

**NATURAL RESOURCES CONSERVATION SERVICE
NEVADA CONSERVATION PRACTICE SPECIFICATION
WINDBREAK/SHELTERBELT ESTABLISHMENT**

(Feet)

CODE 380

I. SCOPE

The work shall consist of site preparation, planting and maintaining suitable species to establish a windbreak. The location and layout of the windbreak shall be as shown on the conservation plan map.

II. GENERAL

Determine and document suitability of soils for the planting by referring to the soil survey of the treatment area and/or by on-site investigation. Planners are referred to the Field Office Technical Guide, Section II - Windbreak Interpretations Determining Nevada Windbreak Suitability Groups (WISG) for known soil series. For on site investigations, use the table Criteria for Windbreak Suitability Soil Groups in the same section of the FOTG.

Application of this practice in Nevada requires planning and installing an appropriate irrigation system. Planners are referred to standards and specifications for IRRIGATION SYSTEM TRICKLE (Code 441), SPRINKLER (Code 442) or SURFACE & SUBSURFACE (Code 443).

III. MATERIALS

Only viable planting stock grown from locally adapted seed or vegetative material should be planted. Planting stock should be maintained in good condition from the time received until planted. This will include, but not limited to, unpacking, storage, heeling in; transport to the planting site, and keeping plants protected and moist until and during planting.

Plant materials will be:

- documented

- appropriate for the purpose of the planting
- based on the criteria listed in the practice standard.

Plant material will be adapted to site conditions indicated by the appropriate windbreak soil group and MLRA as specified in the Field Office Technical Guide, Section II - Windbreak Interpretations. Exceptions will be documented to indicate the suitability of the plant material to the site conditions.

- Seeding stock shall not be less than 1/4" in caliper 1" above the root collar. Shoot to root ratio must not exceed 4:1 and 2:1 is recommended.
- Bare root stock should be received in packaging material that allows for gas exchange and retention of humidity. Bare root or containerized stock must be kept moist but not wet prior to planting.

Storage. Bare root seedling dormancy must be maintained prior to planting. If planting activities cannot begin within 2 weeks of receipt of bare root stock, long term storage becomes necessary.

Long term storage of bare root stock is achieved with refrigeration.

- Store elevated at temperatures of 33 to 36 degrees F.
- Avoid root contact with ice.
- Root orientation should be the same to facilitate watering.
- Keep stock moist but not wet.

Short term storage of bare root stock should not exceed 10 days and should be avoided if at all possible. Outdoor storage of seedlings will not help preserve dormancy. The best

solution to short term storage is being prepared to plant when the stock is received.

- Utilize areas that will help preserve dormancy and moist conditions of the stock and provide protection from the elements.
- Above ground storage can be accomplished with a heel-in bed. Form a trench with a 30 to 45 degree backslope. Lay stock against backslope and backfill 1 - 2 inches above roots. Carefully tamp soil over roots.
- Keep plant stock moist but not wet.

Containerized stock presents less of a storage challenge due to the protection the container offers to the plants root system.

- Long term storage requires refrigeration between 33 and 36 degrees F.
- Keep soil medium moist.

Utilize areas that will help preserve dormancy and moist conditions of the stock and provide protection from the elements.

IV. SITE PREPARATION

Control of competing vegetation

Grasses and weeds will compete for available water, nutrients and light more aggressively than tree/shrub seedlings and must be controlled.

Agricultural Sites

- 1) Apply contact herbicide late spring/early summer prior to planting the following spring.
- 2) Plow and summer fallow.
- 3) Disk and incorporate pre-emergent herbicide early spring of planting.
- 4) Plant in the spring.

Wildland Sites

Scalp a 3 foot radius circle around each planting site down to bare mineral soil. A 6 foot wide strip may be prepared to accept a row planting down the middle.

Installation of irrigation system

The irrigation system will be installed in accordance with the standards and specifications for the chosen irrigation practice.

Layout and staking

Rows will be laid out and staked prior to planting activities. The complexity introduced by multi-row arrangements with curves and/or corners in tandem with planting and/or cultivating equipment considerations make this a requirement.

V. PLANTING METHODS

Machine planting or hand planting with any tool that is adapted to the planting stock and site conditions may be used.

- Seedlings will be protected from desiccation when transporting them to planting sites up to the moment of planting.
- Plant seedlings in early spring as soon as the soil is frost-free while soil moisture conditions are optimum.
- Planting holes must be of sufficient size and depth to insure that roots go straight into the ground in more or less natural form. The root collar shall be no more than 1 inch below the soil surface.
- Pack soil firmly around planted stock to avoid air pockets.

VI. MAINTENANCE

General

Maintain an isolation strip at least 8 feet wide. Minimize fire hazards by keeping isolation strips clear of crop residues, weeds, and trash.

Replace all dead seedlings annually for at least 2 years after the initial planting is made.

Replant with the same species or one that is suitable to the soils and is compatible with original planting.

Vegetation Management. Competing vegetation will be controlled following planting activities to insure seedling survival. Control may be achieved by chemical or mechanical means or by mulching or by some combination of these techniques.

Chemical control of competing vegetation utilizes herbicides that in most cases can also cause seedling mortality. Application of chemicals shall be in accordance with all Federal, state and local laws and regulations.

Mechanical control can be achieved with common farm equipment or by hand.

- Several cultivations are required during each of the first 3 or 4 growing seasons.
- Cultivate to a depth of 2 to 4 inches only.

Pest Management. Plantings will be protected from damaging agents such as livestock, wildlife, insects, and disease.

Planners will refer to practice standards and specifications for FENCE (Code 382), USE EXCLUSION (Code 472), and PEST MANAGEMENT (Code 595).

Individual tree protection methods may be required under some circumstances.

Chicken wire. One inch mesh chicken wire will be shaped to form a cylinder a minimum of 5 inches in diameter and 18 inches high. Secure chicken wire to a 1"x2"x24" stake with 18 inches extending above the ground with 2 evenly spaced staples or tie wires. The chicken wire will be flush with the ground. The barrier must be removed when the trunk diameter is within 1/2 inch of the chicken wire diameter.

Rigid polypropylene - mesh tube. Tubes will consist of a diamond pattern mesh with a minimum 30 mil strand diameter. Tubes will be a minimum of 5 inches in diameter and 18 inches high. Fasten tubes to a 1"x2"x24" stake with 18 inches extending above the ground with one staple or a tie wire. Tubes will be flush with the ground.

REFERENCES

Townsend, L.R. 1993. Tree and Shrub Planting Handbook. Utah Division of State Lands and Forestry, Salt Lake City, UT.