

## **1001.25 TREE PRESERVATION AND REPLACEMENT, TREE DISEASE AND LANDSCAPING REQUIREMENTS.**

### **Subd. 1 Purpose**

(1) *Purpose.* It is the policy of the City of Dayton to recognize and protect the integrity of the natural environment of the community through the preservation, protection, and planting of trees. The city recognizes that preservation and planting of trees is important in new development sites in order to maintain a healthy and desirable community. The city also recognizes that a certain amount of tree loss is an inevitable consequence of the urban development process. These tree regulations provide a balance between property owner's rights to develop property and the need of the community to protect all aspects of the natural environment (particularly the rural character-), while providing housing and employment opportunities. The objectives of this subdivision shall include, but are not limited to:

- a. The reasonable protection of existing tree canopy through, root protection by eliminating or reducing compaction, filling or excavation beyond thresholds;
- b. Prevention of soil erosion and sedimentation;
- c. Reduced storm water runoff;
- d. Improved air quality;
- e. Improved water quality;
- f. Reduced noise pollution;
- g. Enactment of M.S. Ch. 18.023. as may be amended from time to time, and regulations. Ch. 4. AGR 101-120 of the Minnesota Department of Agriculture to control the spread of tree diseases from affected trees to healthy trees;
- h. Enhancement of the city's physical and aesthetic environment;
- i. Enhancement of the quality of life and the general welfare of residents;
- j. Energy conservation through natural insulation and shading;
- k. Control of the urban heat island effect;
- l. Increased property values;
- m. Protection of privacy by establishing and maintaining buffers between conflicting land uses;
- n. Providing habitat for wildlife, including birds that help in the control of insects; and
- o. To provide an ecosystem approach to planning and development.

(2) *Scope.* This subdivision shall apply to the following in the City of Dayton:

- a. Any formal land use application in the city, including but not limited to subdivisions, minor subdivisions, site plans, rezoning and conditional use permits.
- b. All sites for which application for a subdivision review is being made.
- c. All sites for which application for a site plan review is being made.
- d. Any pre-emptive cutting of forests or woodland within 1 year of any formal land use application.

e. Grading permits that are not associated with a development, or redevelopment which propose removal of significant trees over the removal threshold detailed in this section.

(3) *Intent*. It is the intent of this subdivision to:

a. Preserve tree canopy throughout the site and extending into adjoining properties whenever possible (“continuous green/wildlife corridors”);

b. Preserve specimen trees;

c. Preserve mix of tree ages, sizes, and species;

d. Preserve the existing under-story and forest floor vegetation;

e. Preserve both front and backyard trees in residential developments with custom lot development and site specific roadway alignments;

f. Encourage building types, sizes and footprints appropriate to site specific conditions; and

g. Support and augment the comprehensive park, trails and open space plan.

## **Subd. 2 Definitions**

For the purpose of this subchapter, the following definitions shall apply, unless the context clearly indicates or requires a different meaning.

### **Caliper Inches**

The length, in inches, of a straight line measured through the tree trunk of a certified nursery raised tree at 12 inches above the ground.

### **Critical Root Zone**

The root system within the dripline is generally considered to be the critical root zone. The dripline is an imaginary line, which extends from the outermost branches of a tree's canopy to the ground. To protect these critical root zones, a tree protection area shall be established around each tree or group of trees to be retained.

a. The tree protection area shall include no less than the total area beneath the tree canopy as defined by the dripline of the tree or group of trees collectively.

b. Wherein authorized excavations it becomes necessary to expose or cut roots more than 1 inch in diameter, it shall be the duty of the contractor to protect such root(s) under advice of the city.

c. All open trenching is prohibited. Utility installation within the dripline of protected trees, during construction or thereafter, can only occur using trenchless methods.

d. The mowing, clearing, and grubbing of brush located under the dripline of protected trees may be allowed, provided such mowing, cleaning, of grubbing is accomplished by hand or by mower. The use of heavy equipment for this purpose shall not be allowed.

### **Developer**

Any person or entity who undertakes to improve a parcel of land, by platting for the purposes of establishing two or more dwelling units, or grading which requires a grading permit.

### **Diameter at Breast Height (DBH)**

The diameter of a tree's trunk measured 4.5 feet above the ground.

### **Disturbance Zone**

Any area which will be physically altered from its natural state. This will include all areas of grading, utility installation, building pads, driveways, and parking areas.

### **Drip Line**

The farthest distance away from the trunk of a tree that rain or dew will fall directly to the ground from the leaves or branches of the tree or 1 foot per 1 inch of diameter, whichever is greater.

### **New Development**

A piece of property that is being platted for the purpose of establishing urban residential use with two or more dwelling units, establishing a business use, or is being improved by grading which requires a grading permit. This definition does not apply to agricultural lot splits or to public street/utility projects.

### **Property Owner**

The owner of a buildable property who is constructing or expanding a dwelling or a business on that property.

#### **a. Common Tree**

A deciduous overstory tree including cottonwood, poplars/aspens, box elder, willow, silver maple, elm, and any other tree species not defined as hardwood deciduous tree or a coniferous/evergreen tree or considered non-native to Minnesota.

#### **b. Coniferous/Evergreen Tree**

A tree that bears cones and evergreen needle-like or scale like leaves year-round which reaches a height of at least 15 feet at maturity.

#### **c. Deciduous Tree**

A woody tree which has a defined crown, and which loses leaves annually.

#### **d. Hardwood Deciduous Tree**

Includes ironwood, catalpa, oak, maple (hard), walnut, ash, hickory, birch, black cherry, hackberry, locust and basswood.

#### **e. Heritage Tree**

A healthy hardwood deciduous tree measuring equal to or greater than 27 inches in diameter or a healthy coniferous evergreen tree greater than 50 feet in height.

#### **f. Nuisance or Hazard Tree**

1. Any living or standing tree or part thereof infected to any degree with a shade tree disease or shade tree pest unless properly treated under the direction of a professional arborist/forester.

2. Any logs, stumps, branches, firewood, or other part of dead or dying trees infected with a shade tree disease or shade tree pest.

3. Any standing dead or living trees or limbs which may threaten human health or property.

#### **g. Protected, Preserved or Undistributed Tree**

Any tree with no less than, 60% of the critical -soot zone left undisturbed or which has been protected during the construction process by the tree protection methods described therein.

#### **h. Significant Tree**

An existing healthy deciduous hardwood tree measuring a minimum of six inches in diameter (DBH), an existing healthy common tree measuring a minimum of 12 inches in diameter (DBH), or an existing healthy coniferous/evergreen tree measuring a minimum of 12 feet in height (every three feet in height of a coniferous/evergreen tree is equivalent to one inch of diameter (DBH)).

### **Tree Certification**

A certified inventory of trees on the site after work is complete listing all trees and their final disposition, which is signed by a licensed forester or landscape architect.

### **Tree Preservation Plan**

A plan and inventory certified by a forester or landscape architect indicating all of the significant trees and their locations in the proposed development or on the lot. The Tree Preservation Plan shall include the size, species, tag numbers, and location of all significant trees proposed to be saved and removed on the area of development, and the measures proposed to protect the significant trees to be saved.

### **Tree Protection**

Snow fencing or polyethylene laminar safety netting placed at the drip line of the significant trees to be preserved. The tree protection measures shall be shown on tree preservation plan drawings and remain in place until all grading and construction activity is terminated.

### **Subd. 3 Removal Threshold**

(1) Development in residential districts may remove or disturb up to 40% of the total inches of significant trees DBH. Any removal or disturbance beyond this threshold shall require restoration. Significant trees removed for water quality treatment ponds, public trails, sidewalks and collector or arterial roads, or trees considered invasive species, are exempt from the removal threshold calculation (minor roads or local development roads are not exempt).

a. The following calculation procedure must be used to determine tree replacement requirements:

1. Calculate 40% of the total diameter inches (DBH) of significant trees on the site. This is the allowable tree removal limit, or the number of inches that can be removed without replacement.
2. Subtract the total diameter inches of common trees (which are significant) that will be removed from the allowable
3. If any allowable inches remain, subtract the total diameter inches (converted to DBH) of coniferous/evergreen trees (which are significant) that will be removed from the remaining allowable inches.
4. If any allowable inches remain, subtract the total diameter inches (DBH) of hardwood deciduous trees (which are significant) that will be removed from the remaining allowable inches.

(2) Development in non-residential districts may remove up to 60% of the total inches of significant trees DBH. Any removal or disturbance beyond shall require reforestation. Significant trees removed for water quality treatment ponds, public trails, sidewalks and collector or arterial roads are exempt from the removal threshold calculation.

a. The following calculation procedure must be used to determine tree replacement requirements:

1. Calculate 60% of the total diameter inches (DBH) of significant trees on the site. This is the allowable tree removal limit, or the number of inches that can be removed without replacement.

2. Subtract the total diameter inches of common trees (which are significant) that will be removed from the allowable limit.

3. If any allowable inches remain, subtract the total diameter inches (converted to DBH) of coniferous/evergreen trees (which are significant) that will be removed from the remaining allowable inches.

4. If any allowable inches remain, subtract the total diameter inches (DBH) of hardwood deciduous trees (which are significant) that will be removed from the remaining allowable inches.

(3) Trees which are considered Heritage Trees, as defined by this section, are unique to Dayton due to their size and age. All reasonable measures shall be taken to preserve these trees. There is a 0% removal threshold, meaning every diameter inch (DBH) of heritage tree removed will require replacement in accordance with the standards of this section. No heritage tree will be considered exempt.

#### **Subd. 4 Tree Survey/Preservation Plan.**

A tree survey and tree preservation plan shall be submitted with all preliminary plat applications, and with all lot divisions applications involving the creation of one or more new development parcels. The tree survey and tree preservation plan shall be prepared by a registered surveyor, forester, or landscape architect not more than two years prior to submission of a complete application for preliminary plat approval, and shall provide the following information:

(1) Location, diameter, and species of all significant trees on the site.

(2) Identification of which significant trees are:

- a. To be protected, preserved, or undisturbed;
- b. To be removed or disturbed; and
- c. Exempt from the calculation.

(3) Areas proposed to be designated as natural preserves where all-natural vegetation, including significant trees, will be protected and preserved.

(4) Proposed disturbance zones, as identified on the plan by cross-hatching, shading, or other visual signifier.

(5) Location and dimensions of building plans, construction zones for each lot, and proposed street layout and grading contours of the site.

(6) Proposed locations and details of tree protection fencing to be installed for all trees to be preserved.

(7) Calculation of removed or disturbed significant tree inches on the site (excluding exempt tree inches) divided by the total significant tree inches on the site (excluding exempt tree inches).

(8) Representative sampling may be allowed for areas where there are ten acres or more of contiguously treed land.

#### **Subd. 5 Tree Replacement Policy**

(1) If a development exceeds the allowable removal or disturbance threshold specified in Subd. 3 the subdivider shall reforest appropriate areas within the site (or outside the site if appropriate locations within the site are not available). For each one inch that is removed or disturbed beyond the threshold, the developer shall replant one inch of new tree.

(2) Replacement trees must consist of nursery stock and be no less than the following sizes (“measured in caliper inches”):

- a. Deciduous trees: No less than 2.5 inches in diameter.
- b. Coniferous trees: No less than 6 feet high.

c. Replacement trees shall be species similar to the trees which were destroyed or damaged and can include those species shown on the following table:

<b><i>Deciduous Trees</i></b>	Maples (Hard)	Oak
	Linden (Basswood)	Ash
	Green Ash	Birch
	Hackberry	Ironwood
	Bitternut Hickory	Black Cherry
	Quacking Aspen	
<b><i>Coniferous Trees</i></b>	Fir	Black Hills Spruce
	White Pine	Colorado Blue and Green Spruce
	Scotch Pine	Red Pine
NOTES: This list is not inclusive and replacement trees can include other native species including pollinating trees.		

(3) No reforestation tree shall be any of the following (or otherwise considered an invasive species):

- a. A species of genus *Ulmus* (elm), including Siberian Elm, except those elms bred to be immune to Dutch Elm disease;
- b. Box Elder;
- c. A species of genus *Populus* (poplar) except when counted as under-story tree;
- d. Female ginko;
- e. Norway Maple;
- f. Amur Maple Species of Ash;
- g. Russian Olive;
- h. Black Locust; and
- i. Tree of Heaven.

(4) Exception: up to 15% of the required tree inches may be ornamental species of a lesser size (which are not considered invasive, and are resistant to common tree diseases and ailments), provided that the required replacement inches are maintained. The city may, at its discretion, approve additional species if circumstances such as soil conditions, hydrology, topography, or recent tree diseases warrant.

(5) Replacement trees shall not be placed on easements or street rights-of-way, unless approved by City Council. The city shall determine the locations of tree replacement for subdivided tree plans. If tree replacement is required on the individual lot because the builder destroyed or damaged a tree which was to be saved, the forester or landscape architect shall determine where, the replacement trees shall be installed.

(6) Landscaped buffer yards as required by the city's landscaping regulations in Section 1001.24, Subd. 7 Screening, Buffering and Fencing may count toward the trees required for replacement/reforestation trees as shown on a reforestation plan.

(7) The city recognizes that there may be developments where required reforestation cannot be practically be performed on site. Cash-in-lieu of (or in combination with) replacement tree inches will be accepted per the city fee schedule (\$125 per replacement inch). Any restitution shall be placed in the community planting fund and shall be used for reforestation projects in the city.

**Subd. 6 Requirements for Reforestation Plans.**

(1) The reforestation plan shall be prepared and signed by a licensed forester or a registered landscape architect and shall meet the following criteria:

- a. All reforestation trees by location; size (diameter), or height; and species;
- b. No more than 1/4 of the trees may be from any one species;
- c. Plant materials shall be of similar vegetation as found on site and preference given for less than six feet high;
- d. Minimum sizes shall be:
  - 1. Deciduous - no less than 2.5 caliper inches; and
  - 2. Coniferous - no less than six feet high;
- e. Installation shall follow city standard details;
- f. Trees shall be from certified nursery stock as defined and controlled by M.S. 18.44 through 18.61, the Plant Pest Act, as maybe amended from time to time;
- g. A list of recommended species for tree replacement can be obtained for each natural environment type at the Minnesota Department of Natural Resources, subject to review and approval of the city; and
- h. Trees shall be covered by a minimum two-year guarantee.

**Subd. 7 Tree Protection Measures**

The following measures for the preservation and protection of trees shall be required:

(1) *Required protective measures.* Measures required to protect significant trees and significant woodlands shall include:

- a. Installation of orange polyethylene laminate safety netting, or an equivalent form of safety netting, and metal stakes placed along the disturbance zone, and around significant trees (at least 1 foot outside the drip line) to be saved;
- b. Prevention of soil compaction or alteration of existing grades in critical root zones (at least one foot outside of the drip line);
- c. Placement of utilities in common trenches outside of the critical root zone of significant trees, or use of tunneled installation;
- d. Prevention of change in soil chemistry due to concrete washout and leakage or spillage of toxic materials, such as fuel or paints;
- e. Calculation of critical root zones of all significant trees near disturbance zone and adherence to maximum 25% removal of critical root zone;

- f. Root pruning during construction along all disturbance zones shall be done by hand with a chainsaw or with a machine designed for root sawing (machine will shatter roots);
- g. Tree stumps to be removed by grinding, not with a bulldozer, in all areas where root pruning, does not occur;
- h. Natural ground cover (not sod) shall be maintained where clusters or areas of significant trees exist;
- i. No vehicles or equipment parking or driving out of the construction boundaries;
- j. Pruning of oak trees must not take place from April 15 through July 1. If wounding of oak trees occurs, a nontoxic tree wound dressing must be applied immediately. Excavators must have a nontoxic tree wound dressing with them on the development site;
- k. Trees shall be planted in a location so as to not interfere with transmission, electric or other utility lines;
- l. Trees shall be planted at least five feet from any hard surface, and shall be planted so as to not impact existing or adjacent properties, or structures.

(2) *Optional protective measures.* Measures to protect significant trees and significant woodlands may include, but are not limited to:

- a. Installation of retaining walls to preserve trees;
- b. Reduced row and paved areas when it can be illustrated that such variances save trees;
- c. On-site layout of roads and house pads;
- d. Flaglots and other unconventional lot shapes when it can be illustrated that such variances save trees;
- e. Variable setbacks when it can be illustrated that such variances save trees;
- f. Larger lots in treed areas;
- g. Common washout pond for cement, paint etc., outside of woods;
- h. Basements dug with backhoe and material removed from site;
- i. Concrete pumped in;
- j. Specified stockpile areas;
- k. Prioritize trees to be saved; and
- l. PUD zoning.

#### **Subd. 8 Staff review.**

The tree preservation plan and any related reforestation plan or calculation of restitution shall be reviewed and evaluation by city staff. City staff shall make recommendations for adjustment of locations of structures, roadways, utilities, and for replanting and other elements that may be necessary to enhance tree preservation and reforestation efforts.

#### **Subd. 9 City Action.**

A tree preservation plan and reforestation plan, including the designation of natural preserves, shall be considered for approval or denial by the City Council as part of the review of a preliminary plat.

### **Subd. 10 Amendments to the tree preservation/reforestation plan.**

A tree preservation plan and reforestation plan may be amended after it has been approved. The Zoning Administrator shall have authority to approve amendments, except that a change resulting in removal of more than ten percent of the significant tree inches that were shown as preserved on a City Council approved tree preservation plan shall require further review, and approval, by the City Council. As part of any amendment to a tree preservation plan, the required reforestation and/or restitution shall be increased or reduced as appropriate. Requests for amendments shall be submitted prior removal of any trees shown as preserved on the approved plan.

### **Subd. 11 Financial Guarantee.**

Following the approval of the tree preservation plan, but prior to issuance of a grading permit or building permit if no grading permit is required, the developer shall provide financial guarantee, as follows:

(1) A cash escrow or letter of credit to guarantee the tree preservation plan, and the reforestation plan if applicable.

(2) The financial guarantee shall be calculated as follows: 25% of the total significant trees to be preserved that are located within 15 feet of disturbance zones multiplied by \$125 per tree inch, plus 120% of the total tree inches required by the reforestation plan (if applicable). The amount of the financial guarantee shall be maintained at the calculated level until:

a. All trees on the site (preserved and new reforestation trees) have survived two winter seasons (winter season is defined as the period between October 31 through

April 30 for the purposes of this section) after site grading and tree planning has finished; and

b. The city has inspected the site and authorized a reduction or release of the financial guarantee. This guarantee may be used to replace trees which were shown as protect and removed during the course of construction/development.

### **Subd. 12 Inspection and Enforcement of the Tree Preservation Plan**

Prior to removal of any trees and prior to issuance of a grading permit, or prior to commencement of any grading operations if no grading permit is required, or prior to issuance of a building permit if no grading operations are required, all sites shall be staked and fenced for tree preservation pursuant to the approved tree preservation plan. A copy of the approved tree preservation plan shall be submitted with an application for a grading permit, or with an application for a building permit if no grading permit is required. Such tree preservation plan shall also indicate any reforestation trees to be planted on the site. No permits shall be issued, nor shall any grading operations commence, without first receiving authorization by City Staff. Tree protection fencing shall remain in place until inspections have been finalized and the certificate of occupancy is ready for issuance for the building on the site.

(Ord. 2006-04, passed - -2006; Am. Ord. 2014-04, passed 3-25-2014; Am. Ord. 2016-19, passed 8-24-2016; Am. Ord. 2018-14, passed 5-23-2018; Am. Ord. 2019-12, passed 8-22-2019)