SELECTING THE RIGHT TREE
FOR THE RIGHT LOCATION
…and how to properly plant that tree!

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CASTLE PINES NORTH
METROPOLITAN DISTRICT™

Environmental Factors to Consider

- Minimum temperature the tree will tolerate - Hardiness Zone Maps
- Moisture requirements - Irrigated lawn area? Dryland area?
- Light requirements - Shade tolerance of the species
- Pests - Avoid species that are problematic
- Soil type - Soil depth, structure (sand, clay), pH
- Air Pollution - Salt tolerance, where deicers are used

Tree Factors to Consider

The Tree's Purpose

- Shade - Plant trees where you want the shadow to be during the hottest time of the year, and the time of day you desire shade.
- Aesthetics
  - Never plant trees where it will split your lot or view into equal halves.
  - Use your trees to enhance the house and lot (framing, background, separate spaces, provide space enclosure).
  - Accent plantings (form, shape, size, color, texture) - The more of these 5 characteristics, the stronger the emphasis or contrast.
- Windbreaks and Screens
  - Low branching conifers are most effective for screening unsightly areas.
  - Noise is best screened by tall densely planted trees with broad leaves. Dust filtration with a combination of the two.
  - Windbreaks also most effective with a combination of the two in a dense, step-like arrangement.
  - On south and east sides use deciduous species (allows incoming solar radiation in the winter).
- Boundaries
  - Trees can help delineate your property.
  - Small, narrow-crowned species will do the job while not invading your neighbor's space.

Size and Location

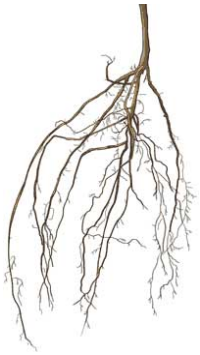
- Available space is the most overlooked or misunderstood factor when selecting a tree.
- Before planting, know what the tree will look like as it nears maturity (crown height, crown spread, root space).
- Size and Location problems that can be prevented through proper selection:
  - Lifting walks

- Damage to drainage pipes/utilities
- Growing into wires and eaves
- Shading of gardens
- Ruining the shape of nearby trees
- Blocking of windows or scenic views
- Interfering with outdoor lighting
- Covering or blocking of chimneys
- Blocking solar collectors, satellite dishes
- Encroaching on your neighbor

Crown Form or Shape

- Shape is another clue to how well a tree will fit the space you have available, what problems might occur, and how well it will help you meet the goals you have for your property.
  - Round – White Oak
  - Oval – Sugar Maple
  - Columnar – Fastigiate oaks, Hornbeams, Spruce
  - V-Shaped – Hackberry
  - Pyramidal – Skyline Locust

Selecting Your Tree



Roots should be moist and fibrous.

Deciduous seedlings should have roots about equal to the stem length.

Bare Root Seedling

Soil plug should be moist and firm

Avoid tall, spindly tops. Well developed roots are more important.

Containerized Seedling

Root ball should be firm to the touch, especially near the trunk. Root flare should be visible.

Root ball should be adequate for the tree's size.

Balled and Burlapped

Pot should not contain large, circling roots. Root flare should be visible.

Pruned roots cut cleanly, none wider than a finger.

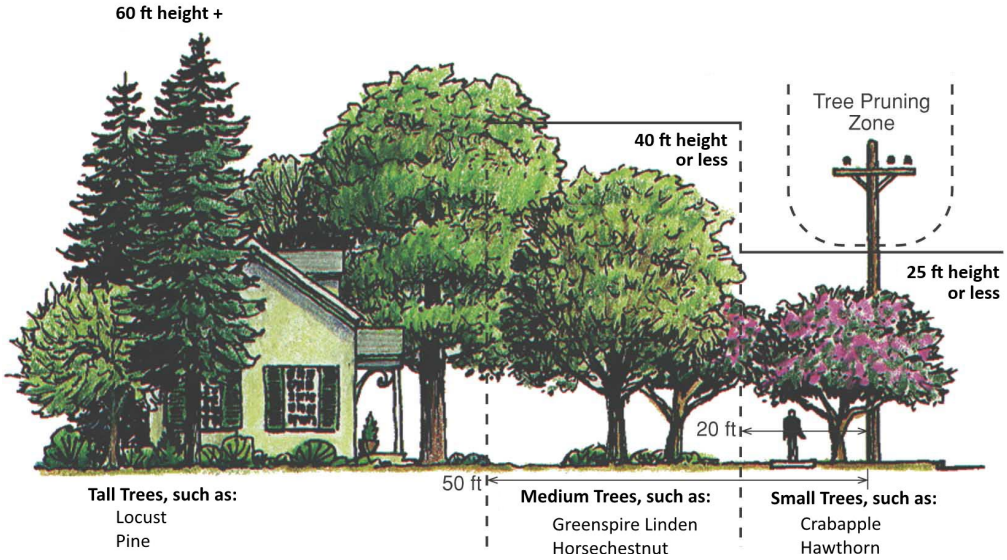
Soil and roots joined tightly.

Containerized

Tree Placement

Wrong

Right



Improper Planting

Improper planting is one of the top reasons for tree failures in the landscape. Among the prime offenders in this category:

- Planting too deep (includes trees that come from the nursery that are too deep in the root ball!)
- Leaving the wire basket/burlap and twine on the root ball.
- Not removing tree staking and guying in a timely manner.
- Mulch volcanos.

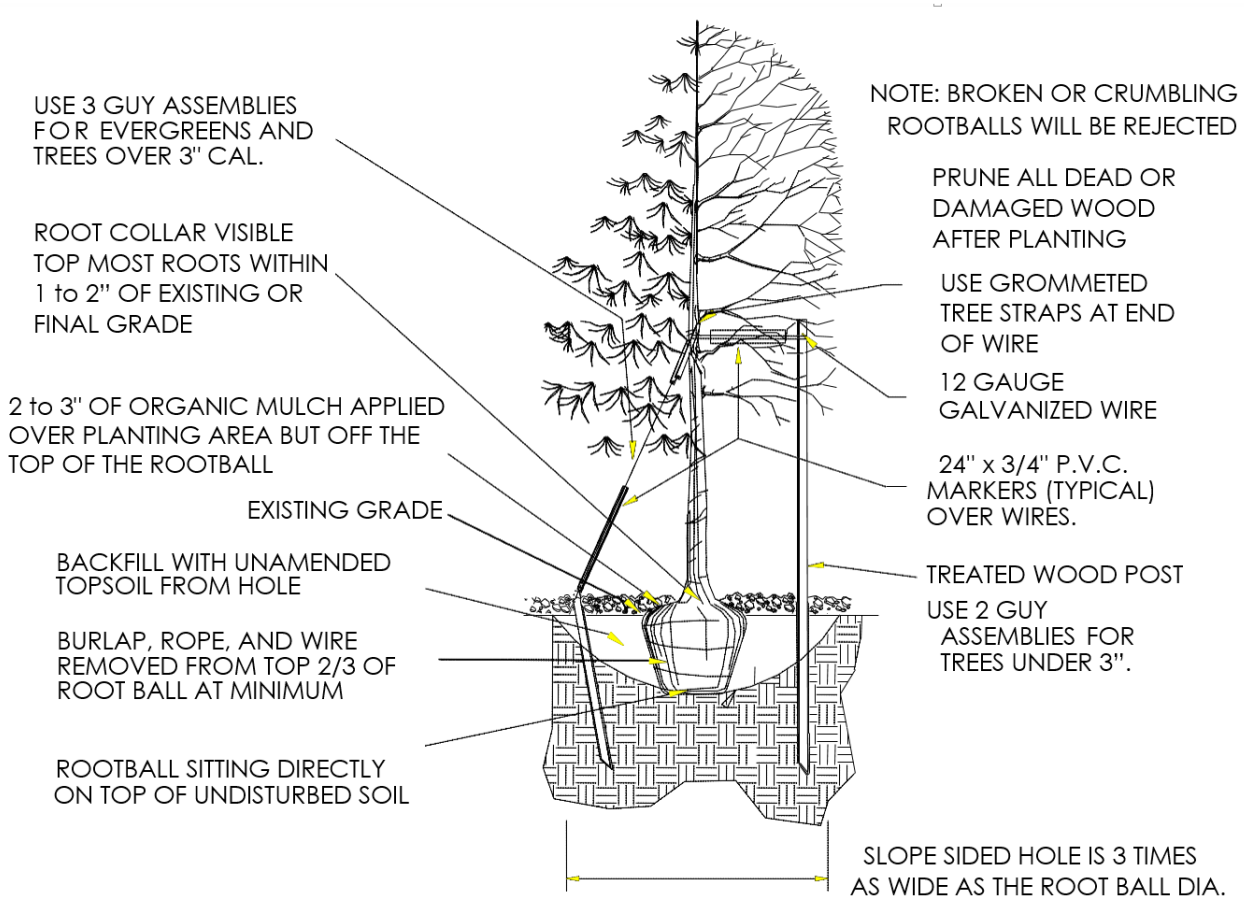
Proper Planting

- To give the “instant tree” appearance, larger-caliper trees are often the choice for homeowners. However, the root systems of larger trees also take longer to redevelop in the establishment phase of the life cycle before the trees shift into the growth phase.
- During the establishment phase canopy growth will be minimal. For this reason, smaller trees are

recommended on sites where less than ideal growing conditions exist.

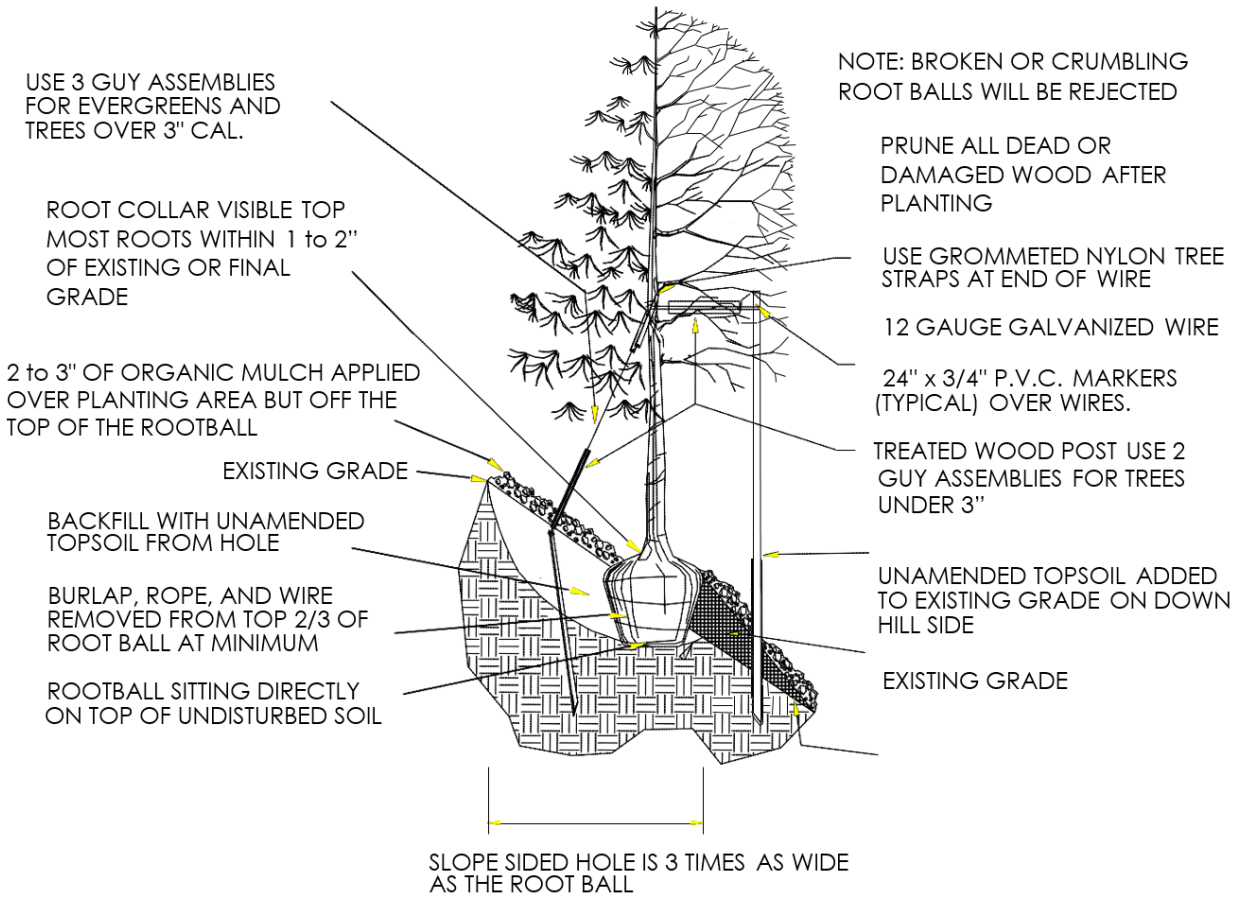
- In Hardiness Zones 4 and 5 with good planting techniques and good soil conditions, it typically takes one growing season per inch of trunk caliper (measured at 6 inches above soil line) for roots to establish following transplanting. That is, a one-inch caliper tree will take one season for the roots to establish, while a three-inch caliper tree will take three seasons. In cooler regions with shorter growing seasons it will take longer.
- On sites with poor soils and poor planting techniques, the establishment phase may be longer, and trees must live off carbohydrate reserves until roots become established.
- Best size to plant?
    - Deciduous – 1" to 1 ½" caliper
    - Evergreen – 6'
- It is common to see trees planted with poor planting techniques that never establish, but rather decline over a period of time.
- In recent years poor planting techniques have killed more trees than any insect or disease outbreak!

TREE PLANTING DETAIL

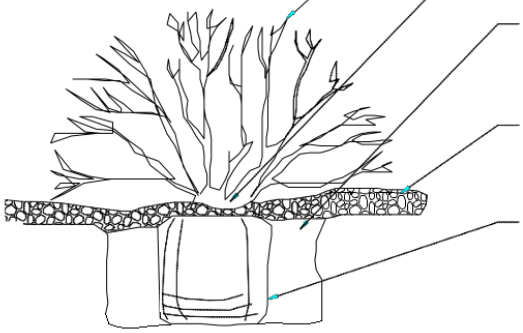


- Excavate planting holes with sloping sides. Make excavations at least three times as wide as the root ball diameter and no deeper than the distance from the top most roots in the root ball to the bottom of the root ball to allow for settling. Do not disturb soil at bottom of planting holes, but do score the sides of the planting hole. The planting area shall be loosened and aerated at least three times the diameter of the root ball. Backfill shall consist of existing on site topsoil – no amendments shall be used unless otherwise specified.
- Trees shall be planted with the root collar/flare visible above grade AND two or more structural roots located within the top 1” to 2” of the root ball/finished grade measured 3” to 4” from trunk. This includes trees that are set on slopes (see slope planting detail). Trees that do not have a visible root collar shall be rejected. Do not cover the root ball with soil.
- When root ball will remain intact, cut off bottom 1/3 of wire basket before placing tree in hole, cut off remainder of basket AFTER tree is set in hole, remove basket completely where possible. At a minimum, the top 2/3 of the burlap and basket shall be removed from the root ball on all trees. Remove all nylon ties, twine, rope and burlap. Remove unnecessary packing material.
- Form soil into a 3” to 5” tall watering ring (saucer) around planting area. This is not necessary in irrigated turf areas. Install 2-3 inches of mulch over the top of the planting area but off the top of the rootball.
- Staking and guying of trees is optional in most planting situations. In areas of extreme winds, or on steep slopes, staking may be required to stabilize trees. Staking and guying must be removed within 1 year of planting date.
- Tree wrap is not to be used on any new plantings.

TREE PLANTING DETAIL – SLOPES



SHRUB PLANTING DETAIL



PRUNE DAMAGED OR DEAD WOOD PRIOR TO PLANTING.

PLANT SHRUB 2" HIGHER THAN ORIGINAL GROWN GRADE

DIG PIT TWICE AS WIDE AS THE CONTAINER

APPLY 2 to 3" SPECIFIED MULCH AS SHOWN

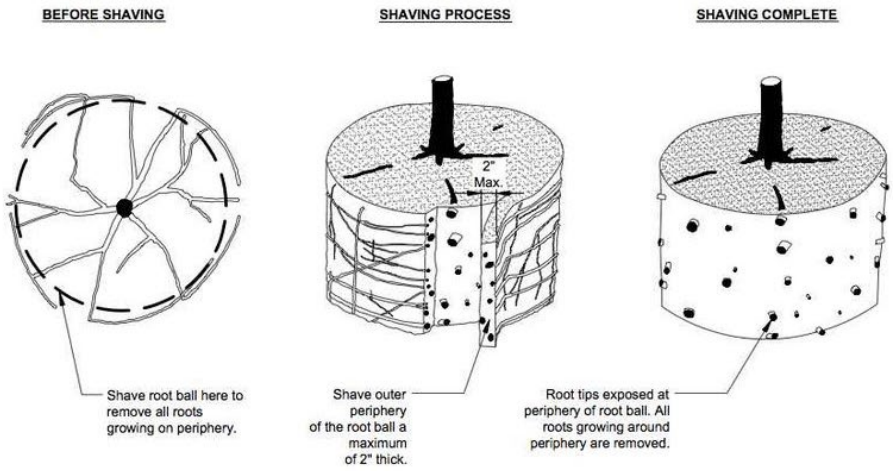
LOOSEN OR SCORE SIDES OF ROOTBALL

NOTES:

- BACKFILL AND WATER-IN THOROUGHLY
- BROKEN ROOTBALLS WILL BE REJECTED
- SET ROOTBALL ON UNDISTURBED SOIL

Latest Research

- Research conducted at the University of Florida in 2009 suggests that slicing root balls does not result in more roots in landscape soil, nor improve tree stability in the landscape
- It is better that the entire outer inch of the sides and bottom of the root ball be removed. Be sure to cut through roots just before the point where they dive deeply into soil.
- Roots on some trees often circle or dive deeper into the media when they reach the sides of a container. If these several large roots are cut at the point just before they turn downward, new roots will grow more-or-less straight out from the trunk. This will make the tree more stable.
- New roots growing from a cut diving root 7 months after pruning. The trunk is off screen at the top of the photo. New roots are growing more-or-less in line with the cut root. Irrigate the tree regularly following this treatment (once every 2 to 3 days for the first month)



Notes:
1- Shaving to be conducted using a sharp blade or hand saw eliminating no more than needed to remove all roots on the periphery of root ball.

2- Shaving can be performed just prior to planting or after placing in the hole.

- Here is a tree being root pruned just after planting it into the landscape. Note the position of the shovel that results in all circling and diving roots being removed from the root ball. The shovel is placed about 1.5 inches in from the edge of the container root ball.