the 181st day after cessation of construction unless the City accepts the infrastructure improvements.

3. Public Trees: The City shall have the right to plant, maintain, prune, and remove trees, shrubs, and plants within the rights-of-ways and easements of all city streets, roads, and highways, in parks, around city facilities, municipal airport, municipal landfill and on other city grounds, as may be necessary or desirable to ensure public safety, to preserve tree health, and to maintain and increase tree canopy cover.

4. Trees located in the visibility triangle area, as defined in the Transportation Criteria Manual.

5. Public Utilities: Public Utilities and Municipally Owned Utilities shall have the right without a permit to take such action as may be necessary to comply with safety regulations, to maintain a safe operation of their facilities, and to maintain service reliability. Public Utilities and Municipally Owned Utilities shall be exempted from tree preservation requirements upon filing route plans prior to tree removal or construction, which satisfactorily demonstrate that the proposed installation resides within routes previously established by a current Master Plan related to transportation, Public Utilities, or Municipally Owned Utilities, or that resides within a existing easement where trees must be cut, trimmed or removed in order to maintain the clearance required for safe and reliable use of the easement.

6. Emergency Situations: In case of emergencies, such as hurricane, tornado, windstorm, flood, ice storm or other disasters, that pose an imminent threat or danger to public health, welfare and safety.

7. Commercial Nurseries and Christmas Tree Farms: The removal of trees which have been grown to be sold as Christmas trees or for landscaping.

8. Single-Family or Two-Family Residential: Property on which a single-family or two-family residential dwelling unit(s) currently exists.

9. Capital Improvement Projects awarded prior to the effective date of this Subsection.

10. Any tree determined by a Qualified Professional to be diseased, dying, dead, creating a public nuisance or damaging a foundation.
11. Any property currently receiving special appraisal status as 1-d-1 (Open Space) Agricultural Appraisal by the Denton County Appraisal District. Properties cleared for agricultural will be exempt from the requirements of this Subchapter provided the property remains in productivity for a minimum of five (5) years following clearing operations. Prior to clearing land for agricultural purposes, the property owner must submit a letter of notification to the City Urban Forester stating the purpose for clearing the land, the size of the area to be cleared, and the Denton County Appraisal District account number. Development of the property prior to five (5) years from the date of clearing will subject the property to the provisions of this Subchapter. Assessment of the tree canopy for properties will be performed using the Aerial Photo Method in accordance with Subsection 35.13.7.F.1.b.

F. Tree Canopy Calculation

1. Calculations for fulfilling tree canopy requirements as shown in table 35.13.7.1 – Tree Canopy Requirements may be performed using one of the following methods:

a) Tree Survey Method

1. Existing trees to be used towards fulfilling tree canopy requirements shall be located by a Qualified Professional.

2. Trunk diameter and species will be recorded for each surveyed tree.

3. Canopy area for each credit tree will be calculated using the following formula: 
   \[ \text{Canopy Area} = \text{Diameter} \times \text{Diameter} \times 3.14 \]  
   Canopy area is recorded in square feet (ft²).

4. The sum of all credit tree canopy areas will be used to meet minimum tree canopy requirements. (see Table 35.13.7.1).

5. Credit trees must be structurally sound and in good condition.

6. In order to receive credit towards tree canopy requirements, no more than 25% of the Critical Root Zone of a credit tree may be disturbed by proposed improvements. One hundred percent (100%) of the Critical Root Zone of Post Oak trees must remain undisturbed in order to receive credit for fulfilling tree canopy requirements.

7. A maximum of fifty percent (50%) of the canopy requirement may be fulfilled with new tree plantings and mitigation.

b) Aerial Photo Method

1. Existing tree canopy area to be used towards fulfilling tree canopy requirements may be delineated with a recent (not more than three (3) years in age), scaled aerial photograph, representative of current site conditions, and of reasonable pixel
resolution to allow for accurate canopy delineation. Aerial photographs should be taken at a time of year that renders the respective tree canopy visible (i.e.: late spring through summer for deciduous species).

2. The sum of all credit tree canopy areas will be used to meet minimum tree canopy requirements (see Table 35.13.7.1).

3. A Qualified Professional must visit the delineated canopy coverage areas and record overall species composition and presence of any heritage trees. If heritage trees are present, they must be located by a Qualified Professional and recorded on the Tree Preservation Plan.

Table 35.13.7.1 – Tree Canopy Requirements for Tree Preservation

<table>
<thead>
<tr>
<th>Districts</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
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<td></td>
</tr>
<tr>
<td>RD-5 Rural Residential</td>
<td>25%</td>
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</tr>
<tr>
<td>RC Rural Commercial</td>
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<td>17.5%</td>
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<tr>
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<tr>
<td>NR-1 Neighborhood Residential 1</td>
<td>30%</td>
<td>15%</td>
</tr>
<tr>
<td>NR-2 Neighborhood Residential 2</td>
<td>30%</td>
<td>15%</td>
</tr>
<tr>
<td>NR-3 Neighborhood Residential 3</td>
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<td>15%</td>
</tr>
<tr>
<td>NR-4 Neighborhood Residential 4</td>
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<td>15%</td>
</tr>
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</tr>
<tr>
<td>NRMU-12 Neighborhood Residential Mixed Use 12</td>
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<td>15%</td>
</tr>
<tr>
<td>NRMU Downtown University Core</td>
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</tr>
<tr>
<td>Downtown Residential</td>
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<td></td>
</tr>
<tr>
<td>DR-1 Downtown Residential</td>
<td>30%</td>
<td>15%</td>
</tr>
<tr>
<td>DR-2 Downtown Residential</td>
<td>25%</td>
<td>12.5%</td>
</tr>
<tr>
<td>DC-N Downtown Commercial Neighborhood</td>
<td>25%</td>
<td>12.5%</td>
</tr>
<tr>
<td>DC-G Downtown Commercial General</td>
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<td>10%</td>
</tr>
<tr>
<td>Community Mixed Use Centers</td>
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</tr>
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<td>15%</td>
</tr>
<tr>
<td>CM-E Community Mixed Use Employment</td>
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<td>15%</td>
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<td>Regional Mixed Use Centers</td>
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</tr>
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<td>45%</td>
<td>22.5%</td>
</tr>
<tr>
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</tr>
<tr>
<td>IC-G Industrial Centers General</td>
<td>15%</td>
<td>7.5%</td>
</tr>
</tbody>
</table>
G. Mitigation

1. The intentions of this Ordinance is to ensure that a total tree canopy requirement is maintained on all applicable sites, as defined in this ordinance. If the total tree canopy requirements cannot be met by preservation of existing trees, a maximum of fifty percent (50%) of the tree canopy requirement may be fulfilled with mitigation at a one to one (1:1) ratio for the total canopy removed, in addition to new tree plantings.

   a. Contributing to the Denton Tree Fund using the following formula:

      1. \( \sqrt{\frac{\text{canopy to be mitigated in square feet}}{3.14}} = \text{mitigation value in inches} \)

         This calculation may also be described as: the mitigation value in inches is equal to the square root of the total canopy area to be mitigated (measured in feet) divided by 3.14.

      2. The value of payments into the Denton Tree Fund will be determined by multiplying the resulting mitigation value in inches by the dollar value per diameter inch as established by City Council and published in the Development Review Fee Schedule within the Application Criteria Manual. The fee shall be based on the fair market value of materials and labor at the time of planting and the reasonable estimated cost for maintenance and irrigation for a period of three (3) years.

2. The City Urban Forester must review and approve all requests for mitigation. One hundred percent (100%) of the requirement must be met through tree preservation, new tree planting or mitigation unless no trees currently exist on the site.

3. No development approval (as defined by this ordinance), tree removal permit, or building permit shall be issued until the Urban Forester has approved the request and received the necessary documentation and/or funds for the mitigation.

4. For applicants removing trees to facilitate installation of gas wells (including roads, pad sites, and gathering lines), gas transmission lines, or to facilitate installation of communications infrastructure or utilities which do not otherwise meet this Code’s definition of a Public Utility, the following mitigation standard shall apply instead, without regard to Zoning designation: For six (6) inch diameter or larger tree removed, the applicant shall mitigate the removal by paying the established tree mitigation fee for twenty five percent (25%) of the total diameter inches removed. Fees must be paid prior to tree removal.

H. Tree Planting

1. All new tree plantings shall be guaranteed for a minimum three (3) year establishment period with a ninety percent (90%) survival rate, which will ensure reasonable chance for surviving to maturity. Upon completion of the three (3) year establishment period, the City shall inspect the trees. If less than ninety percent (90%) of the trees have survived, the Applicant shall be notified to replace any unhealthy or dead trees.

2. Each replacement tree shall be a minimum of three inches (3") in caliper measured six inches (6") above grade and at least five feet (5’) in height when planted. The Certificate of Occupancy shall not be issued until all replacement trees are planted or a surety bond, cash bond, or letter of credit is filed with the City.
3. If the Applicant requests a planting extension due to weather conditions or other site factors, the City shall require a surety bond, cash bond, or letter of credit to be held until the trees have been planted. Upon meeting the planting requirements, the City shall inspect the trees to determine that the requirement has been met. Upon such a finding, the City shall release the currency, bond or letter of credit. If the applicant does not take remedial steps to bring the property into compliance, the City shall make demand for payment on the cash bond, surety bond, or letter of credit. The City may use all legal remedies to enforce this Subchapter in addition to making demand on the security provided herein.

I. Tree Credits

1. Preservation of contiguous areas of Upland Habitat designated as Environmentally Sensitive Areas (ESA's) on the ESA Map shall be given 200% credit towards canopy requirements within non-residential developments. This credit may also be applied to preservation of areas of Upland Habitat ESA that are less than ten (10) acres but at least 20,000 square feet in size.

2. Tree canopy for new or replacement trees planted in order to fulfill tree canopy requirements will be computed using the estimated area that mature canopy will encompass, based on the Tree List contained in the Site Design Criteria Manual. Trees not on the Landscape Plant List shall be estimated by use of standard landscaping references. Planting of these trees must meet all conditions in 35.13.7.H

J. Tree Fund Expenditures

1. Funds collected from mitigation fees and penalties for noncompliance with this Subchapter will be placed into a dedicated account known as the Denton Tree Fund.

2. The Denton Tree Fund may be utilized to fund preservation and replacement of the City’s tree canopy cover under the administration of the City Urban Forester. The City Urban Forester will submit quarterly budget requests to City Council for approval of all Tree Fund expenditures.

3. The Citizen’s Tree Committee will assist the City Urban Forester with recommendations for tree fund expenditures.

4. Funds collected from mitigation fees and penalties for noncompliance with this Subsection may be utilized as follows:

   a) Purchasing, planting and maintenance of trees on public park land or any other City-owned property.

   b) Purchase of properties containing remnants of the Eastern Cross Timbers Forest or bottomland hardwood forests and other treed property for perpetual preservation and passive recreational use.
c) Funding of a City-wide tree inventory and an urban forest management plan for all public properties.

d) Associated administration costs.

K. Tree Preservation Plan

1. All applications for a Tree Removal Permit shall be accompanied by a Tree Preservation Plan and submitted with the Landscape Plan and all management plans shall comply with these standards.

2. The Tree Preservation Plan shall include the following information:

   a) Project Name.
   
   b) Project Description
   
   c) Key map showing the location of the development in relation to existing streets and highways.
   
   d) Name, address, and telephone number of property owner
   
   e) Name, address, and telephone number of developer and/or contractor
   
   f) Name, address, and telephone number of the person responsible for preparing the Tree Preservation Plan
   
   g) Site area in square feet
   
   h) Calculations for tree canopy requirements must be shown on both the Tree Preservation Plan and the Landscape Plan
   
   i) Species, diameter, and location of tree canopy to be preserved. If Aerial Photo Method is used, plans will delineate the area of canopy to preserved towards fulfilling the canopy requirement.
   
   j) Location of all existing and proposed overhead and underground utilities
   
   k) Location of tree protection fencing and other tree protection structures required
   
   l) Construction entrance and exit

L. Tree Management Plan

1. Tree Management plan shall include notes and details to ensure the viability of all trees required to be preserved including their roots, during construction. Tree Management Plan requirements are described in the Site Design Criteria Manual.
M. Inspections

1. The City of Denton shall have the power to conduct inspections to ensure compliance with this Ordinance and associated Criteria Manuals, including but not limited to the power to enter at reasonable times upon any property, public or private, for the purpose of investigating and inspecting any land disturbing or tree removal activities.

N. Enforcement

1. The City Urban Forester, Building Official or other authorized representative of the City shall have the authority to place a Stop Work Order on any activity involving removal of or damage to trees with a diameter of six (6) inches or greater in any manner that is contrary to either this Subsection or applicable Criteria Manuals.

2. A person is in violation of this Subsection if the person removes, assists in the removal or causes the removal of a tree without complying with the requirements of this Subsection or if the person owns part or all of the land where the violation occurs.

3. Each tree removed in violation of this Subsection shall constitute a distinct and separate offense.

4. Fines for violation of any component of this Subsection and applicable Criteria Manuals shall be levied at the rate established within the Development Review Schedule for each tree removed or damaged in violation of this Subchapter.

5. In the event of a suspected violation, the City reserves the right to use aerial photo interpretation to identify the extent of tree removal and calculate fines. At minimum, all trees removed will be considered canopy trees. If the Urban Forester has information that indicates that heritage or historic trees were removed, this information shall also be used to calculate fines. The resulting fines will be levied in accordance with Section 35.13.7.M.5. Calculations of identified illegal canopy removal will be interpolated into corresponding inches of lost tree diameter using the following formula:

\[ \text{lost tree diameter in inches} = \sqrt{\frac{\text{area of lost canopy in square feet}}{3.14}} \]