



# Planting the right tree in the right place

*A guide to utility-friendly tree planting*



# The right tree in the right place

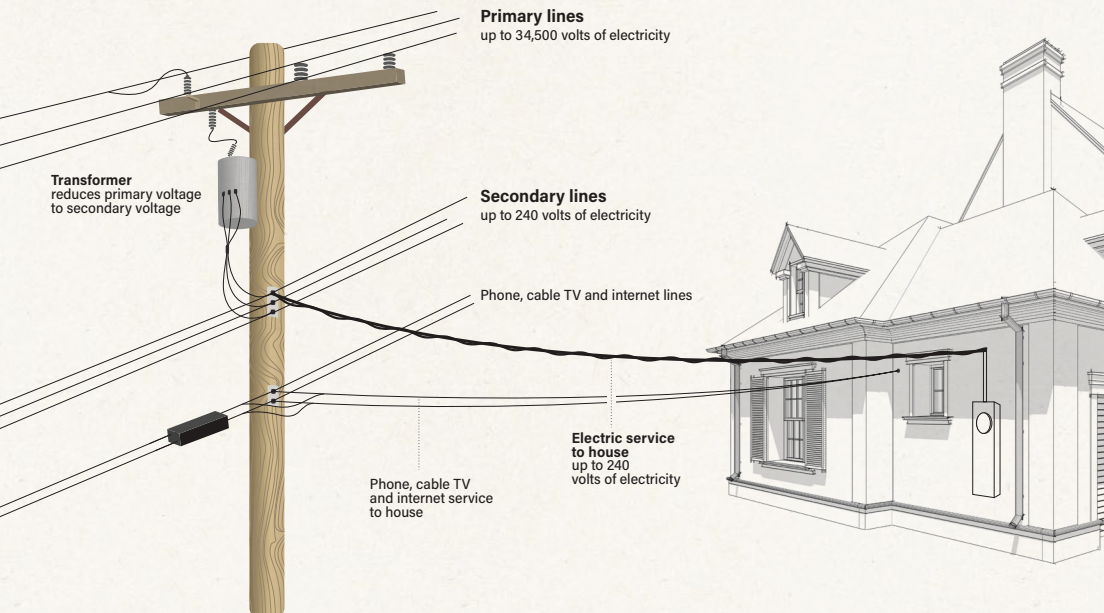
Planting the right tree in the right place can provide many benefits: Trees have positive health and environmental effects, they can increase your property value, and when planted properly, trees can decrease your energy costs.

Trees planted in the wrong place — too close to power lines or near underground energy facilities — can interfere with the delivery of safe, reliable energy service.

When trees contact power lines, power outages, fire hazards and safety hazards can occur. Digging and planting trees near underground electric lines or natural gas lines also can be dangerous if proper distance is not maintained.

Electric utility poles carry not only electric lines of various voltages, but also lines for phone and cable communications. On top are one to three primary electric lines that carry up to 34,500 volts. Below the primary lines, one to four secondary lines may each carry up to 600 volts. The electric line attached to your house is called the “electric service wire” and carries 240 volts. None of the electric lines are insulated. All overhead and underground wires to your home or business should be viewed as dangerous and life-threatening if touched.

## Common electrical distribution lines



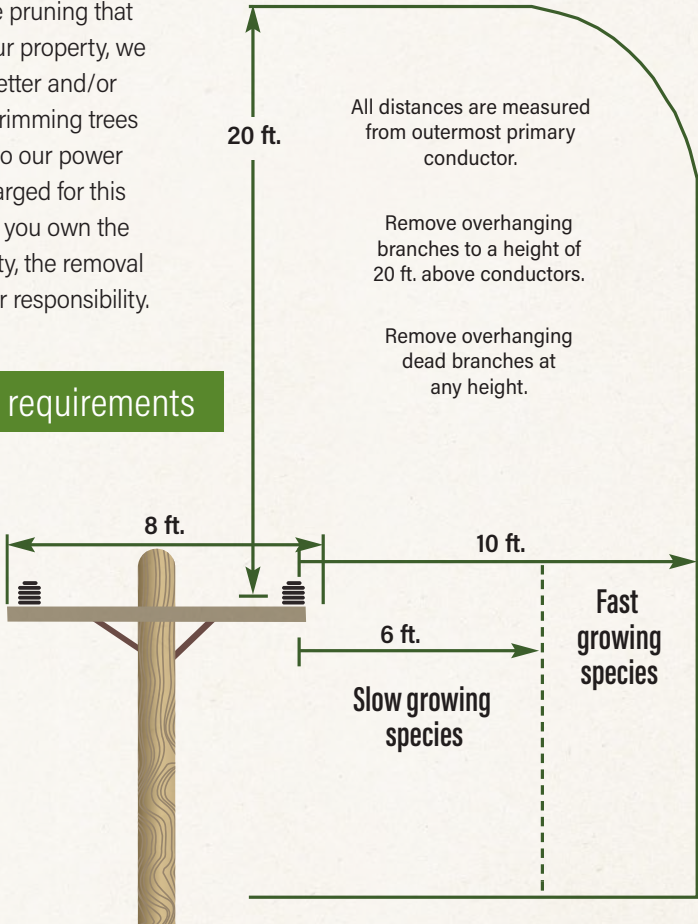


# Line clearance program

On average, we prune trees near power lines on a regular cycle that varies from six to eight years, depending on tree species and growth rates. We hire qualified line clearance contractors with trained personnel and specialized equipment to maintain the trees along thousands of miles of our power distribution system. For reliability and compliance with the National Electric Safety Code, line clearance crews follow specific clearing requirements to ensure trees or branches do not interfere with electric service before the next trim cycle.

Our line clearance crews use a method of natural or directional pruning, which is established by the National Arborist Association and recommended by professional foresters as the best method for maintaining tree health. We also instruct crews to remove trees that have fast-growing sprouts and weak wood, because they pose safety and reliability problems. Poplar, elm, willow, box elder and silver maple are typical examples of this type of tree. Other trees that are diseased or structurally weakened can be a hazard to the electric line and should be cut down. If we schedule pruning that includes trees on your property, we will contact you via letter and/or door hanger before trimming trees and limbs too close to our power lines. You are not charged for this service, but because you own the trees on your property, the removal of most debris is your responsibility.

## Primary clearing requirements




# Choosing the right location for your tree

One of the most important things to consider when planting a tree is the location of above- and below-ground utility lines. Contacting an underground electric or a natural gas line while planting can be deadly. Maturing trees can cause problems when growing too close to power lines. During storms, trees and branches can fall and knock down energized power lines. This can cause power outages, fires and shock hazards. You can help prevent these dangerous situations and losing part or all of a treasured tree by carefully choosing where to plant it.

## Consider energy savings

To reduce cooling costs, plant deciduous trees such as maples, lindens, hackberry or thornless honey locust about 15 feet to the south, southwest or west side of buildings to provide shade from summer sun.

To reduce heating costs, plant evergreens and shrubs on the north and west sides of buildings to block the wind. Plantings around the foundation also can help insulate against cold weather.

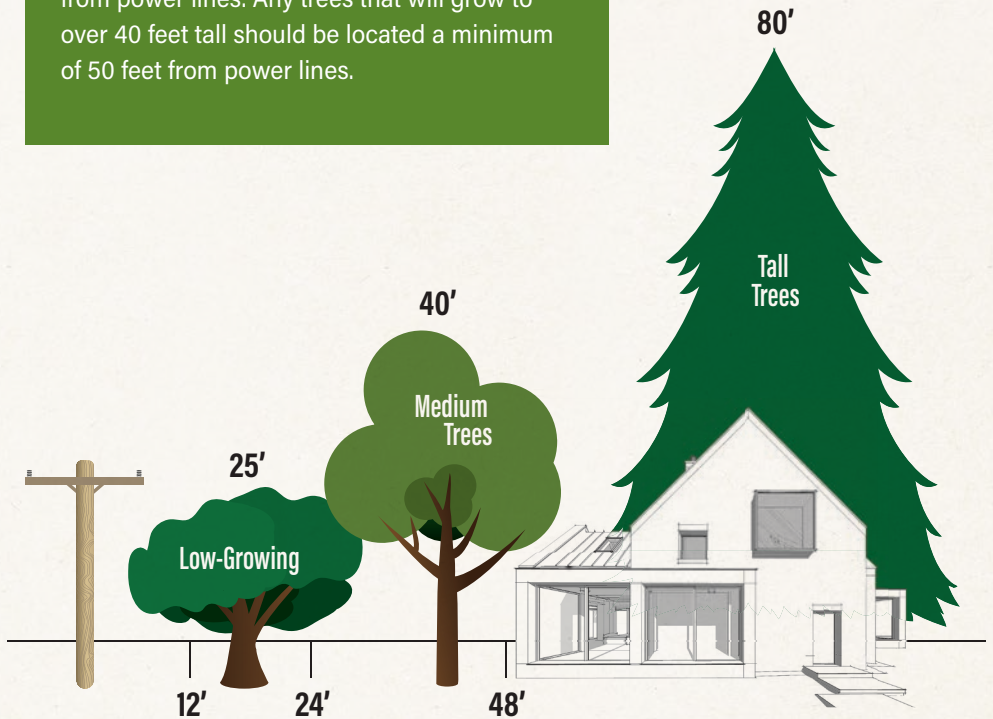
An illustration of a woman with brown hair tied back, wearing a red headband, a yellow shirt, and blue overalls, kneeling on a patch of brown soil. She is holding a small tree with green leaves. A shovel is stuck in the ground to her left. The background is a light blue cloud-like shape.

Planting trees  
in the right places  
can reduce your  
annual energy costs  
as much as 30%.



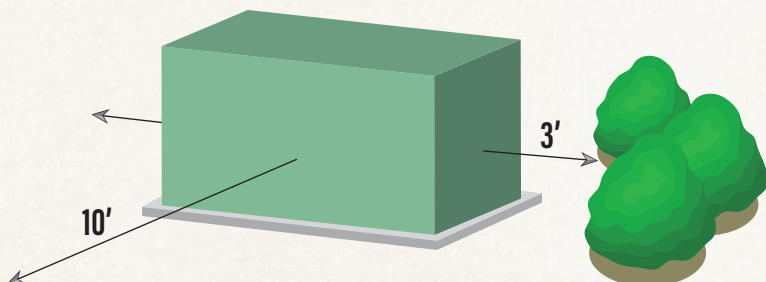
# Look up

While well-placed trees can help conserve energy and add to the appearance of your home, a tree in the wrong place can be harmful. Remember, the small tree you plant today will increase in size over many years. Make sure you give the tree adequate room to grow. Never plant trees with a mature growth height of greater than 25 feet directly below overhead power lines. Trees reaching 25 to 40 feet in height should be planted at least 30 feet from power lines. Any trees that will grow to over 40 feet tall should be located a minimum of 50 feet from power lines.



# Be aware of your surroundings

Utility workers need space to access meters and pad-mounted electrical transformers on your property. When planting, plan for adequate room around these locations to ensure the delivery of efficient service. We recommend at least a 10-foot clearance in front of transformers and a 3-foot clearance around the sides and rear.



If you need to prune or remove a tree to complete your landscape plan, call us before you cut down any trees or tree limbs near electric lines. Touching a tree limb in contact with an electric line is extremely hazardous and life-threatening. We will make the area safe, so you or your contractor can complete the job safely.





# Locate underground facilities — call 811 before you dig

Underground electric lines and natural gas lines, though unseen, require space of their own. Planting shrubs and trees over underground lines is not recommended because of future maintenance that may be required on these lines. An 8-foot-wide strip centered over an underground line is sufficient space for future maintenance needs.

Always contact your utility locating service to mark any underground services before you start planting. Call 811 to have underground utilities marked at least three working days before you start any digging project, including tree or shrub planting. This free service can help you stay safe and avoid costly damage to buried utilities. And it's the law — so, call before you dig.



**Know what's below.  
Call before you dig.**



# Power line-friendly trees

Below is a list of power line-friendly trees. These hardy choices work well throughout our region. Some plants prefer certain locations in the landscape and certain soil types. The list is not all-inclusive but is a good reference for choosing your tree. For more information and recommendations, consult your local library, city forester, county horticulturist, local nursery specialist or online resources.

| SHRUBS (4'-10' in height) Plant 0'-12' from power line |        |           |
|--------------------------------------------------------|--------|-----------|
| Common name                                            | Height | Form      |
| Arrowwood Viburnum                                     | 10'    | Vase      |
| Common Witchhazel                                      | 10'    | Spreading |
| Dwarf Common Ninebark                                  | 9'     | Rounded   |
| Early Forsythia                                        | 10'    | Mounded   |
| Fragrant Sumac                                         | 8'     | Mounded   |
| Red Osier Dogwood                                      | 9'     | Spreading |

| TALL SHRUBS (6' - 20' in height) Plant 12' - 24' from power line |        |           |
|------------------------------------------------------------------|--------|-----------|
| Common name                                                      | Height | Form      |
| American Hazelnut                                                | 12'    | Rounded   |
| Blackhaw Viburnum                                                | 15'    | Spreading |
| Gray Dogwood                                                     | 15'    | Erect     |
| Nannyberry Viburnum                                              | 15'    | Upright   |
| Pagoda Dogwood                                                   | 20'    | Spreading |





## **SMALL TREES (12' - 20' in height) Plant 12' - 24' from power line**

| Common name         | Height  | Form      |
|---------------------|---------|-----------|
| American Hornbeam   | 15'-18' | Spreading |
| Amur Maple          | 15'-18' | Round     |
| Cockspur Hawthorn   | 15'-18' | Spreading |
| Eastern Redbud      | 12'-18' | Spreading |
| Flowering Crabapple | 15'-20' | Several   |
| Japanese Tree Lilac | 15'-20' | Upright   |
| Japanese Maple      | 15'-20' | Round     |

## **MEDIUM TREES (20'-45' in height) Plant 24'-48' from power line**

| Common name         | Height    | Form      |
|---------------------|-----------|-----------|
| American Arborvitae | 20'-30'   | Pyramidal |
| Amur Chokecherry    | 20'-30'   | Round     |
| Hophornbeam         | 30'-35'   | Pyramidal |
| Ohio Buckeye        | 20'-40'   | Round     |
| Serviceberry        | 20'-25'   | Spreading |
| Washington Hawthorn | 20' - 30' | Upright   |

## **LARGE TREES (30'-70' in height) Plant more than 48' from power line**

| Common name         | Height  | Form      |
|---------------------|---------|-----------|
| Birch               | 40'-70' | Pyramidal |
| Spruce              | 30'-60' | Pyramidal |
| Ginkgo              | 40'-60' | Columnar  |
| Hackberry           | 40'-60' | Vase      |
| Honeylocust         | 40'-60' | Upright   |
| Kentucky Coffeetree | 50'-70' | Upright   |
| Larch               | 40'-70' | Pyramidal |
| Linden              | 35'-50' | Pyramidal |
| Oak                 | 50'-70' | Round     |
| Maple               | 40'-70' | Round     |
| Fir                 | 30'-50' | Pyramidal |

# Safety tips

1

**Call 811** to have your underground utilities marked at least three business days before you plan to plant a tree or do any digging.

2

Never prune trees near power lines yourself. Pruning near power lines only should be done by a utility line clearance arborist. Report trees with branches growing near power lines by calling **800-450-7260**. We will evaluate and determine the best course of action.

3

Extensive tree trimming and tree removal are best left to professionals. Visit **waa-isa.org** to find a certified arborist in your area.

4

Check existing ash trees for signs of emerald ash borer. Removing those infected trees could prevent them from falling in a storm.

5

Consider replacing tall-growing trees that are planted under power lines before they can cause problems. Low-growing trees and bushes are safe near power lines.

6

Never climb utility poles or touch electric power lines.

7

Never let children play in trees growing near power lines.

8

Don't build a tree house or anything else in a tree near a power line.

9

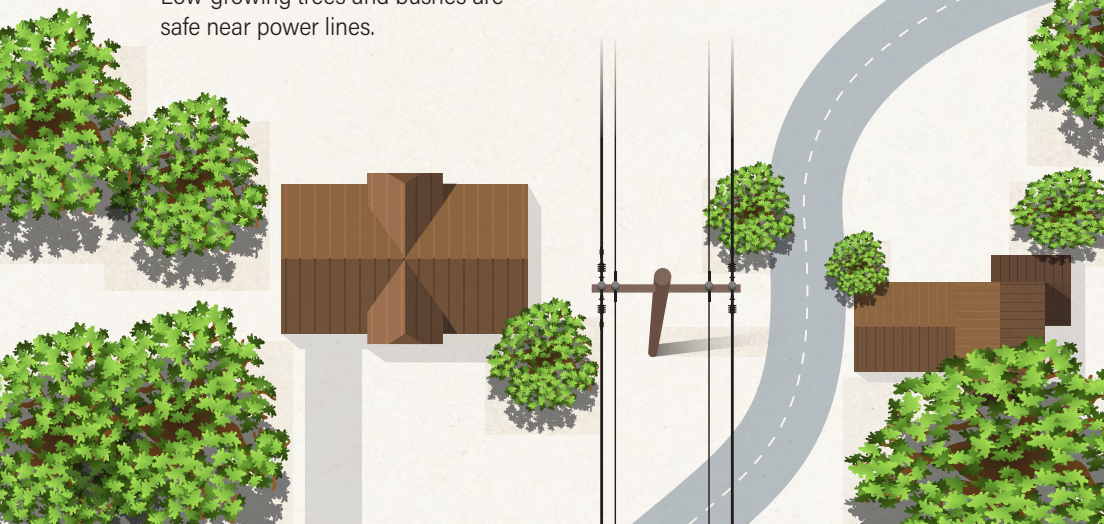
Trees are not a safe shelter in a lightning storm. A tall, wet tree can attract electricity by acting as a lightning rod.

10

Never touch a fallen power line, even if it's not sparking. If you see one, call us immediately.

11

**Always plant the right tree in the right place.**







## More information

### Wisconsin Public Service

#### Customer service

800-450-7260

[wisconsinpublicservice.com](http://wisconsinpublicservice.com)

#### Forestry department

[www.wisconsinpublicservice.com/services/tree](http://www.wisconsinpublicservice.com/services/tree)

#### Natural gas leak and/or natural gas safety hazard

800-450-7280

#### Power outage and/or electric safety hazard (non-medical)

800-450-7240

### Digging

#### Diggers Hotline (Wisconsin)

811 or 800-242-8511

#### Miss Dig (Michigan)

811 or 800-482-7171

### Other resources

#### Wisconsin Arborist Association

[waa-isa.org](http://waa-isa.org)

#### Wisconsin Department of Natural Resources

[dnr.wisconsin.gov](http://dnr.wisconsin.gov)

#### UW-Extension

[hort.extension.wisc.edu](http://hort.extension.wisc.edu)

#### ATC

[atcllc.com](http://atcllc.com)

#### National Arbor Day Foundation

[arborday.org](http://arborday.org)



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Sponsored by the Arbor Day Foundation, WPS has been an annual award recipient of the Tree Line USA award for our practices in utility arboriculture. Tree Line offers great information for utilities, communities and anyone interested in best tree care practices.

