

TREE STAND

A tree stand is a simple treatment consisting of a small number of tightly-spaced trees planted on a vacant lot. Not only can tree stands add beauty and interest to your community, they can improve air quality, create shade, and facilitate stormwater management. When planted strategically trees in stands can also create natural barriers on vacant lots, decreasing the incidences of dumping and other illegal activity. Trees take about three years to become established in their new environment and will beautify your community for years to come. Split-rail fencing or landscaping with flowers or shrubs adds extra curb appeal.



PROJECT STEPS



LAND TENURE

- Legal ownership, a lease or some form of standing is recommended since trees are a long-term treatment.

IDEAL LOCATION

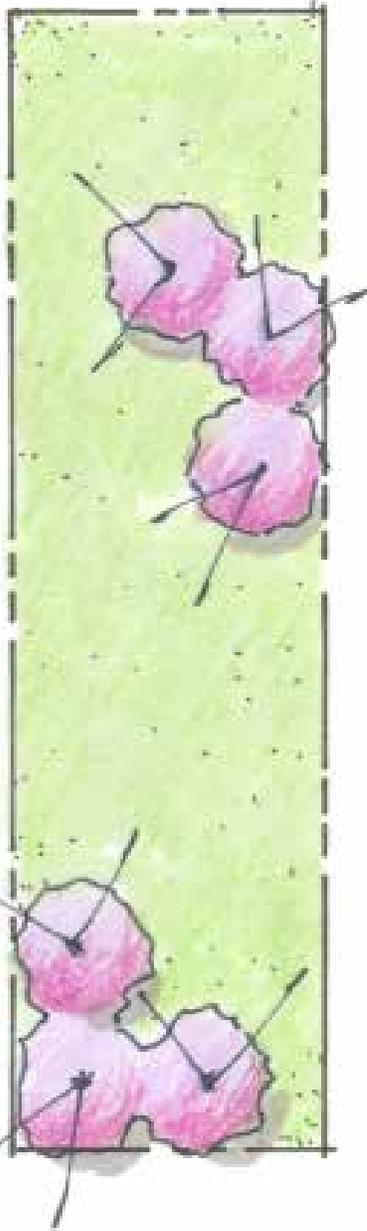
- At least one full lot (30 by 100 feet). Multiple lots will accommodate more trees.

SOIL REQUIREMENTS

- Fertile, well-draining soil to accommodate growth of tree roots.

WATER REQUIREMENTS

- A water source should be located close by because trees need to be watered weekly for the first three years.



TREE STAND

SUPPLIES & EQUIPMENT

- Trees
- Mulch
- Tree Guards
- Shovels
- Wheelbarrows
- Pitchforks
- Pick Axes
- Buckets
- Tree watering bags (optional)

BEFORE



AFTER



PLANNING

- When creating your planting plan, consider how the placement of trees might prevent or encourage certain activities from occurring on the lot. If residents often walk through the lot, consider planting trees around the existing path to accommodate foot traffic.
- Choose tree species that thrive in urban environments. These trees are better able to deal with poor soil conditions, road salt, and pollution found in urban areas. See Tree Appendix for details on specific types.
- Trees native to the area tend to be more resistant to climate, diseases, and pests. They also require less maintenance and replacement, which makes them great planting choices. Be sure to diversify the species you choose to plant.
- Adding fencing or native flowers can add extra curb appeal to the tree stand. See the Hardscape and Native Plant appendix for details.
- Create your planting plan, placing trees at least 15 feet apart and 15 feet away from sidewalks, roads or buildings.
- Trees can be planted either in fall or spring. Order trees two months in advance from a recommended source in the Tree Appendix.

IMPLEMENTATION

- Balled and burlapped or containerized trees between 1 and 2 inches in diameter are ideal for Tree Stands. Be sure to keep tree roots moist prior to planting.
- Plant trees according to the planting plan. See the Tree Appendix for planting ball and burlapped trees.
- Once the hole is filled in, top with 2 to 3 inches of mulch. Follow instructions in the Tree Appendix for proper mulching.
- Give each tree 15 gallons of water after planting. Water slowly so the water soaks down into the roots.

ON-GOING CARE

- Weekly maintenance: From April to October in year 1 water once a week giving each tree 5 gallons. Trees are dormant from November to March and therefore do not need to be watered. In year 2, watering can decrease to 5 gallons every other week from April to October. Replace mulch as needed.
- Yearly maintenance: In year 3 and beyond watering is only necessary during droughts. Check the site for mowing and weeding needs. Pruning is only needed when branches appear to be dead or diseased. Trees that are leaning should be staked to promote upright growth.



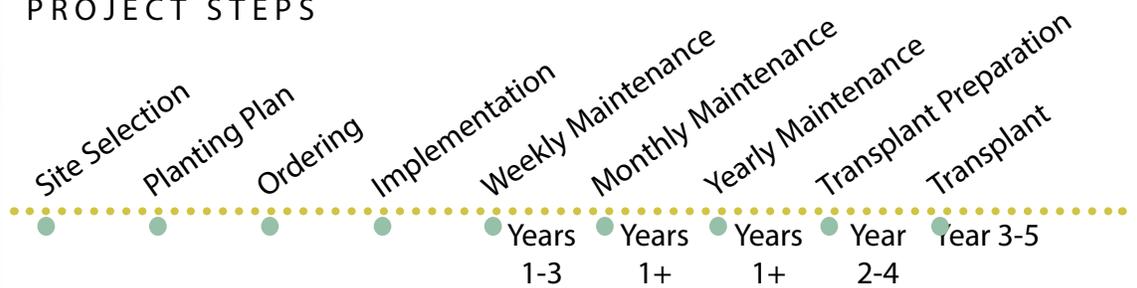
Vacant lot treatment guides in the series include clean + clear, creative mowing, cut flower stand, tree stand, tree nursery, community garden, market garden, orchard, native planting, and pocket park. Treatment guide appendices for cut flowers, trees, orchards, native plants, and hardscape are also available. For more information contact Keep Growing Detroit at keepgrowingdetroit@gmail.com.

TREE NURSERY

Tree nurseries are an exciting opportunity to beautify vacant lots in your neighborhood in the short term and improve environmental quality and increase the tree canopy in your community in the long-run. Young trees are planted and allowed to grow for three to five years in the nursery. They are then harvested and permanently re-planted as street trees or in public areas like parks in your community. Planting trees grown in urban nurseries increases survivability after transplanting because the trees are already acclimated to urban soil and conditions. Trees can also be sold, however the nursery must be certified by the State of Michigan.



PROJECT STEPS



LAND TENURE

- Trees grow in the nursery for 3-5 years before harvest, so legal ownership or a lease is recommended.

SOIL REQUIREMENTS

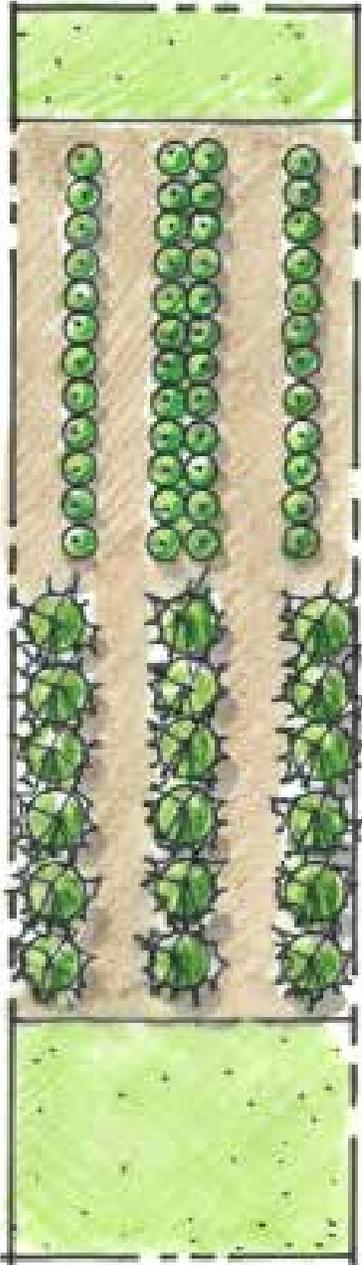
- Well-drained soil.
- Soil that is not compacted.

IDEAL LOCATION

- At least one full lot (30 by 100 feet) to hold a maximum of 75 trees.
- Avoid areas subject to flooding, which weakens trees and increases the chance of disease and insect problems. Vacant lots experiencing seasonal flooding are manageable, however tree species should be chosen accordingly.
- The lot should be relatively free of large rocks and other large debris. Check for buried sidewalks or driveways.
- Sites with a slight slope are ok, but major slopes and hills should be avoided.

WATER REQUIREMENTS

- Close access to water is necessary because watering is required once a week from April to October.
- An irrigation system, such as drip tape, may be necessary if soil is very sandy, as sandy soil has low water-holding capacity.



TREE NURSERY

SUPPLIES & EQUIPMENT

- Trees
- Mulch
- Tree guards
- Tiller
- Shovels
- Pitchforks
- Loppers
- Rainbarrels (optional)
- Wheelbarrow
- Lawn mower
- Perennial flowers (optional)

PLANNING

- Start small with your tree nursery to make sure you can handle the workload. If you have success maintaining the trees in the first and second years, consider expanding.
- Choose a variety of species to promote a diverse tree canopy. The Dutch Elm Disease and the Emerald Ash Borer reduced Michigan's tree canopy severely because too many of the same species were planted. It is important to note that some varieties can not tolerate salt and pollution. See the Tree Appendix for recommended varieties.
- Leave original nursery tags on or mark each tree with its species and variety to make transplanting easier. Vinyl tags with metal wire are a good option.
- If including perennial flowers, see the Native Plant Appendix for suggested varieties.
- By planting evergreen trees, you can create a Christmas Tree Farm. These trees are mature when they reach 6 to 7 feet, which may take 7 to 10 years. Good varieties include Balsam Fir, Douglas Fir, Fraser Fir, Noble Fir, Scotch Pine, Virginia Pine, and White Pine.
- Decide what species of trees to plant and create a planting plan. Keep all trees at least 15 feet away from roads and sidewalks. Trees should be planted in rows at least 5 feet apart, with trees spaced at least 4 feet apart within the row to ensure access for maintenance.

IMPLEMENTATION

- Trees for nurseries are called whips and are about 1/4 inch in diameter. They come in containers or as bare-root trees. Bare root trees should be planted within 3 days of arrival so their delicate roots do not dry out.
- Mark out the locations for the trees according to the planting plan.
- To plant trees, see Tree Appendix for a detailed guide to planting bare-root or container trees.
- After trees are planted, give each 5 gallons of water. Mulch according to the instructions in the Tree Appendix.
- Place tree guards on the trees to protect the delicate bark.

ON-GOING CARE

- Weekly maintenance, years 1-3: each tree should receive 5 gallons of water weekly from April to October. Trees are dormant from November to March so they do not need to be watered during those months.
- Monthly maintenance: In all years, weeding should occur as needed so trees are not competing with weeds for nutrients. Trees may need to be staked if they begin to lean. Staking should only be temporary as this may cause the root system to be weakened. Inspect trees for insects and pests, and mow the lot as needed to keep it looking tidy.
- Yearly maintenance: Check trees in the spring for any dead or broken branches and remove them. Corrective pruning can be done after year 1 if needed. Remove any low-hanging branches to make them suitable street trees. See the Tree Appendix for proper pruning techniques. Compost can be added if plants appear to need extra nutrients. If mulch has decomposed, add another 2 to 3 inch layer.
- Transplant: To prepare for transplanting trees, root-pruning, which is breaking the roots around the tree for easier removal, should be done 6 to 12 months before transplanting. Trees should be removed from the nursery when the trunk is 1 inch in diameter, and will occur in the spring or fall of years 3-5. This can be done by hand, however if the trunk grows over 1.5 to 2 inches in diameter machinery will be needed.

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TREE APPENDIX

DEFINITIONS

- **Ball & Burlapped:** Trees stored with soil around their roots which is held in place by burlap, twine, and a metal cage. Trees wrapped in burlap can be stored the longest before transplanting as the burlap breathes easily and keeps roots moist. These trees not appropriate for tree nurseries.
- **Bare-root:** Trees that are dug and stored without soil around their roots. They are easy to plant because they weigh much less than ball and burlapped trees, but cannot be stored as long because roots dry out quickly. These trees are appropriate for orchards, tree nurseries, and tree stands.
- **Container:** Trees stored in a plastic container with soil around their roots. These trees are appropriate for pocket parks, tree nurseries, and tree stands but are prone to circling roots.
- **Whip:** A very young tree that is about 1/4 inch in diameter.



Ball & burlapped trees



A bare-root tree



Container trees



A properly-formed mulch ring

PLANTING INSTRUCTIONS

The Basics

- Determine the depth of hole by locating the tree's root collar (where the trunk begins to flare out into the roots). This should be even with the ground when planted.
- Dig a hole that is as deep as and twice as wide as the tree's roots.
- Remove the sod first, keeping it in a separate pile from the fill dirt.
- Fill in the hole with fill dirt, compacting as you go to prevent air pockets.
- When the hole is filled, place the sod grass-side down in a circle around the hole to create a berm.

Ball & Burlapped

- Gently roll the tree into the hole. It may take 2 or 3 people to get the tree in the ground with minimal damage because ball and burlapped trees are often very heavy. Make sure the trunk of the tree is straight. If the trunk has a curve to it, use the bottom 12 inches as a guide to get the tree placed in the correct position. Once in place, stabilize the tree by packing soil into the base of the hole.
- Fold down the metal frame on the root ball. Cut the twine holding the burlap in place, and fold down the burlap into the bottom of the hole.

Bare-root

- Prune any damaged or excessively long roots prior to planting.

Container

- Gently pull the tree, roots, and soil out of the container. Using a knife, make four cuts down the sides of the container to break any circling roots, and loosen roots on the bottom. Place the tree in the hole and stabilize so the trunk is straight.

MULCHING

- Mulch is beneficial for a number of reasons; not only does it break down and provide nutrients to plants, but it helps retain moisture in the soil.
- When planting trees, the final step is creating the berm. After the sod has been layed grass-side down around the hole, cover all exposed dirt and sod with a 2-3 inch layer of woodchips. This will keep water near the roots.
- Brush away any woodchips that are within 6 inches of the tree's trunk. It is important to keep this area free of woodchips to prevent the trunk from rotting at its base. The mulched area should look resemble a donut.

TREE APPENDIX

TREE NURSERY HARVEST & POST-HARVEST CARE

- Root-pruning is done by using a shovel to sever the roots around the base of the tree to reduce the size of the root system. It should be done 6 to 12 months before transplanting, either in spring or fall.
- After trees are removed from the ground, they should be planted immediately. Hydrogel, which is a water-absorbing compound, may be used to keep the roots moist if trees cannot be planted immediately. Trees may also be stored with roots in water 12 to 24 hours before planting instead of using hydrogel.

YOUNG TREE PRUNING

- Pruning offers many benefits to plants and the overall landscape. Reasons for pruning include training the tree to grow in the proper shape, maintaining and improving the health of the trunk, branches, and foliage.
- In nursery trees, pruning should not occur until trees are in their second year and should be done in late winter or early spring. At that point, only corrective pruning should be done. This means removing dead, broken, or diseased branches.
- Scaffold branches, which grow off the main trunk, should form an angle between 60 and 70 degrees. Branches should be spaced at least 8 inches apart on the trunk, but 20 to 24 inches is ideal.
- There should be 5 to 7 scaffold branches around the trunk of the tree that do not overlap. Overlapping branches prevent lower limbs from getting adequate light.
- Often, more than one central leader forms on young trees. Only one is needed, so the weaker leader(s) should be removed.

RESOURCES ONLINE:

NCSU Best Management Practices
www.bae.ncsu.edu/programs/extension/ag-env/nursery/index.html

St. Louis Urban Tree Farms
www.eslarp.uiuc.edu/la/LA341-F96/treefarm/treefarm.html



RECOMMENDED TREE SPECIES

Common Name	Latin Name	Spread	Height	Attributes
Autumn Brilliance Serviceberry	<i>Amelanchier grandiflora</i>	18 to 24 feet	20 to 25 feet	Ornamental
Eastern Redbud	<i>Cercis canadensis</i>	10 to 20 feet	15 to 25 feet	Ornamental
Japanese Tree Lilac	<i>Syringa reticulata</i>	Up to 15 feet	Up to 20 feet	Ornamental
Paperbark Maple	<i>Acer griseum</i>	8 to 15 feet	20 to 25 feet	Ornamental
Red Flowering Dogwood	<i>Cornus florida</i> "Cherokee Brave"	Up to 15 feet	Up to 18 feet	Ornamental
Thornless Hawthorn	<i>Crataegus</i> "Crusader"	15 to 20 feet	20 to 25 feet	Ornamental
Bloodgood London Plane	<i>Platanus acerifolia</i> "Bloodgood"	40 to 50 feet	60 to 70 feet	Shade
Frontier Elm	<i>Ulmus</i> "Frontier"	Up to 30 feet	Up to 40 feet	Shade
Hackberry	<i>Celtis occidentalis</i>	Up to 40 feet	Up to 60 feet	Shade
Legacy Sugar Maple	<i>Acer saccharum</i>	15 to 20 feet	30 to 40 feet	Shade
Littleleaf Linden	<i>Tilia cordata</i> "Greenspire"	15 to 30 feet	40 to 50 feet	Shade
Northern Red Oak	<i>Quercus rubra</i>	45 feet	60 to 80 feet	Shade
Swamp White Oak	<i>Quercus bicolor</i>	45 to 60 feet	45 to 60 feet	Shade
Tulip Tree	<i>Liriodendron tulipifera</i>	20 to 40 feet	40 to 60 feet	Shade

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