

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.

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.

25'

Low-Growing

24'

12'

40'

Medium Trees

48'

80'

Tall Trees

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.



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

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

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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 **800-242-9137**. 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.

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

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. Never climb utility poles or touch electric power lines.



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



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

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

Always plant the right tree in the right place.



More information

We Energies

Customer service 800-242-9137 we-energies.com

Forestry department we-energies.com/forestry

Natural gas leak and/ or natural gas safety hazard 800-261-5325

Power outage and/or electric safety hazard (non-medical) 800-662-4797

Digging

Diggers Hotline (Wisconsin) 811 or 800-242-8511

Miss Dig (Michigan) 811 or 800-482-7171



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

Other resources

Wisconsin Arborist Association waa-isa.org

Wisconsin Department of Natural Resources dnr.wisconsin.gov

UW-Extension hort.extension.wisc.edu

ATC atcllc.com

National Arbor Day Foundation arborday.org





We Energies has been a certified Tree Line USA utility since 1999. The Tree Line USA program is sponsored by the National Arbor Day Foundation in cooperation with the National Association of State Foresters and recognizes public and private utilities across the nation that demonstrate practices that protect and enhance America's urban forests.

