

## Section 4.0 – Revegetation Methods

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### 4.1 Plant Selection

The typical riparian plant community in Southwestern Oregon has willows, alders, cottonwoods and ash close to the stream bank, with conifers growing higher on the bank, and slightly back from the frequently flooded zone (CWS, 2004). Plants used for the riparian program are selected based on the geographic region, plant height and form, the native vegetation present at the site, and matching plant growing conditions with existing site conditions or reference conditions. Additionally, local plant lists developed by the Oregon Department of Fish and Wildlife, the Bureau of Land Management, the City of Medford, J. Herbert Stone Nursery and Oregon Trout Riverkeepers were consulted in developing the RVCOG plant list (see Appendix II for appropriate riparian plant species). Both native trees and shrubs will be planted to provide structural diversity within the riparian corridor.

### 4.2 Plant Source

Species native to the local riparian site are most appropriate for planting in the riparian area. Local biotypes have better vigor and hardiness, are better able to compete with nonnative vegetation, and attract local native wildlife (Carey, 2003). Native plant seeds were collected during the fall 2003 workshop and propagated at the Bureau of Land Management Sprague Seed Orchard, which will be used in fall 2004 plantings. Additional seed collection workshops will be held to collect seeds from several different parent plants to provide genetic diversity and be used in future plantings and replantings. Other plant stock will be obtained from local native nurseries, the Bureau of Land Management and J. Herbert Stone Nursery.



Figure 4-1: Native Seed Collection workshop, November, 2003.

### 4.3 Plant Size

One-gallon container stock (18" container) with trees approximately 1 cm caliper is used to the extent feasible to attain the desired planting goals more rapidly. Larger containerized plant stock are more tolerant of existing local climate conditions because they are less vulnerable to transplant shock and are more capable of moisture retention during the transplanting process (National Tree Trust, 1997). Additional plant stock used are 4" containers, plugs or cuttings. Cuttings will be used with appropriate species including willows and cottonwoods. Where appropriate, sedge and juncus species will be directly seeded along gravel bars to help build soils for future plantings.

### 4.4 Plant Spacing/Site Design

Plant layout reflects natural conditions to the greatest extent possible by distributing plant species in clusters with adequate spacing for root development.

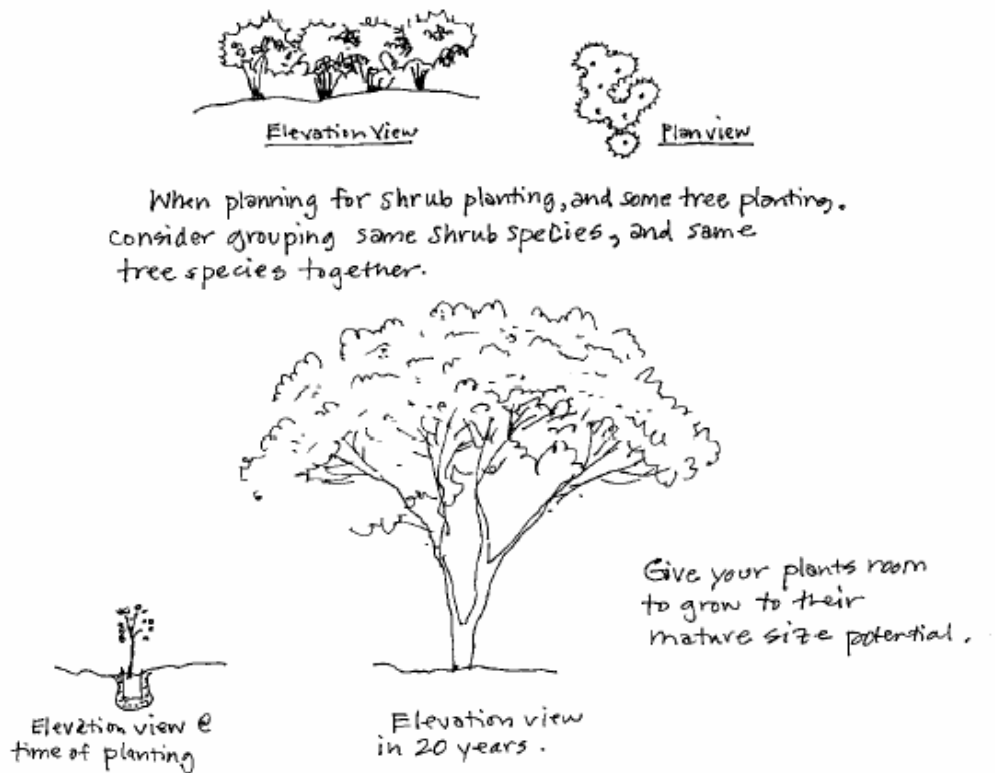


Figure 4-2: Planting design and spacing recommendations.  
Drawing provided by Clean Water Services.

Additionally, attention to the natural landscape conditions and microsites help to locate appropriate locations for plants. In mature riparian forests, canopy tree stem density is roughly 150 stems per acre, indicating a tree spacing of 16 to 18 feet (USDA, 1998). The planting density for the Bear Creek Riparian Planting Program was determined by calculating the site size and then considering site conditions, water availability and the percent survival of the plant stock. As a general rule, plants will generally be spaced at 11 feet apart with shrubs interplanted within those spaces, resulting in approximately 360 stems per acre.

#### **4.5 Planting Techniques and Tools**

Prior to planting, the site is flagged, color coded for plant species, to assure plants are located according to the site prescription. The planting location is prepared by first removing all vegetation within a 3' diameter of where the tree is placed.



Figure 4-3: Site flagged prior to planting event.

##### *4.5.1 Tools*

Tools such as shovels, pulaskis, hoe-dads, and mattocks are used for hand planting. In areas where the soil is compact or ground is rocky an auger or stinger is used.

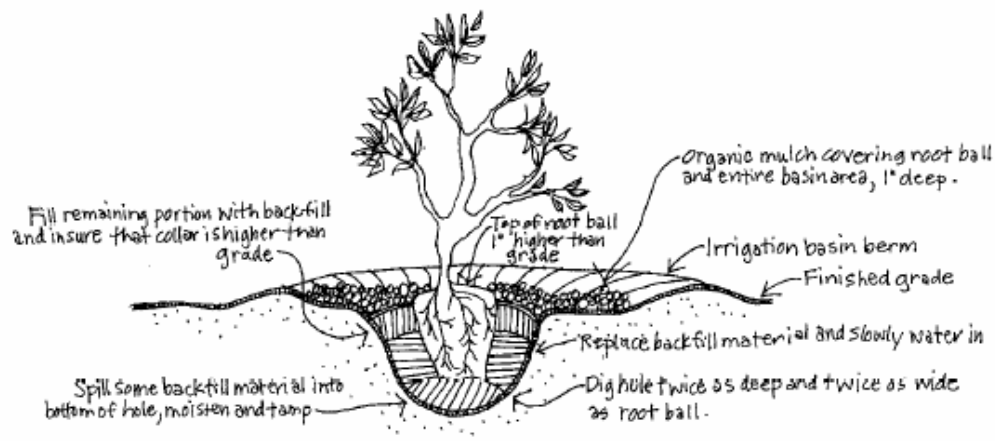
##### *4.5.2 Hole Depth*

Typical hole depth is typically the length of plant container plus 4", and approximately twice as large as the diameter of the plant container. The additional prepared soil encourages root growth beyond and results in a healthier tree.

### 4.5.3 Planting

The following guidelines will help increase plant survival:

1. Plant materials should be kept in the shade prior to planting.
2. Vertical cut any roots that show tendencies to circle the root ball to prevent root girdling.
3. Carefully pack the soil firmly around the root mass while slightly pulling the plant up so the root collar is even with the surrounding terrain to avoid "j" rooting and air pockets (National Tree Trust, 1997).



Irrigate from the top, filling the basin with water and sprinkling around to settle back-fill, mulch, and berm. Allow to soak in and repeat.

Figure 4-4: Planting techniques. Drawing provided by Clean Water Services.

#### 4.5.4 Post-planting

Once planted, excess soil is placed around the plant to help collect and retain water. Mulch and/or geotextile fabric can be placed around the tree to inhibit weed growth, retain water and help protect against frost.



Figure 4-6: Ponderosa pine with vispor matting around base to suppress weed growth.

#### 4.6 Education and Outreach

Workshops are a vital component of the riparian planting program. Workshops covering native seed collection focus on seed collection methods, what species to collect, when and where to collect seeds, and germination and viability of native seeds, with emphasis on the value and importance of native seed sources. Seeds collected are used for future plantings. The riparian planting technique workshop focus on planning and implementing riparian planting projects, including equipment use and supplies needed, site planning, selection of plant stock, seasonal considerations in planting, and planting methods.



Figure 4-7: Riparian Planting techniques workshop, March 2004.

## Bear Creek Watershed Riparian Planting Program

Other educational materials used in the Bear Creek Riparian Planting Program include the *Stream and Wetland Enhancement Guide* brochure, the RVCOG website, local educational symposiums, and presentations to local groups.