

CARBONDALE TREE BOARD

TREE PLANTING, MAINTENANCE AND PROTECTION GUIDELINES

PLANTING AND MAINTENANCE STANDARDS:

- Please handle trees by the wire basket around the root ball and not by the trunk.
- Excavate the planting hole 2-3x the diameter of the root ball, i.e., If the root ball is 30" in diameter, dig a 60-90" wide hole. Wider holes are recommended for areas that have compacted or less favorable soil conditions. The bottom of root ball shall sit on native, unexcavated soil to prevent settling. The sides of the hole shall be dug at a taper so that the top of the hole is 2-3x wider than the root ball and the bottom of the hole is approximately 12" wider than the root ball (Fig. 1). The trunk flare of the tree shall determine the depth of the planting hole. Expose the trunk flare if it is buried below soil in the root ball (Fig. 2). The bottom of the trunk flare shall be placed slightly higher than the top of the planting hole.

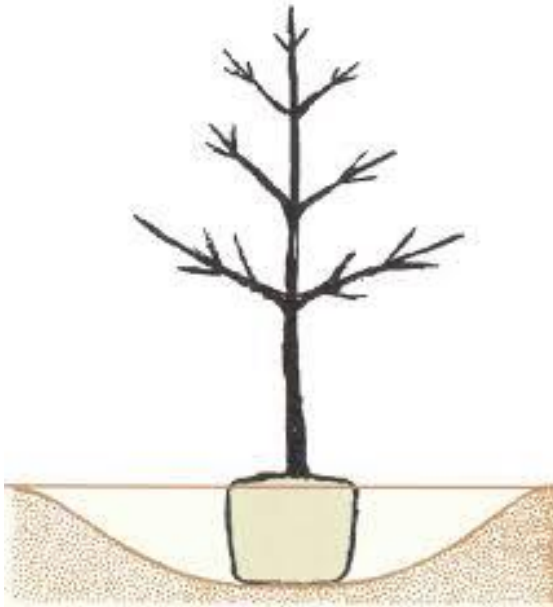


Fig. 1

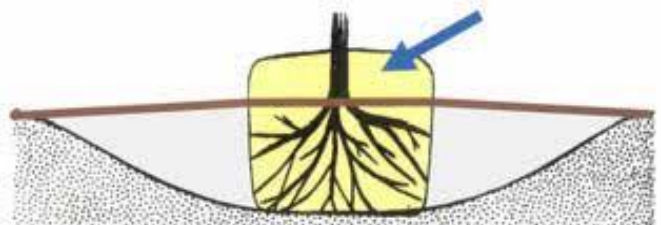


Fig. 2

- Use your shovel to roughen up the sides of the planting hole to allow for the roots to spread easier. Roots have a difficult time trying to break through smooth/shiny compacted soils on the sides of the hole.
- “Plant them high, never die. Plant them low, never grow” It is preferred that trees send their roots deeper and outwards to find water. If trees are sitting in a holes that always stay wet, trees will be susceptible to girdling, root/trunk rot and poor growing conditions.

- Carefully remove the very bottom row of the wire basket and burlap. Now is also a good time to remove any twine used to tie up the tree canopy tighter for transport. Place the tree into the planting hole.
- Once in the hole, center the root ball and stand the tree upright and straight. Carefully remove the remaining wire basket, burlap and any twine that was used to prepare the tree's root ball for transport.
- Check the root ball for girdling (circling) roots. Gently separate them and guide them downward or outward. Trim any broken roots you may encounter with a sharp pair of hand pruners.
- Take a step back and view the tree from all direction to ensure it is planted straight. Using a plum bob can assist with this task. Tilt the root ball where necessary and pack soil firmly around the base of the root ball so tree stands straight on its' own.
- **DO NOT USE ANY FERTILIZER DURING PLANTING OR FOR AT LEAST 1 YEAR AFTER PLANTING, USE MYCORRHIZAE.** A mycorrhizae application will help nurture the symbiotic relationship between a fungus and a plant needed to assist with nutrient uptake.
- Fill the planting hole halfway with loose soil and ensure the tree is still straight. Discard rocks, clumps of sod and any trash rather than placing it in the planting hole. Ideally, all native soil will be used for backfilling. If additional topsoil is necessary, mix it well with the native soil so that it is evenly distributed around the planting hole.
- Use a gentle stream of water to settle the soil in the planting hole. **DO NOT COMPACT SOIL WITH TOOLS OR FEET.** The air and moisture pockets created by gentle soil settling are crucial to the performance of the tree.
- Fill the planting hole the rest of the way and continue to settle the soil with a gentle stream of water. **DO NOT PLACE ANY SOIL ON TOP OF THE ROOT BALL.**
- Place mulch over the planting area rig at a depth of 4". Ensure that no mulch is touching the trunk of the tree. Mulch will assist with water retention and slowing weed growth.
- Water the root ball well. Water over the entire area that has been mulched. The soil 4' - 10" below the surface should be wet enough that when it is squeezed it forms a clump in your hand, but not wet enough to be soggy. See the Watering Guidelines on Page 4 for more information.
- Trunk wrap is encouraged during the colder months where the sun angle is low. This will help keep thinner barked trees from getting sunscald and frost cracks. Tree wrap shall be installed after the new trees lose their leaves in Fall and removed when trees begin to break bud in Spring. Trees shall be wrapped for a minimum for 3 years, seasonally as described, after tree has been planted.

- Tree staking is generally unnecessary. In areas where necessary, due to prominent prevailing winds or when planting bare root trees, 2 stakes shall be used on deciduous trees and 3-4 on conifer trees. Drive stakes in the ground outside of the canopy/root ball so that they are firm and do not move when pushed/pulled. Place flexible tree ties just below the lowest branches and allow trunk movement, enabling the tree to grow stronger roots and develop a good trunk taper (Fig. 3).

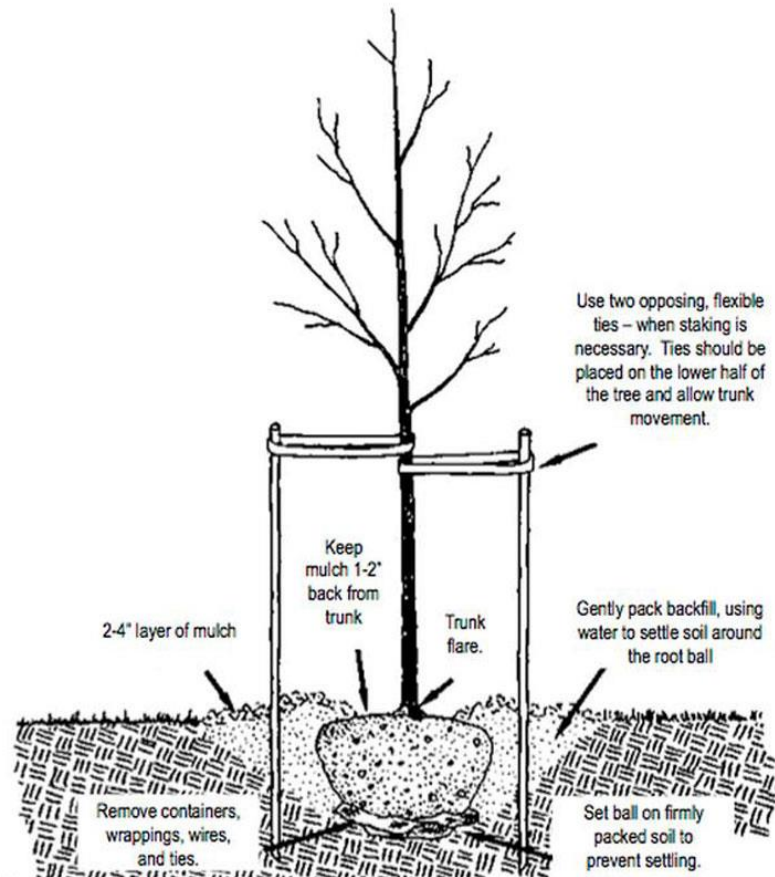


Fig. 3

- Place a cage around the tree to protect it while getting established. 2" x 4" wildlife fencing at 6' height is strongly encouraged. During the late Fall and Winter months, Mule Deer will be looking to rub their antlers on soft, young trees. Wildlife fencing will discourage them and give the tree a chance to grow.
- Planting Season can vary. Spring and Fall are ideal times to plant, avoiding the hot summer sun in July and August. Fall planting shall be done early enough to allow trees to acclimate to their new home prior to Winter.

- Trees shall be given a healthy watering once per week in Spring and Fall and twice per week during periods of drought and extreme heat. Dormant season watering is recommended during the shoulder seasons before and after irrigation systems are turned off and during periods of drier weather. See the Watering Guidelines on Page 5 for more information.

TREE PROTECTION STANDARDS:

- No tree shall be removed from the public right-of-way or Town property without approval from the Public Works Department. Any tree that has been removed shall be replaced with an appropriate species 2.5" caliper or larger at the discretion of the Public Works Director or Town Arborist in accordance with the Town of Carbondale Municipal Code Article 5, Sections 7-5-10 and 7-5-20.
- Protect existing trees and vegetation to remain during construction against unnecessary cutting, breaking or skinning of roots, skinning or bruising of bark, smothering of tree/plant root zones with construction/excavated materials and compaction of the root zone by foot, vehicular or machine traffic.
- **DO NOT** wash out concrete trucks or put excess concrete near trees or plants. **DO NOT** wash out painting supplies, tools or buckets that may contain paint/stain/solvent that will harm the tree.
- Prior to excavation, locate a 4' tall orange synthetic fence or a 6' tall temporary chain link panel fence outside of the dripline of the tree. The dripline is the area defined by the outermost circumference of a tree canopy where water drips from and onto the ground. In circumstances where construction must take place within the dripline of existing trees, locate the temporary fencing at the excavation boundary. There may be instances where the root zone expands beyond the dripline of the tree (columnar species). In these instances, fencing location shall be a minimum of 6' from the trunk or in a location determined by Town Arborist during a pre-construction meeting. Fence trees as a group wherever it is possible.
- During excavation, saw or prune roots with clean cuts. Cuts should be made flush with the trench wall. **DO NOT** pull on or break the roots with the bucket of the machine.
- For trees adjacent to excavation areas and along paths/roads, tie up branches of the trees so that machinery and trucks do not damage the tree. In places where construction traffic will cross over the root zone, place 4"-10" of mulch in area and cover with double overlapping plywood sheets to reduce compaction of soil and root zone. Site protection work shall take place prior to any excavation work.
- Provide protection for roots over 1.5" diameter that are cut during construction. Temporarily cover the exposed roots with wet burlap to prevent drying out. Cover exposed roots with soil as soon as possible.

TREE WATERING GUIDELINES:

- Water deeply and slowly. Apply water so it moistens the critical root zone (from near the trunk of the tree to the dripline) to a depth of 12 inches. Methods for watering include a deep root fork or needle, soaker hose or soft spray wand. Apply water to many locations under the dripline. If a deep root fork or needle is used, insert the device no deeper than eight inches into the soil.
- Consistent moisture is essential. Maintaining consistent soil moisture allows for better root water absorption. Drought stressed or over-watered trees are more vulnerable to disease and insect infestations, as well as branch dieback.
- Generally, a newly planted tree should be watered every three to five days during the growing season, depending on weather and soil conditions. Remember that newly planted trees also need water during dry periods in the winter months. Try to water at least once a month in the dormant season.
- Use the following “rule of thumb” for applying the proper amount of water: apply 10 gallons of water per inch of tree diameter; for instance, a one-inch tree will require 10 gallons of water each time it is watered. For mature trees 10 inches in diameter or more, apply 15 gallons of water per inch of tree diameter. Use a ruler to measure your tree’s diameter.
- Mulch helps conserve and is critical to soil moisture. Apply organic mulch within the drip line, at a depth of three to four inches. It is best to eliminate turf prior to adding mulch. Leave a six-inch space between the mulch and trunk of trees. Mulch materials may include wood chips, bark or leaves.



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