
Appendix C:

RESOURCE GUIDE

**TREE PRESERVATION AND
REPLACEMENT**

(DRAFT)

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Overview

Trees are an important natural resource that provide numerous environmental, health, and community benefits to the National Capital Region (NCR). Individual trees and forest cover provide food and habitat for wildlife, filter groundwater, stabilize soils, and reduce surface runoff and erosion that is harmful to waterways. They sequester carbon and reduce energy consumption with the shade they provide to buildings and outdoor spaces. They also provide quality settings for outdoor gatherings and recreation, reduce pollutants, and improve air quality. Overall, the benefits of trees highlight the need to protect and restore tree canopy affected by development.

Development in the NCR is often necessary to further the missions of federal government agencies. The National Capital Planning Commission's Tree Preservation and Replacement Policy (Policy) establishes procedures that the federal government should follow to prevent and mitigate tree canopy loss due to development. The Policy prioritizes tree preservation and offers alternatives to mitigate tree canopy loss if preservation is not possible. Since development occurs on land in Washington D.C. and the environs in Maryland and Virginia, the Policy incorporates the strengths of tree preservation and replacement practices of multiple jurisdictions in the NCR, resulting in a progressive, consistent approach to preserving and replacing individual trees and forests on federal land throughout the region.

This guide is intended to summarize the tree preservation and replacement policies in the Federal Environment Element of the Comprehensive Plan for development project applicants and also serve as a reference for NCPC staff in review of federal development plans that will affect existing tree canopy.

What Does the Comprehensive Plan say about Tree Preservation and Replacement?

The federal government should:

- FE.G.1** Preserve existing trees, especially individual trees, stands, and forests of healthy, native or non-invasive species. Account for existing trees early in the planning and design processes when development occurs to maximize preservation and incorporate the natural landscape into the design. In addition:
1. Trees 31.8-inches in diameter (100 inches in circumference) or greater may not be removed, unless:
 - a. Removal is critical to accomplishing the mission of the agency and planning/design alternatives that would preserve such trees have been explored and determined incapable of accommodating program requirements, or
 - b. The tree is considered invasive or hazardous per an Arborist's evaluation.
- FE.G.2** Transplant or replace existing trees when they are impacted by development and preservation is not feasible, according to the following procedures:
1. Transplant healthy, native, or non-invasive trees where practicable. Consult an Arborist and consider the following factors when determining if transplanting is appropriate:
 - a. Tree species, size, and condition

- b. Historic or cultural significance of the tree (e.g., “witness tree”)
- c. Current location of the tree compared with the proposed location of the tree (e.g., urban condition vs. open field; shade vs. sun)
- d. Soil quality at the current and proposed locations (e.g., sandy loam vs. silty clay; availability of organic matter)
- e. Percent of critical root area that can be retained
- f. Maintenance of trees after transplanting

2. Replace trees when they require removal. Replacement trees should increase biodiversity, be native species or non-invasive species¹, and have a mature canopy spread equivalent to, or greater than, the tree(s) removed. Replacement trees should be planted at a minimum caliper size of 2.5 inches for shade trees, 1.5 inches for ornamental trees, and six-foot height for multi-stem and evergreen trees.

Replace trees according to the following procedures:

- a. Trees less than 10-inches in diameter: Replace one tree for every one tree removed (1:1)
- b. Trees 10-inches in diameter or greater: Tree Diameter (in inches) x Species Rating (as percentage) x Condition Rating (as percentage) = Score
 - i. Trees are replaced at the following rates, based on the Score:
 - 1-4.9 = one tree
 - 5-9.9 = two trees
 - 10-14.9 = three trees
 - 15-19.9 = four trees
 - 20-24.5 = five trees
 - 25+ = six trees

Example: The replacement formula and score for a 25-inch diameter tree, with a Species Rating of 60% and Condition Rating of 75% is: $25 \times .60 \times .75 = 11.25$. The resulting score of 11.25 equates to three trees planted to replace the 25-inch tree.

- c. Forests and Stands of Trees: Plant 1.5 acres for every 1 acre removed. Consult with federal and local stakeholders to determine the appropriate density, mixture, and size of replacement plantings.

3. Locate replacement or transplanted trees, in order of preference, on:
- a. The project site (e.g., within or adjacent to the limits of disturbance)
 - b. The property where the project site is located
 - c. Another site within the agency’s jurisdiction (authority) only if the preferred locations cannot accommodate the replacement trees without overcrowding, or

¹ Unless such specifications are inconsistent with the intent of culturally or historically significant landscapes.

d. A combination of the above locations.

4. Ensure the amount of planting soil volume is consistent with current industry best practices. Consult with federal and local stakeholders to determine the appropriate standards based on the type of tree (e.g., shade tree, ornamental, evergreen, etc.) and location (e.g., above structure, on-grade, etc.).
5. Specify replacement trees in accordance with the most current edition of ANSI-Z60.1². Transplant, install, and maintain trees in accordance with the most current edition of ANSI-A300³.
6. Offset the balance of replacement trees (if the total quantity of replacement trees cannot be met) with sustainable, low impact development practices on the project site or property. These practices should provide similar environmental benefits to those of canopy trees, such as stormwater capture and treatment, reduced urban heat island effect, and/or carbon sequestration.

FE.G.3 Enhance the environmental quality of the National Capital Region by preserving existing trees, replacing trees where they have died, and transplanting or replacing trees where they require removal due to development. Tree preservation, transplant, and replacement should adhere to the procedures provided herein to prevent a net loss of tree canopy in the development area.

Legislation and NCPA Authorities

The Policy applies to master plans and projects on federal land in the National Capital Region, including commemorative works on land administered by the National Park Service and the General Services Administration.

The Policy does not apply to projects on District land or projects on land in Maryland purchased with Capper-Cramton funds. These projects should comply with the applicable policies and regulations of the local jurisdiction in which the project is located.

Key Definitions

² The *American Standard for Nursery Stock* as produced by American Horticulture Industry Association (formerly American Nursery & Landscape Association) accredited by the American National Standards Institute; ANSI-Z60.1 is a standardized system of sizing and describing plants to facilitate trade in nursery stock.

³ The American National Standards Institute; ANSI-300 standards are generally accepted industry standards for tree care practices.

Afforestation: The establishment of forest or planting of trees on an area that was not previously forested.

ANSI-A300: The American National Standards Institute; ANSI-300 standards are generally accepted industry standards for tree care practices.

ANSI-Z60.1: The *American Standard for Nursery Stock* as produced by American Horticulture Industry Association (formerly American Nursery & Landscape Association) accredited by the American National Standards Institute; ANSI-Z60.1 is a standardized system of sizing and describing plants to facilitate trade in nursery stock.

Arborist: A professional certified by the International Society of Arboriculture (ISA), or registered with the American Society for Consulting Arborists (ASCA).

Caliper: Refers to the tree trunk measurement (diameter) of nursery stock trees at 6 to 12 inches above the soil surface.

Condition Rating: A value from 0 to 100 rated in accordance with the 9th Edition of the Council of Tree and Landscape Appraisers (CTLA) *Guide to Plant Appraisal*. The value assigned indicates the observed condition of a tree according to factors such as wounds, decay, storm damage, or insect or disease damage.

Diameter: Refers to the diameter of a tree trunk measured at 4.5 feet above the ground.

Forest: A biological community dominated by extensive tree cover and other woody plants, frequently consisting of stands of trees that are often characterized based on species, age, and size class.

Forester: A professional certified by the Society of American Foresters (SAF), or registered with the forester licensing board in the jurisdiction in which the service is provided.

Forest Stand Delineation (FSD): A plan that identifies existing forest cover and environmental features on a proposed development site. An FSD plan includes an accurate depiction of the forest species, composition, age, condition, location, and acreage existing on a property.

Healthy: A tree with a condition rating of "Fair," "Good," or "Excellent" in accordance with the 9th Edition of the Council for Tree and Landscape Appraisal (CTLA) *Guide to Plant Appraisal*.

Invasive Species: Alien or exotic plant species whose introduction does or is likely to cause economic or environmental harm, or harm to human health.

Native Species: A plant species that occurs in a particular place without human intervention.

Non-invasive Species: Naturally reproducing, non-native plants that do not invade areas dominated by native vegetation.

Reforestation: The process of planting (or otherwise regenerating) and establishing a desired forest community on a given site.

Species Rating: A value from 1 to 100 rated in accordance with the *Mid-Atlantic Tree Species Rating Guide* published by the International Society of Arboriculture (ISA) Mid-Atlantic Chapter. The value assigned to a species is according to factors such as longevity, growth habit, durability, and appropriateness to the growing zone.

Stand: An easily defined group of trees of sufficiently uniform species composition, age, size class, and condition and can be managed as a single unit.

Applicant Resources

American Horticulture Industry Association

<https://www.americanhort.org/>

Arlington County

<https://environment.arlingtonva.us/trees/support-trees/specimen-trees/tree-preservation-ordinance/>

<https://building.arlingtonva.us/resources/tree-replacement/>

Casey Trees

<https://caseytrees.org/>

City of Alexandria

<https://www.alexandriava.gov/hub.aspx?id=108269>

Comprehensive Plan for the National Capital – Federal Elements

<https://www.ncpc.gov/plans/compplan/>

District of Columbia

<https://ddot.dc.gov/page/tree-regulations>

<https://doee.dc.gov/node/1118761>

Fairfax County

<https://www.fairfaxcounty.gov/publicworks/trees/rules>

International Society of Arboriculture (ISA)

<https://www.isa-arbor.com/>

International Society of Arboriculture, Mid-Atlantic Chapter (MAC-ISA)

<https://www.mac-isa.org/>

Maryland National Capital Park and Planning Commission (M-NCPPC); Montgomery County

<https://montgomeryplanning.org/planning/environment/forest-conservation-and-trees/chapter-22a-revised-in-2018/>

Maryland National Capital Park and Planning Commission (M-NCPPC); Prince George's County

<https://www.mncppc.org/1564/Woodland-Conservation-Ordinance>

Montgomery County Department of Environmental Protection

<https://www.montgomerycountymd.gov/green/trees/laws-and-programs.html>

NCPC Submission Guidelines

<https://www.ncpc.gov/review/guidelines/>

Prince William County

<https://www.pwcgov.org/government/dept/development/ld/Documents/DCSM800.pdf>

Society of American Foresters (SAF)

<https://www.eforester.org/>

United States Department of Agriculture PLANTS Database

<https://plants.sc.egov.usda.gov/java/>