

Fall 2022 City of White Salmon Rheingarten Park and Green Street Tree Planting Project

SPECIFICATIONS

Planting to be completed, inspected and accepted by City Tree Board Members by November 18, 2022

Contractor to confirm planting locations by using Call 811, prior to any digging.

- In Northwest quadrant of park, along the walkway to the building from Washington Street, plant two new Swamp White Oaks. Locations marked with white flag.
- Replant the Japanese maple tree that was transplanted to the north-east quadrant of the park. Location marked with white flag.
- At the north-east corner of the park, at Washington and Main Streets, plant a columnar oak. Location marked with white flag.
- Along the walkway between the restrooms and school building, plant a single stem Serviceberry. Location marked by a white flag.
- At 244 NE Green Street, approximately 12' east of the front walkway stairs, plant a 1.5-2" dbh Oregon White Oak. Location marked by a white flag.

General

Provide healthy stock, grown in a nursery and reasonably free of die-back, disease, insects, eggs, bores, and larvae. At the time of planting all plants shall have a root system, stem, and branch form that will not restrict normal growth, stability and health for the expected life of the plant.

Plant Quality Above the Soil Line

1. Plants shall be healthy with the color, shape, size and distribution of trunk, stems, branches, buds and leaves normal to the plant type specified. Tree quality above the soil line shall comply with the project Crown Acceptance details and the following:

- a. Crown: The form and density of the crown shall be typical for a young specimen of the species or cultivar pruned to a central and dominant leader.

Crown specifications do not apply to plants that have been specifically trained in the nursery as topiary, espalier, multi-stem, clump, or unique selections such as contorted or weeping cultivars.

- b. Leaves: The size, color, and appearance of leaves shall be typical for the time of year and stage of growth of the species or cultivar. Trees shall not show signs of prolonged moisture stress or over watering as indicated by wilted, shriveled, or dead leaves.

- c. Branches: Shoot growth (length and diameter) throughout the crown should be appropriate for the age and size of the species or cultivar. Trees shall not have dead, diseased, broken, distorted, or otherwise injured branches.

Main branches shall be distributed along the central leader not clustered together. They shall form a balanced crown appropriate for the cultivar/species.

Branch diameter shall be no larger than two-thirds (one-half is preferred) the diameter of the central leader measured 1 inch above the branch union.

The attachment of the largest branches (scaffold branches) shall be free of included bark.

- d. Trunk: The tree trunk shall be relatively straight, vertical, and free of wounds that penetrate to the wood (properly made pruning cuts, closed or not, are acceptable and are not considered wounds), sunburned areas, conks (fungal fruiting bodies), wood cracks, sap leakage, signs of boring insects, galls, cankers, girdling ties, or lesions (mechanical injury).
 - e. Temporary branches, unless otherwise specified, can be present along the lower trunk below the lowest main (scaffold) branch, particularly for trees less than 1 inch in caliper. These branches should be no greater than 3/8-inch diameter. Clear trunk should be no more than 40% of the total height of the tree.
2. Trees shall have one central leader. If the leader was headed, a new leader (with a live terminal bud) at least one-half the diameter of the pruning cut shall be present.
 - a. All trees are assumed to have one central leader trees unless a different form is specified in the plant list or drawings.
 - b. All graft unions, where applicable, shall be completely closed without visible sign of graft rejection. All grafts shall be visible above the soil line.
 - c. Trunk caliper and taper shall be sufficient so that the lower five feet of the trunk remains vertical without a stake. Auxiliary stake may be used to maintain a straight leader in the upper half of the tree.

Plant Quality At or Below the Soil Line

1. Plant roots shall be normal to the plant type specified. Root observations shall take place without impacting tree health. Root quality at or below the soil line shall comply with the project Root Acceptance details and the following:
2. The roots shall be reasonably free of scrapes, broken or split wood.
3. The root system shall be reasonably free of injury from biotic (e.g., insects and pathogens) and abiotic (e.g., herbicide toxicity and salt injury) agents. Wounds resulting from root pruning used to produce a high-quality root system are not considered injuries.
4. A minimum of three structural roots reasonably distributed around the trunk (not clustered on one side) shall be found in each plant. Root distribution shall be uniform throughout the root ball, and growth shall be appropriate for the species.
5. Plants with structural roots on only one side of the trunk (J roots) shall be rejected.
6. The root collar shall be within the upper 2 inches of the substrate/soil. Two structural roots shall reach the side of the root ball near the top surface of the root ball. The grower may request a modification to this requirement for species with roots that rapidly descend, provided that the grower removes all stem girdling roots above the structural roots across the top of the root ball.

7. The root system shall be reasonably free of stem girdling roots over the root collar or kinked roots from nursery production practices.

Plant Grower Certification: The final plant grower shall be responsible to have determined that the plants have been root pruned at each step in the plant production process to remove stem girdling roots and kinked roots, or that the previous production system used practices that produce a root system throughout the root ball that meets these specifications. Regardless of the work of previous growers, the plant's root system shall be modified at the final production stage, if needed, to produce the required plant root quality. The final grower shall certify in writing that all plants are reasonably free of stem girdling and kinked roots as defined in this specification, and that the tree has been grown and harvested to produce a plant that meets these specifications.

At time of observations and delivery, the root ball shall be moist throughout. Roots shall not show signs of excess soil moisture conditions as indicated by stunted, discolored, distorted, or dead roots.

Root Ball Package Options

The following root ball packages are permitted. Specific root ball packages shall be required where indicated on the plant list or in this specification. Any type of root ball packages that is not specifically defined in this specification shall not be permitted.

1. **Balled and Burlapped Plants**

All Balled and Burlapped Plants shall be field grown, and the root ball packaged in a burlap and twine and/or burlap and wire basket package.

Plants shall be harvested with the following modifications to standard nursery practices.

- a. Prior to digging any tree that fails to meet the requirement for maximum soil and roots above the root collar, carefully removed the soil from the top of the root ball of each plant, using hand tools, water or an air spade, to locate the root collar and attain the soil depth over the structural roots requirements. Remove all stem girdling roots above the root collar. Care must be exercised not to damage the surface of the root collar and the top of the structural roots.
- b. Trees shall be dug for a minimum of 4 weeks and a maximum of 52 weeks prior to shipping. Trees dug 4 to 52 weeks prior to shipping are defined as hardened-off. Digging is defined as cutting all roots and lifting the tree out of the ground and either moving it to a new location in the nursery or placing it back into the same hole. Trees that are stored out of the ground shall be placed in a holding area protected from extremes of wind and sun with the root ball protected by covering with mulch or straw and irrigated sufficiently to keep moisture in the root ball above wilt point and below saturation.
- c. If wire baskets are used to support the root ball, a "low profile" basket shall be used. A low profile basket is defined as having the top of the highest loops on the basket no less than 4 inches and no greater than 8 inches below the shoulder of the root ball package.

At nurseries where sandy soils prevent the use of "low profile baskets", baskets that support the entire root ball, including the top, are allowable.

- d. Twine and burlap used for wrapping the root ball package shall be natural, biodegradable material. If the burlap decomposes after digging the tree then the root ball shall be re-wrapped prior to shipping if roots have not yet grown to keep root ball intact during shipping.
2. Spade and Harvested and Transplanted Container (including above-ground fabric containers and boxes) Plants
- a. Spade Harvested and Transplanted Plants shall meet all the requirements for field grown trees.
 - b. Root ball diameters shall be of similar size as the ANSI Z60.1 requirements for Balled and Burlapped plants.
 - c. Trees shall be harvested prior to leafing out (bud break) in the spring or during the fall planting period except for plants know to be considered as fall planting hazards. Plants that are fall planting hazards shall only be harvested prior to leafing out in the spring.
 - d. Trees shall be moved and planted within 48 hours of the initial harvesting and shall remain in the spade machine until planted.
 - e. Container plants may be permitted only when indicated on the drawing, in this specification, or approved by the Owner's Representative.
 - f. Provide plants shall be established and well rooted in removable containers.
 - g. Container class size shall conform to ANSI Z60.1 for container plants for each size and type of plant.

Tree Staking and Guying Material

- 1. Tree guying to be flat woven polypropylene material, 3/4 inch wide, and 900 lb. break strength. Color to be Green. Product to be ArborTie manufactured by Deep Root Partners, L.P. or approved equal.
- 2. Stakes shall be metal, or wood-free of knots, pole stakes and of diameters and lengths appropriate to the size of plant as required to adequately support the plant.
- 3. Below ground anchorage systems to be constructed of 2x2 dimensional untreated wood securing (using 3-inch-long screws) horizontal portions to 4 feet long vertical stakes driven straight into the ground outside the root ball.

Mulch

- 1. At the edge of the rootball, make a soil berm 2-3" high to form a shallow water holding area. Water immediately after planting with 5 gallons of water per caliper inch.
- 2. Apply a 3" inch layer of mulch to an area 2 feet in diameter per trunk caliper inch.
- 3. Do not pile mulch directly against the tree trunk.