

**Practice: 650 - Windbreak/Shelterbelt Renovation**

**Scenario: #1 - Removal and/or Thinning with Chain Saw**

**Scenario Description:**

Windbreak renovation requires the removal of degraded, overcrowded, or inappropriate trees or shrubs within a windbreak. This may include removal of entire rows, including stumps or roots, and/or selected trees/shrubs in order to prepare for the necessary planting of a replacement row or parts of the row within the windbreak, improve the health of the remaining rows, and/or allow for supplemental planting to expand the windbreak. Resource concerns: Degrade plant condition- undesirable plant productivity and health; Livestock Production-Inadequate livestock shelter, Soil erosion-wind.

**Before Situation:**

Plant (trees and/or shrubs) health has degraded decreasing the effectiveness of the original windbreak design. Plants lack leaf cover, have dead branches, gaps of no live green material and some are completely dead. Wind now moves freely thru areas that lack any leaves.

**After Situation:**

Integrity and function of windbreak restored. 1,000 feet of windbreak/shelterbelt renovated.

**Scenario Feature Measure:** Length of Renovation

**Scenario Unit:** Linear Feet

**Scenario Typical Size:** 1,000

**Scenario Cost:** \$629.32

**Scenario Cost/Unit:** \$0.63

**Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<b>Equipment/Installation</b>						
Chainsaw	937	Equipment and power unit costs. Labor not included.	Hour	\$6.37	10	\$63.70
Chemical, spot treatment, single stem application	964	Ground applied chemical to individual plants or group of plants, e.g., backpack sprayer treatment. Equipment and labor cost included.	Hour	\$57.51	2	\$115.02
Pruning tools, hand tools	1318	Pruning tools, hand tools, shears, loppers, pole saw, handsaw. Material costs only. Labor not included.	Hour	\$4.77	2	\$9.54
<b>Labor</b>						
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$20.32	10	\$203.20
Specialist Labor	235	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	\$97.78	2	\$195.56
<b>Materials</b>						
Herbicide, Triclopyr	338	Refer to WIN-PST for product names and active ingredients. Materials and shipping	Acre	\$42.30	1	\$42.30

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**Scenario: #2 - Within Row Replacement, Containerized Planting Stock**

**Scenario Description:**

Parts of the windbreak being renovated have died. Supplemental plantings of containerized trees/shrubs within existing rows or establishment of an additional row will improve the effectiveness and longevity of the windbreak. Payment includes materials, labor and equipment needed to hand plant the stock. Resource concerns include Soil erosion - Wind erosion, Degraded plant condition -Inadequate structure and composition, and Livestock production limitation - Inadequate livestock shelter.

**Before Situation:**

Sections of the windbreak had dead trees/shrubs that were inhibiting windbreak effectiveness. The dead plants have been removed and the site has been prepared for planting.

**After Situation:**

The integrity and function of the windbreak is restored by hand planting containerized trees/shrubs in gaps created through previous plant mortality.

**Scenario Feature Measure:** Length of Renovation

**Scenario Unit:** Linear Foot

**Scenario Typical Size:** 500

**Scenario Cost:** \$792.16

**Scenario Cost/Unit:** \$1.58

**Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<b>Equipment/Installation</b>						
Hand tools, tree planting	1590	Various hand tools for digging holes and planting trees such as augers, dibble bars, planting shovel, hoe-dad. Equipment only. Labor not included.	Hour	\$11.62	3	\$34.86
<b>Labor</b>						
Specialist Labor	235	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	\$97.78	3	\$293.34
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$20.32	3	\$60.96
<b>Materials</b>						
Tree, conifer, seedling or transplant, potted or B&B, 2-3 gal.	1537	Potted or balled and burlapped conifer tree, 2-3 gal. Includes materials and shipping only.	Each	\$7.13	25	\$178.25
Tree, hardwood, seedling or transplant, potted or B&B, 2-3 gal.	1532	Potted or balled and burlapped hardwood tree, 2-3 gal. Includes materials and shipping only.	Each	\$7.41	25	\$185.25
Wire flags	1586	Small vinyl flags attached to wire stakes, typically, 36" in length, for marking tree rows	Each	\$0.09	50	\$4.50
Fertilizer, tree, slow release, premix packet or spike	1594	Slow release fertilizer to gradually apply nutrients over time for tree establishment. 2.0 Oz Packet (Premixed: 16-16-16 or 16-8-8 ) or Fertilizer Spike	Each	\$0.70	50	\$35.00

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**Scenario: #4 - Within Row Replacement, Bare-root Planting Stock**

**Scenario Description:**

Parts of the windbreak being renovated have died. Supplemental plantings of bare-root trees/shrubs within existing rows or establishment of an additional row will improve the effectiveness and longevity of the windbreak. Payment includes materials, labor and equipment needed to hand plant the stock. Resource concerns include Soil erosion - Wind erosion, Degraded plant condition -Inadequate structure and composition, and Livestock production limitation - Inadequate livestock shelter.

**Before Situation:**

Sections of the windbreak had dead trees/shrubs that were inhibiting windbreak effectiveness. The dead plants have been removed and the site has been prepared for planting.

**After Situation:**

The integrity and function of the windbreak is restored by hand planting bare-root trees/shrubs in gaps created through previous plant mortality.

**Scenario Feature Measure:** Length of Renovation

**Scenario Unit:** Linear Foot

**Scenario Typical Size:** 500

**Scenario Cost:** \$198.47

**Scenario Cost/Unit:** \$0.40

**Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<b>Equipment/Installation</b>						
Hand tools, tree planting	1590	Various hand tools for digging holes and planting trees such as augers, dibble bars, planting shovel, hoe-dad. Equipment only. Labor not included.	Hour	\$11.62	1	\$11.62
<b>Labor</b>						
Specialist Labor	235	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	\$97.78	1	\$97.78
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$20.32	1	\$20.32
<b>Materials</b>						
Fertilizer, tree, slow release, premix packet or spike	1594	Slow release fertilizer to gradually apply nutrients over time for tree establishment. 2.0 Oz Packet (Premixed: 16-16-16 or 16-8-8 ) or Fertilizer Spike	Each	\$0.70	50	\$35.00
Wire flags	1586	Small vinyl flags attached to wire stakes, typically, 36" in length, for marking tree rows	Each	\$0.09	50	\$4.50
Tree, hardwood, seedling or transplant, bare root, 16-36"	1510	Bare root hardwood trees 18-36" tall. Includes materials and shipping only.	Each	\$0.60	25	\$15.00
Tree, conifer, seedling, bare root, 2-1	1514	Bare root conifer trees, 2-1 (3 years old). Includes materials and shipping only.	Each	\$0.57	25	\$14.25