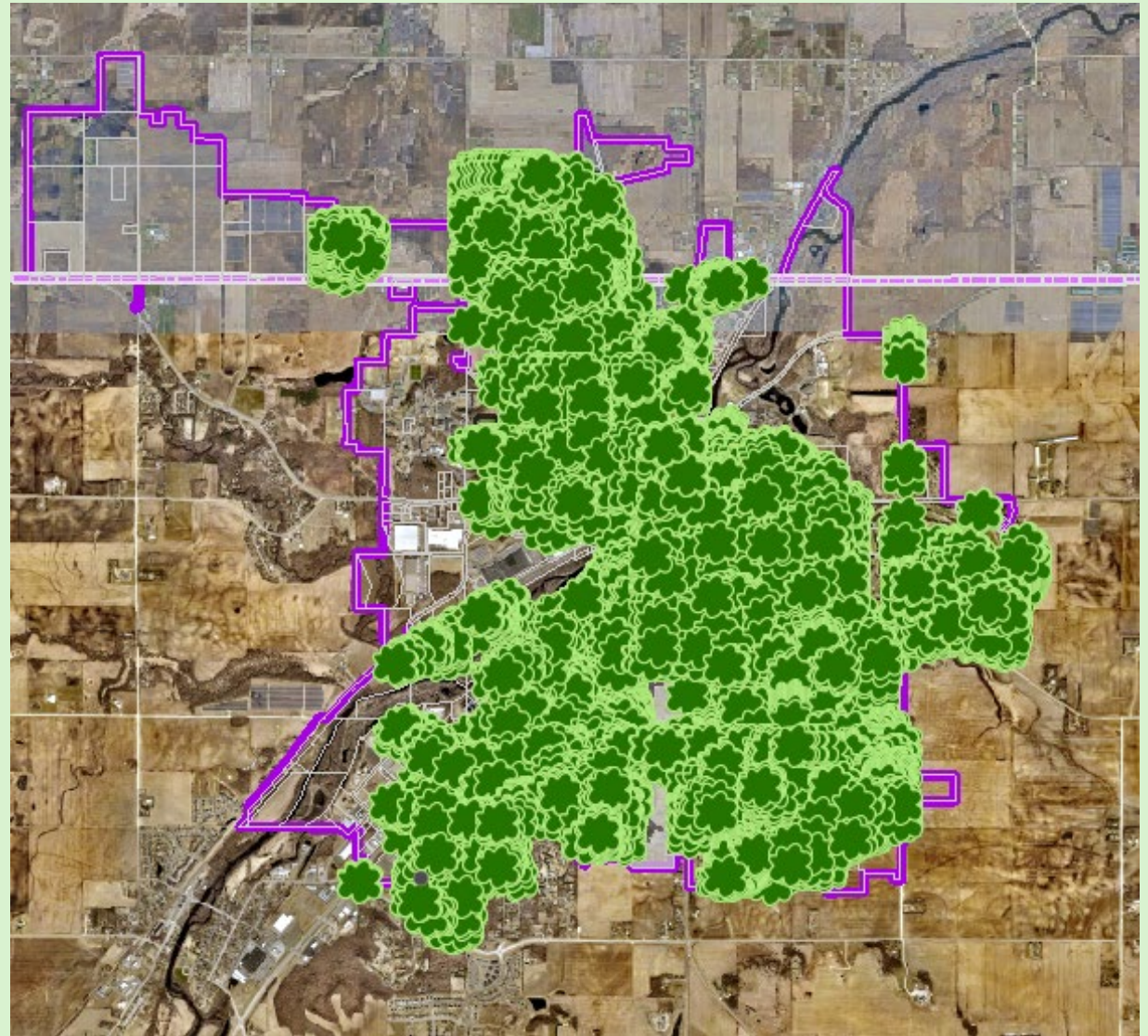




Tree Canopy of Northfield

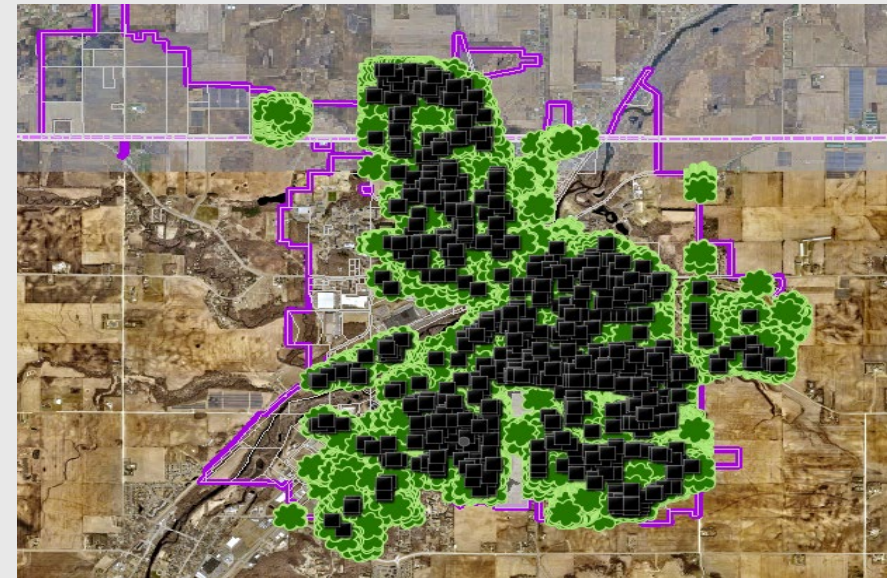
ArcGIS Map of Documented Trees in Northfield

- There are 12,065 documented trees along the boulevards and in the manicured areas of the 35 parks (564 acres).
- 25% of the documented trees are updated each winter measuring their diameter, height, and health.
- Trees in the heavily wooded areas of the parks are not documented (Hauberg Woods, Lashbrook Park, Sechler Park, Oddfellows Park, George Rysgaard Nature Preserve)

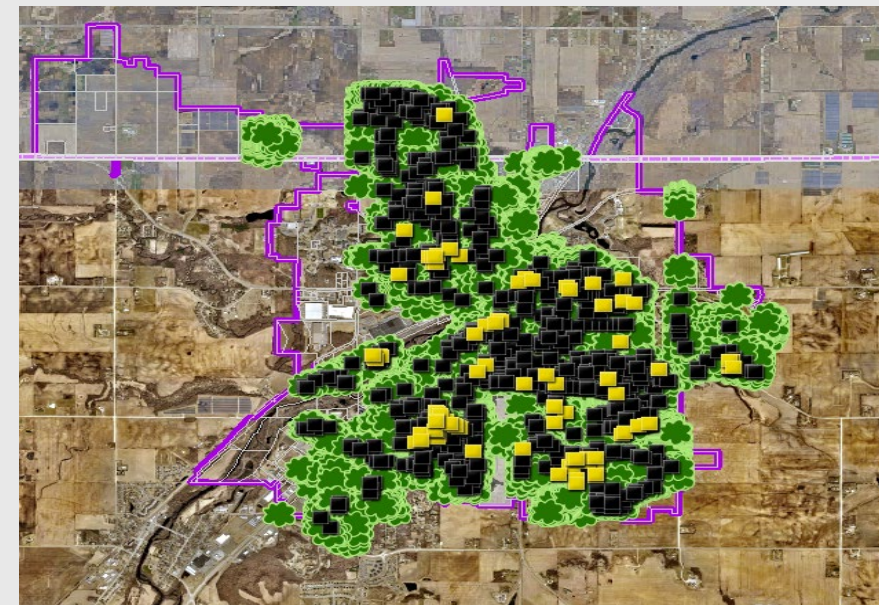


Ash Trees

- There are 1200 Ash Trees along the boulevards and in the parks with an average diameter of 17-inches.
- Emerald Ash Borer was first discovered in Northfield in March 2023.
- Emerald Ash Borer causes ash trees to decline and die within 2 -5 years of being infested.
- 138 Ash trees along the boulevard and in the parks have been treated with an injection of emamectin benzoate to protect them from Emerald Ash Borer. These trees will need to be treated every 2 years. Emamectin benzoate is 85%-95% effective.



■ Ash Trees



■ Ash Trees

■ Treated Ash Trees

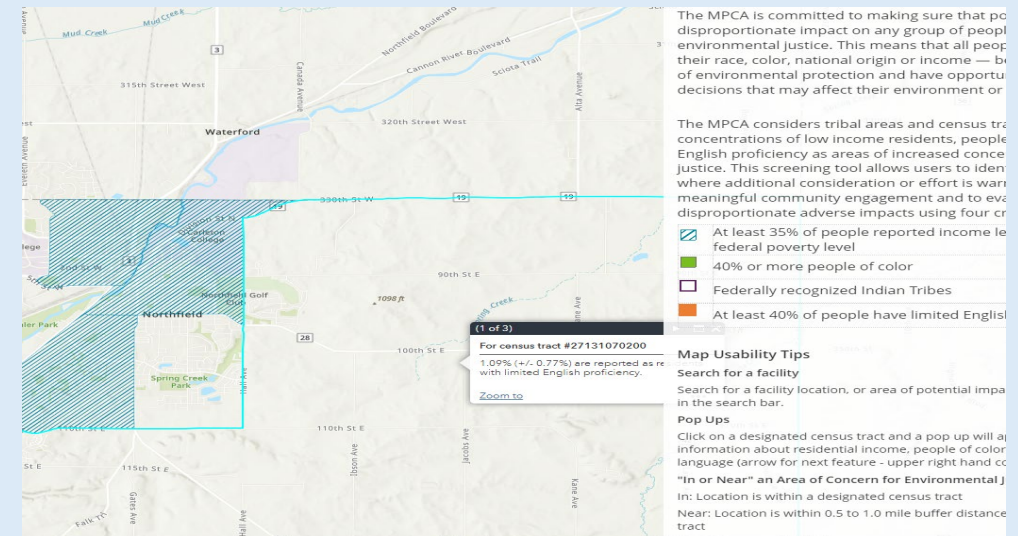
Minnesota Department of Natural Resources EAB Grants

2021 Preparing for EAB Grant:

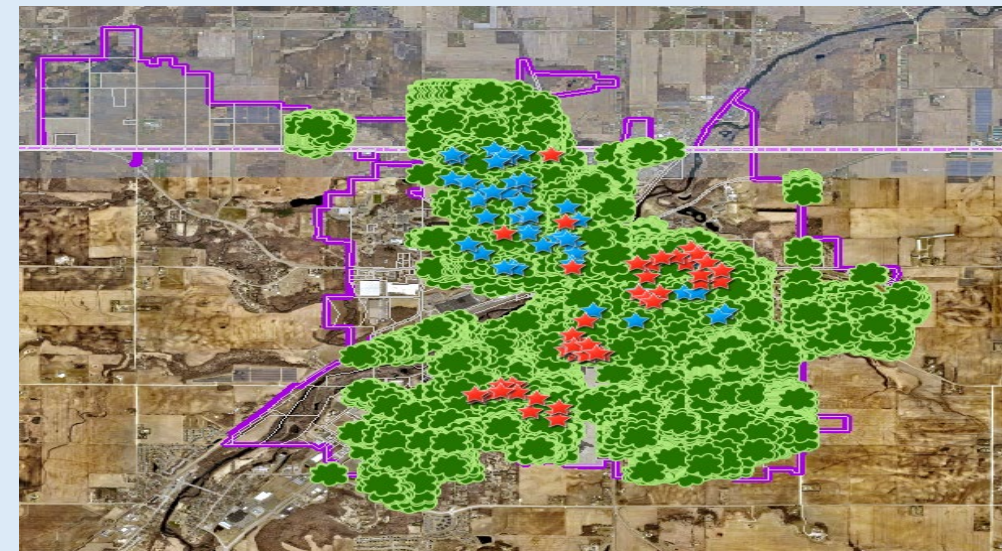
The City of Northfield received a grant through the Department of Natural Resources in 2021 to remove and replace 125 Ash trees along the boulevards and in the parks.

2024-2027 Shade Tree Bonding Grant:

The City of Northfield received another grant through the Department of Natural Resources in 2024 to remove and replace 200 Ash trees (50 trees per year) in 2024-2027 along the boulevard in the areas defined by the MPCA in 2023 as the Environmental Justice area.



2023 Environmental Justice Area

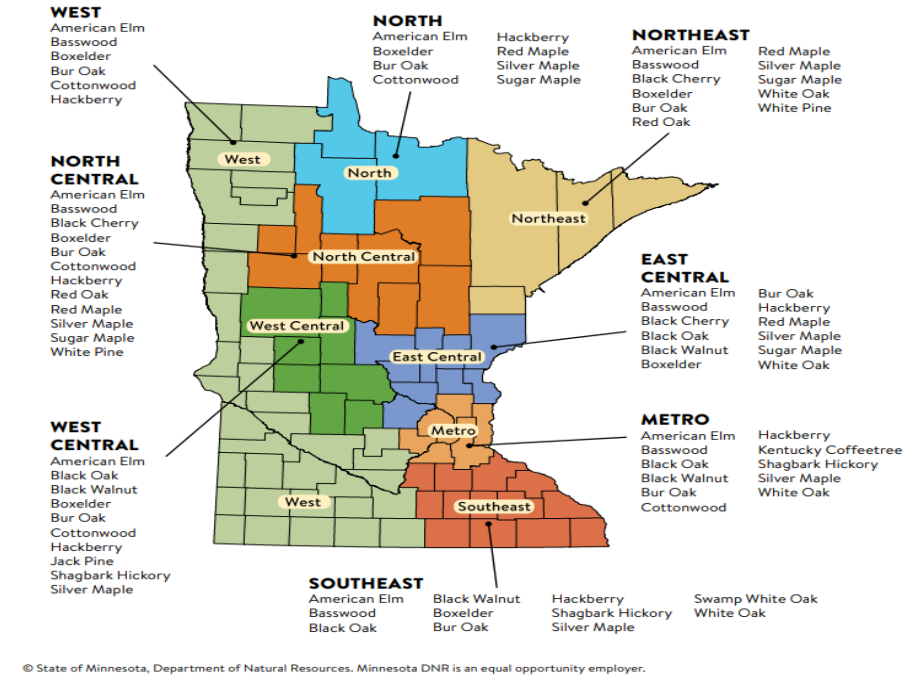


★ Shade Tree Bonding Grant 2024

★ Shade Tree Bonding Grant 2025

Canopy Diversity & Resilience

- New tree species planted are being chosen to increase the canopy diversity and based on their climate resilience.
- Mostly native trees are planted.
- Occasionally non-native species such as Ginkgo, Crabapple, Redbud, and Magnolia are planted to help diversify the canopy.



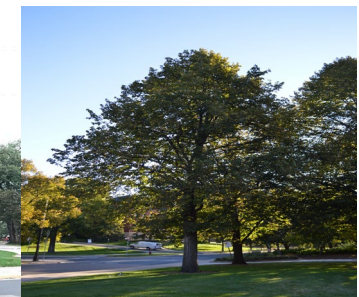
Best Native trees for the Changing Climate



White Oak
Quercus alba



Hackberry
Celtis occidentalis



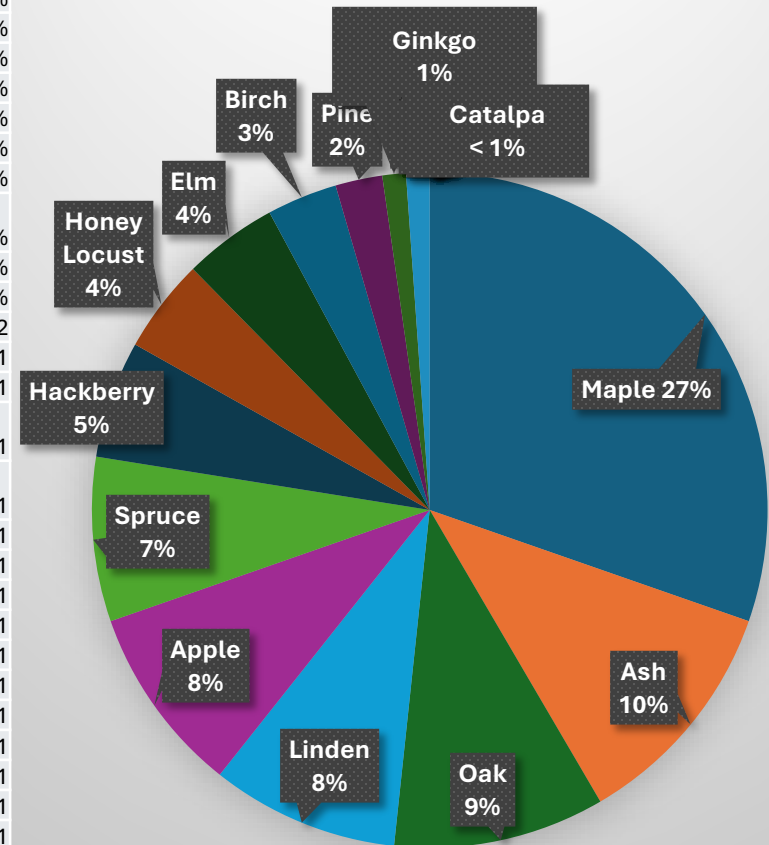
American Linden (Basswood)
Tilia americana

Northfield Tree Canopy Diversity

To increase the tree canopy diversity of the public tree population, the City is following the MN-DNR 20-10-5 Guideline:

- Less than 20% of trees are a single family
- Less than 10% of trees are a single genus
- Less than 5 % of trees are a single species

Genus	% of Total Population (12,069)
Acer (Maple)	27%
Fraxinus (Ash)	10%
Quercus (Oak)	9%
Tilia (Linden)	8%
Malus (Apple)	8%
Picea (Spruce)	7%
Celtis (Hackberry)	5%
Gleditsia (Honey locust)	4%
Ulmus (Elm)	4%
Betula (Birch)	3%
Pinus (Pine)	2%
Ginkgo	1%
Syringa (Lilac)	1%
Populus (Poplar, Cottonwood)	< 1
Gymnocladus (Coffeetree)	< 1
Amelanchier	< 1
Sorbus (Mountain Ash)	< 1
Prunus (Cherry)	< 1
Juglans (Walnut)	< 1
Ostrya (Ironwood)	< 1
Magnolia	< 1
Maackia	< 1
Crataegus (Hawthorn)	< 1
Aesculus (Buckeye)	< 1
Juniperus (Juniper)	< 1
Cercis (Redbud)	< 1
Carya (Hickory)	< 1
Larix (Tamarack)	< 1
Cornus (Dogwood)	< 1
Salix (Willow)	< 1
Carpinus (Beech)	< 1
Catalpa	< 1
Forsythia	< 1
Nyssa (Black Tupelo)	< 1
Abies (Fir)	< 1

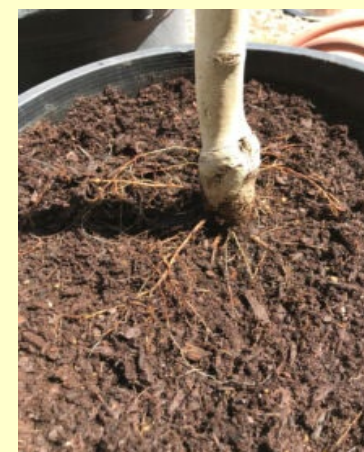


Tree Planting/Pruning Management

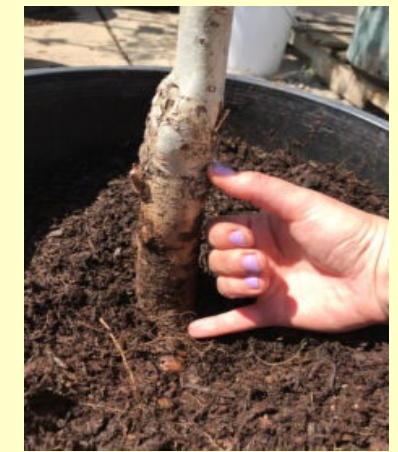
- Planting a tree at the right depth is crucial for the survival of the tree. The root flare should sit slightly above the soil grade at planting.
- Structural Pruning of the young trees is also being implemented to help improve the strength when they are mature. Pruning should happen between November 1st and April 15th especially for Oaks, Elms, and Ash trees to prevent disease and insect issues.
- The Streets and Parks Department maintains a goal to prune 20% of the City's boulevard and park trees yearly. Routine pruning of the trees will typically occur from November 1 through April 15. From April 16 through October 31st, pruning will generally be limited to the removal of hazardous, broken, or dead limbs to avoid damaging the trees. The Streets and Parks Manager may modify tree maintenance schedules as necessary based on weather, available resources, field conditions, tree disease outbreak, hazardous or emergency conditions, or other factors.
- All limbs of trees or portions of limbs that overhang public streets, sidewalks or paths are pruned to maintain 10 feet of clearance above the surface of any public sidewalk or path and 13 feet of clearance above the surface of any public street.



A container tree with noticeable graft. This is not the root flare.
Photo Credit: Colorado State University



The visible roots are growing from adventitious buds on the trunk. This is not the tree's root flare.
Photo Credit: Colorado State University



Approximately three inches of soil and roots were removed to locate the tree's original root flare.
Photo Credit: Colorado State University

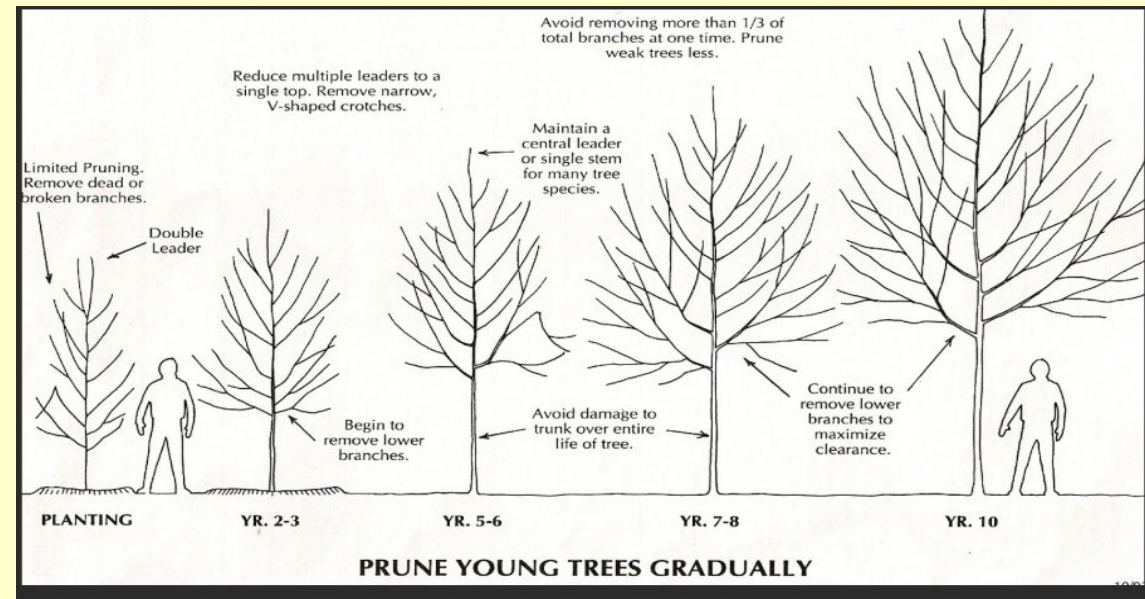


Photo Credit: Treechoices.blogspot.com

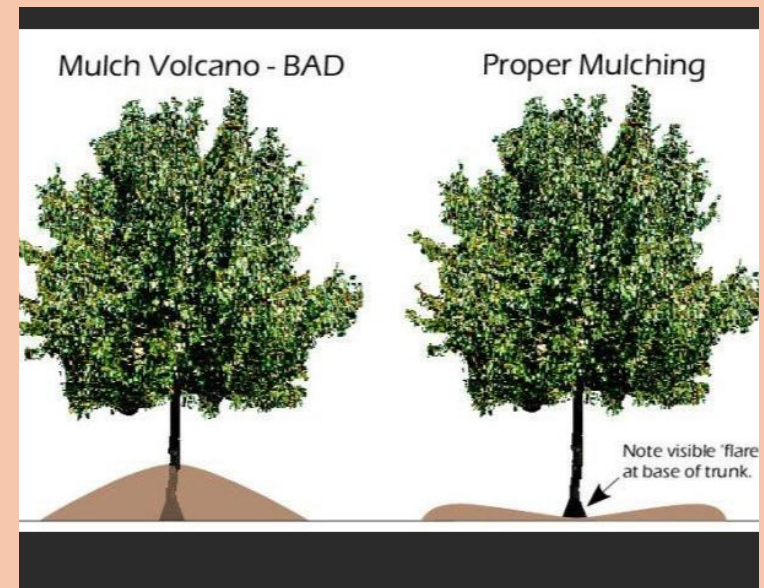
Tree Care

TASKS TO TACKLE

- **Watering:** Once the ground is thawed, watering of young trees may begin before the leaves come out, especially if it was a dry winter. Additional watering is beneficial if trees do not receive at least 1-inch of rainfall per week especially in the first 3 years after planting.
- **Inspection:** Trees are looked over for any damage from critters, particularly along the trunk, or broken branches from snow or ice. If the tree appears dead after the winter, trees are not removed until after mid-June as some species such as Honey Locust and Coffeetree are slow to break dormancy.
- **Mulching:** Mulch is added as needed around some of the young trees. A ring of mulch that is 4 – 5 feet in diameter, is 2 to 4 inches deep, and at least 2 inches away from the trunk (think donut) is applied. This helps to retain moisture and reduce weeds.
- **Pruning:** Broken, dead, and fallen branches that are caught in the tree are removed during the growing season. Pruning of anything else is avoided to prevent disease and insect issues. The best time to prune most trees is November 1st through April 15th

WHAT NOT TO WORRY ABOUT

- **Leaf Litter:** Leave the leaves! A leaf layer around the base of plants and trees can provide excellent habitat for beneficial insects and tends to break down quickly in the spring rains, adding nutrients for tree roots. **Fertilizing:** Don't fertilize trees unless you've had a soil test to determine what nutrients are missing.



Tree Protection during Construction

Land Development Code Article 3.5.6
(B)(3)(b)(i)):

All protected trees and trees intended for use as credit towards the landscaping standards of this section shall be fenced in accordance with this subsection before grading or other land-disturbing activity begins. Fencing shall extend at least five feet from the edge of the drip line (See Figure 3-18 for illustration of a drip line.), but in no case closer than ten feet to the trunk. The city planner shall consider existing site conditions in determining the exact location of any tree protection fencing.

Wall Street Road project: Existing trees are protected at least 15 feet away from trunk.

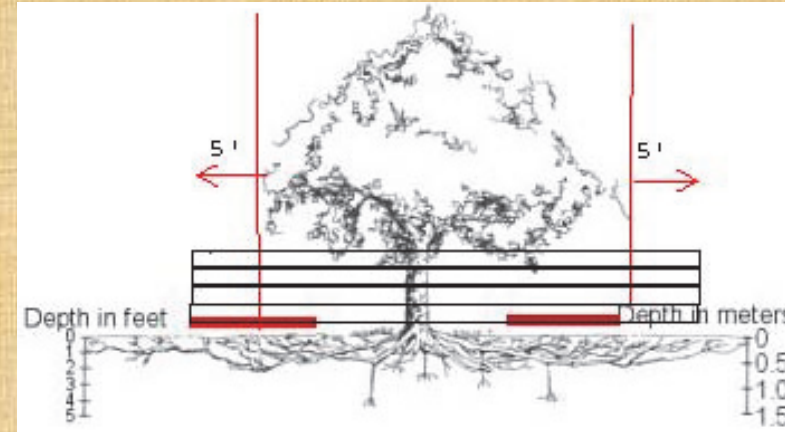
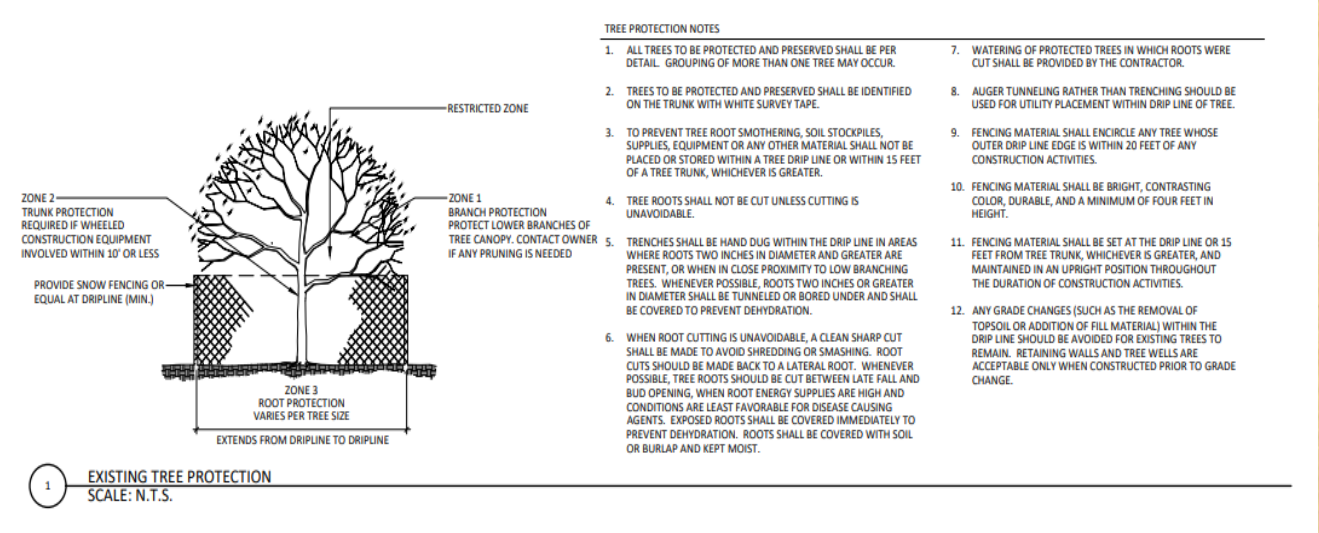


Figure 3-18: Illustration of protective fence placement for trees



Tree Protection Plan Example: 2024 Wall Street Road Improvements