

Trees for Naperville

✿ TREE SELECTION AND PLANTING GUIDE ✿



Naperville



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Benefits of Trees



- Trees make life more pleasant.
- Trees add beauty and create an environment beneficial to our mental health.
- Trees relieve stress, lower blood pressure and impact our moods.
- Hospital patients had less recovery time in rooms with tree views.
- Children with green views and the opportunity to connect with nature have improved interpersonal relationships.
- Green areas near housing mean more social activities, increased feelings of belonging and reduced incidents of domestic and random violence.
- Older individuals with shared green space had better interactions with neighbors as green areas provide hope and anticipation of leaves, flowers, fruit and visits from wildlife.
- Trees provide privacy and screen out unpleasant objects.
- Trees reduce noise pollution.
- Trees soften, complement and enhance architecture.
- Trees moderate the effects of sun, wind and rain.
- Trees provide shade, which saves on cooling costs in the summer by up to 30 percent.
- Conifer trees block winter winds, which reduces heating costs.

Benefits continued

- Mature trees and landscaping can increase property values as much as 20 percent.
- Trees attract shoppers to commercial retail areas.
- People linger and shop longer along tree-lined streets.
- Apartments and offices in wooded areas rent more quickly and tenants stay longer.
- Businesses in wooded areas find workers are more productive and less absent.
- Trees improve air quality by trapping dust and other particles.
- Trees produce oxygen and absorb carbon dioxide and other pollutants.
- One acre of forest absorbs 6 tons of carbon dioxide and releases 4 tons of oxygen. This is enough to meet the annual needs of 18 people.
- Trees improve water quality by intercepting rainwater, reducing storm runoff and soil erosion into streams and rivers and by reducing flooding.
- Trees harbor wildlife and create species diversity.
- Trees provide food and medicine.
- Trees restore natural harmony to the urban environment.
- Trees inspire.





Planting and Caring for Trees

Parkway Tree Planting

The City offers a variety of programs to encourage parkway tree planting in the community.

1. Replacement Parkway Tree Program

If a parkway tree appears diseased, contact the Department of Public Works Forestry Section at (630) 420-6095 as soon as possible. A certified arborist will examine the tree and advise what steps should be taken to care for the tree. The City typically does not spray pesticides on parkway trees. If a parkway tree dies, the City will remove it, grind out the stump and plant a replacement tree at no charge.

Steps for parkway tree removal and planting:

- **Inspection** - Trees will be inspected by an ISA Certified Arborist. If removal is deemed necessary, the inspecting arborist will call or leave a hang tag at the property's front door. The tree is placed on the removal waiting list.
- **Removal** - The tree will be cut semi-flush to the ground by a Department of Public Works crew or contractor. All brush and debris will be hauled away.
- **Grinding** - The stump may be marked with a flag. The City will coordinate with JULIE to identify any buried utilities. Once you see utility locating (colored paint and flags), the stump should be ground within 14 days, weather permitting. A stump grinder will grind up the stump and any large roots. The excess wood chips will be removed.
- **Restoration** - Top soil and grass seed will be used to restore the area where the stump was ground.

- **Selection** - The hang tag will indicate whether the tree is eligible for replacement and whether the homeowner can choose the replacement. If eligible, the hang tag will list a website, password and deadline for the homeowner to select the replacement tree or a packet of information can be mailed to you.
- **Planting** - The homeowner is responsible for marking the desired planting location. The planting contractor will JULIE locate the site prior to planting.

2. New Construction Tree Program

Parkway trees must be planted at each newly constructed residential and commercial property. The number of trees required by the City varies based on the property's total linear street frontage. Developers and homeowners are required to pay the City to plant the trees. In most cases, the new resident is sent information and given the opportunity to choose the species of tree to be planted.

3. Planting a parkway tree on your own or through a landscaper

Prior to any tree being planted on public property, a parkway tree planting permit application must be granted by the City of Naperville. There is no charge for a tree planting permit.

The permit application includes a list of approved trees, planting directions and guidelines. Please visit the City's website at www.naperville.il.us to view or print the permit.

These guidelines help to ensure that appropriate and healthy trees are planted and prevent future traffic visibility problems. Anywhere from 48 hours to two weeks prior to planting, residents must call JULIE for underground utility locations at 811, or visit the website at www.Illinois1call.com.

Trees must be of an approved variety. No shrubs, bushes or other plants exceeding 18 inches in height will be allowed to be planted in the public parkways. The City will also not allow the planting of any Ash, Siberian Elm, Box Elder, Silver Maple, Tree of Heaven, Willow, Poplar, Conifer, Hawthorn (unless thornless), Pin Oak and Callery Pear.

Trees planted under overhead utility wires must not exceed 30 feet in height at maturity. After the parkway trees have been planted, they then become the property of the City of Naperville and are maintained by its Forestry Section.

The City holds an Arbor Day tree sale at the end of April each year. This is an excellent opportunity to find many suitable varieties of trees for your yard or parkway.

A list of acceptable parkway trees is available at www.naperville.il.us.

4. Tree Diversity

To keep Naperville's urban forest vibrant for years to come, the City encourages diversity in the types of trees planted on both public and private property.

Why tree diversity? Different types of trees can be damaged in different ways, such as by a particular kind of pest. If a community has too many of one type of tree that is susceptible to one pest or one type of damage, the presence of that pest or damage can drastically alter the appearance – and even wipe out – the overall urban canopy. When a variety of trees are planted, the forest as a whole becomes less vulnerable to these issues.

As a leader in forestry, Naperville values the beauty trees give our City. Help our urban forest for the next generation by looking for a new or different type of tree than what is already in your area. This book gives several suggestions for tree types, and who knows – based on what you choose, your new tree might become a beautiful point of pride for your neighborhood!

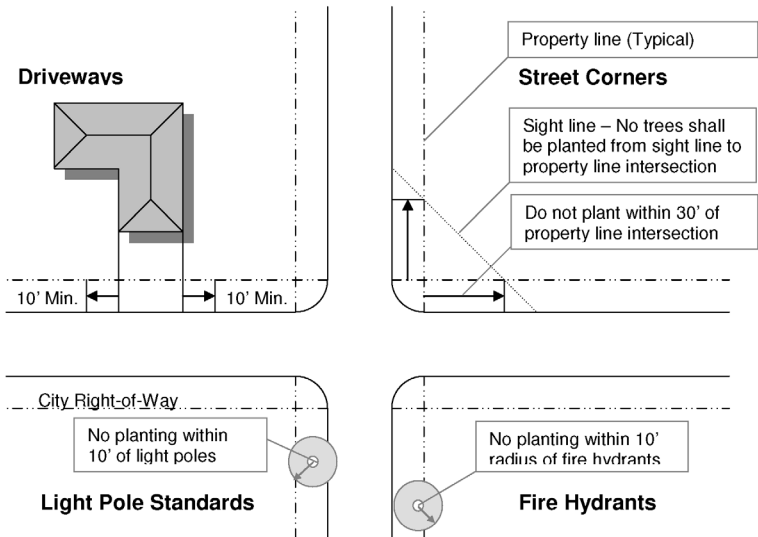


*For details on these programs,
please call the Department of
Public Works at (630) 420-6095.*

Tree Spacing Guidelines

For safety and tree health reasons, trees should not be planted closer than 30 to 40 feet apart. Trees must not be planted closer than 10 feet to private driveways, alleys, fire hydrants or utility poles and must not be closer than 5 feet to gas, water, electric, communication and sewer service lines.

On corner lots, trees must not be planted in the parkway within 30 feet of the intersection of the corner property lines adjoining the street right-of-way. This is to avoid sight distance problems at street intersections. Trees planted under overhead utility wires should not exceed 30 feet in height at maturity.



Proper Tree Planting Steps

Before you plant

Successful landscaping depends on proper preparation, planting and aftercare. A little time devoted to the planting stage will ensure a good start for your tree. The faster the root system is re-established, the better the chances for survival and the more rapidly the tree will grow.

The first step is **selecting the correct plant** for your specific landscaping needs:

- Please visit the City's website at www.naperville.il.us for a list of suitable trees for this area.
- Choose plants that are hardy to the Chicago area, USDA Zone 5 (-20° to -10°).
- Select the appropriate site for your plant based on sunlight, soil and moisture needs. Pay particular attention to drainage, exposure to wind and summer sun and soil pH (acid or alkaline).
- Know how tall and wide your plant can get. Be sure your space is large enough once the plant has reached maturity.
- Contact JULIE at 811 or www.Illinois1.com at least 48 hours prior to planting in order to have the locations of all underground utilities identified before you dig.

If the tree you are planting is balled and burlapped or bare root, it is important to understand that its root system has been reduced by 90 to 95 percent of its original size during transplanting. As a result of the trauma caused by the digging process, trees commonly exhibit what is known as transplant shock.

Containerized trees may also experience transplant shock, particularly if they have circling roots that must be cut. Transplant shock is indicated by slow growth and reduced vigor following transplanting. Proper site preparation before and during planting coupled with good follow-up care reduces the amount of time the plant experiences transplant shock and allows the tree to quickly establish in its new location.



By carefully following nine simple steps, you can significantly reduce the stress placed on the tree at the time of planting.

- 1. Dig a shallow, broad planting hole.** Make the hole wide, as much as three times the diameter of the root ball, but only as deep as the root ball. It is important to make the hole wide because the roots on the newly establishing tree must push through surrounding soil in order to establish. On most planting sites in new developments, the existing soils have been compacted and are unsuitable for healthy root growth. Breaking up the soil in a large area around the tree provides the newly emerging roots room to expand into loose soil to hasten establishment.
- 2. Identify the trunk flare.** The trunk flare is where the roots spread at the base of the tree. This point should be partially visible after the tree has been planted. If the trunk flare is not partially visible, you may have to remove some soil from the top of the root ball. Make sure to find it so you can determine how deep the hole needs to be for proper planting.
- 3. Remove the container from containerized trees.** Carefully cutting down the sides of the container may make this easier. Inspect the root ball for circling roots and cut or remove them. Expose the trunk flare, if necessary.
- 4. Place the tree at the proper height.** Before placing the tree in the hole, check to see that the hole has been dug to the proper depth and no more. The majority of the roots on the newly planted tree will develop in the top 12 inches of soil. If the tree is planted too deeply, new roots will have difficulty developing because of a lack of oxygen. It is better to plant the tree a little high, two to three inches above the base of the trunk flare, than to plant it at or below the original growing level. This planting level will allow for some settling (*see the Proper Tree Planting Techniques diagram on page 11*). To avoid damage when setting the tree in the hole, always lift the tree by the root ball and never by the trunk.



- 5. Straighten the tree in the hole.** Before you begin backfilling, have someone view the tree from several angles to confirm that the tree is straight. Once you begin backfilling, it is difficult to reposition the tree.
- 6. Fill the hole gently but firmly.** Fill the hole about one-third full and gently but firmly pack the soil around the base of the root ball. Then, if the root ball is wrapped, cut and remove any fabric, plastic, string and wire from around the trunk and root ball to facilitate growth. Be careful not to damage the trunk or roots in the process.

Fill the remainder of the hole, taking care to firmly pack soil to eliminate air pockets that may cause roots to dry out. To avoid this problem, add the soil a few inches at a time and settle with water. Continue this process until the hole is filled and the tree is firmly planted. It is not recommended to apply fertilizer at the time of planting.

- 7. Stake the tree, if necessary.** If the tree is grown and dug properly at the nursery, staking for support will not be necessary in most home landscaping situations. Studies have shown that trees establish more quickly and develop stronger trunk and root systems if they are not staked at the time of planting. However, protective staking may be required on sites where lawn mower damage, vandalism or windy conditions are concerns. With staking, two stakes used in conjunction with a wide, flexible tie material on the lower half of the tree will hold the tree upright, provide flexibility and minimize injury to the trunk. **Remove support staking and ties after the first year of growth.**



- 8. Mulch around the base of the tree.** Mulch is simply organic matter applied at the base of the tree. It acts as a blanket to hold moisture, moderates soil temperature extremes and

reduces competition from grass and weeds. Some good choices are leaf litter, pine straw, shredded bark, peat moss or composted wood chips. A 2 to 4 inch layer is ideal. More than 4 inches may cause a problem with oxygen and moisture levels. **When placing mulch, be sure that the actual trunk of the tree is not covered.** Doing so may cause decay of the living bark at the base of the tree. A mulch-free area, 1 to 2 inches wide at the base of the tree, is sufficient to avoid moist bark conditions and prevent decay.



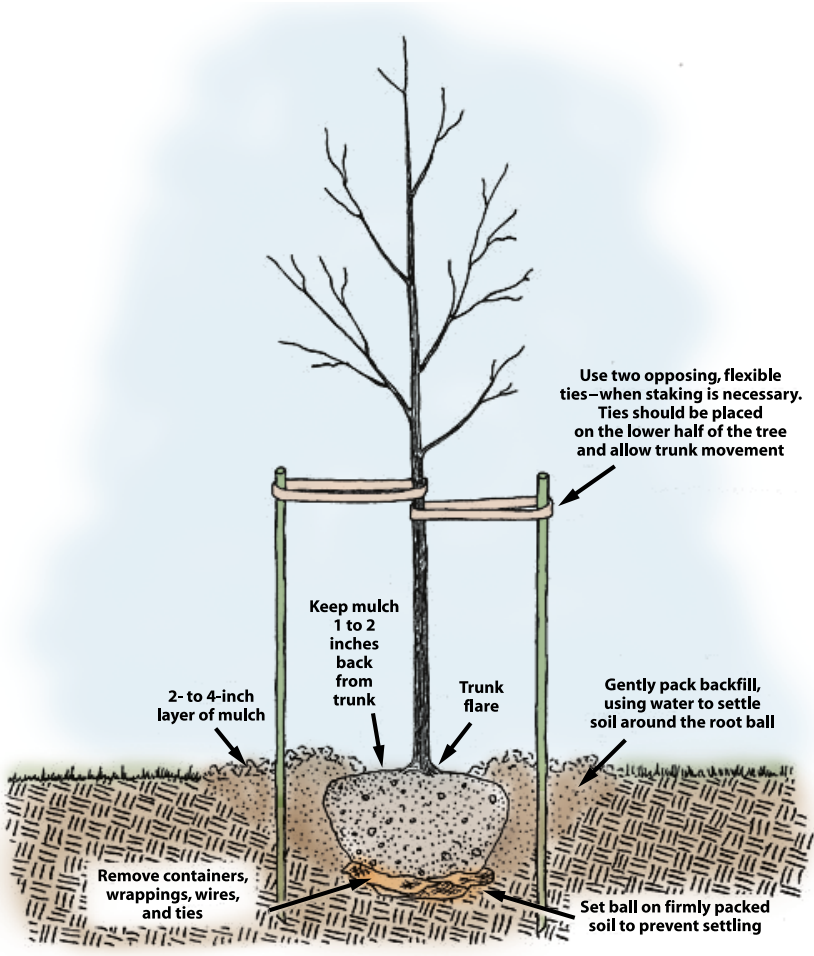
The Right Way

The Wrong Way

- 9. Provide follow-up care.** Keep the soil moist but not soaked; overwatering causes leaves to turn yellow or fall off. Water trees at least once a week, barring rain, and more frequently during hot weather. When the soil is dry below the surface of the mulch, it is time to water. Continue until mid-fall, tapering off for lower temperatures that require less-frequent watering.

Other follow-up care may include minor pruning of branches damaged during the planting process. Prune sparingly immediately after planting and wait to begin necessary corrective pruning until after a full season of growth in the new location.

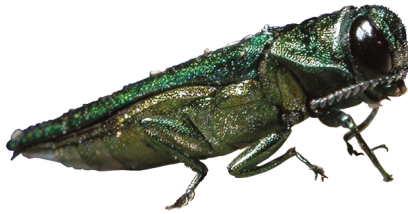
Proper Tree Planting Techniques



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Emerald Ash Borer

The emerald ash borer/EAB (*Agrilus planipennis Fairmaire*) is a small ($\frac{1}{2}$ inch long, $\frac{1}{8}$ inch wide) metallic green beetle native to Asia. Though it was first found in Michigan in 2002, it was likely that a beetle population established itself in the Detroit area for many years prior. Tens of thousands of ash trees have been killed since that time. As of 2016, it has spread through most of the eastern and midwestern United States and into Canada.



Life Cycle

The adult emerald ash borer emerges from May to July. The female lays numerous eggs in bark crevices and between layers of bark. The eggs hatch in 7 to 10 days and larvae bore into the tree where they chew the inner bark and phloem, creating serpentine galleries as they feed. This cuts off the flow of water and nutrients in the tree, causing dieback and death.



Larvae



S-shaped galleries

Ash Trees

Ash trees are very common in landscapes, and most species, namely white ash (*Fraxinus americana*) and green ash (*F. pennsylvanica*), are native to Illinois forests. Before the 2008 discovery of the EAB in Naperville, 25 percent of parkway trees were ash trees.

Ash leaves & twig



Seeds

- Compound leaves made up of small, glossy green leaflets.
- Leaves, twigs and branches grow in opposite pairs.
- Bark of mature trees is gray and furrowed, often appearing in a diamond pattern.
- Some ash trees produce small, oar-shaped seeds.
- Seedless ash trees may develop ash flower galls that turn from green to brown and may persist in the crown throughout the year.

Signs and Symptoms

The most visible sign of EAB infestation is crown dieback which appears after the first year. Branches at the top of the crown will die and more branches will die in subsequent years. Typically, the tree will be completely dead in about three years, though suckers will sprout from the base of the tree and on the trunk. The bark may also split vertically and woodpeckers may feed on the beetle, leaving visible damage on the bark.

Adult beetles emerging from trees will leave a very small, 1/8 inch diameter exit hole with a distinct "D" shape that may appear anywhere on the trunk or upper branches.



Dieback



Bark slits



Suckers on trunk or base of tree



*Emergence hole -
Shown actual size of
1/8" and D-shaped*

In 2012, with the EAB infestation spread throughout the City, a comprehensive treatment plan was enacted. The City began to treat all healthy ash trees on the parkways. A combination of different treatment products are used depending upon the size and species of the ash tree. This aggressive, comprehensive treatment plan will continue while the beetle population is still very high. When all the untreated, private property ash trees have died, the beetle population is expected to drop due to the depleted food source. At that point, treatment intervals and intensity will taper.

Treatment is only one component of Naperville's EAB management program. Each tree is inspected annually, and any trees in poor condition are removed. Removed trees are replaced with a diversity of tree species. A strategic combination of treatment, assessment and removals will ensure a vibrant urban canopy for the coming decades. Ultimately, strategic treatment is cheaper than clear-cutting and replacing all the ash trees on Naperville's parkways.

What You Can Do About EAB

If you have an ash tree on your private property, treatment may be a viable option if the tree is still healthy. Consult a local arborist. Certified arborists can be found at www.isa-arbor.com/find-Arborist/findarborist.aspx. If your tree is beyond saving, then removal is necessary. Untreated ash trees are a food source for EAB and a hazard to the community. Hazardous trees are also a Municipal Code violation.

If you have an ash tree in your parkway, it will be treated by the City. To help improve the tree's chances of survival, adequate watering is essential. Homeowners are recommended to water their tree every week with less than 1 inch of rainfall from April to September. Watering during the 4-6 weeks after treatment are critical to ensure effective up-take of the treatment by the tree.

EAB can easily be transported in ash logs or firewood. Do not help spread EAB by transporting firewood. Infested material should not be stored.

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Further Information

Where to get advice on tree planting and maintenance

The Morton Arboretum

4100 Illinois Route 53
Lisle, IL 60532
(630) 968-0074
www.mortonarb.org

The National Arbor Day Foundation/Tree City USA

100 Arbor Avenue
Nebraska City, NE 68410
(888) 448-7337
www.arborday.org

US Forest Service Tree Owners Manual

<http://na.fs.fed.us/urban/treeowners-manual/>

City of Naperville Department of Public Works

180 Fort Hill Drive
Naperville, IL 60540
(630) 420-6095
www.naperville.il.us

This guidebook is designed to provide information about tree planting and help identify exotic pests like the Emerald Ash Borer.

This book also gives suggestions about proper tree planting and several tree care tips for your benefit.

We hope you will find this guidebook useful and informative for years to come.

Remember: Trees beautify our landscape, remove pollutants from the air, help control soil erosion, help reduce heating and cooling costs and can add considerable value to homes.



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In cooperation with the
Illinois Department of Natural Resources,
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