

**Practice: 490 - Tree/Shrub Site Preparation**

**Scenario: #2 - Mechanical - Medium**

**Scenario Description:**

This practice involves the use of machinery to treat an area in order to improve site conditions for establishing trees and/or shrubs. Typical sites include trees and brush cover that is not appropriate to the site or providing the desired condition for the landowner. This practice is typically used to address the following resource concerns: degraded plant condition - undesirable plant productivity and health and inadequate structure and composition and soil quality degradation - soil erosion - sheet and rill.

**Before Situation:**

The site is dominated by undesirable vegetation including herbaceous plants and significant amounts of woody vegetation (trees and brush) occupying the site. There is also a significant component of woody debris onsite. Noxious and invasive species may also be present on the site. Soils are compacted as a result of past heavy equipment activities or from other land uses. Sheet and rill erosion is occurring in areas where the soil was severely disturbed exposing bare soil. If left untreated, soil compaction and erosion issues will result in poor survival or reduced growth of trees/shrubs to be established on the site.

**After Situation:**

Undesirable vegetation has been removed using mechanical methods reducing competition for target trees and/or shrubs. Woody debris has been removed to facilitate tree/shrub planting operations. Soil compaction has been alleviated, allowing penetration of moisture and allowing roots to grow properly. Site conditions are favorable for successful establishment of trees and/or shrubs. The typical size is 40 acres.

**Scenario Feature Measure:** Area of Treatment

**Scenario Unit:** Acre

**Scenario Typical Size:** 40

**Scenario Cost:** \$8,059.60

**Scenario Cost/Unit:** \$201.49

**Cost Details (by category):**

| Component Name   | ID   | Component Description   | Unit | Price (\$/unit) | Quantity | Cost       |
|--|------|---|------|-----------------|----------|------------|
| <i>Equipment/Installation</i>                              |      |   |      |                 |          |            |
| Heavy mechanical site prep, shearing, V-blade, K-G blading | 1314 | Mechanical operations that shear trees and vegetation. Requires heavy equipment such as dozers, Includes equipment, power unit and labor costs. | Acre | \$201.49        | 40       | \$8,059.60 |

**Practice: 490 - Tree/Shrub Site Preparation**

**Scenario: #5 - Chemical - Ground Application**

**Scenario Description:**

This practice involves the use a specified herbicide (Imazapyr) applied using ground-based machinery in order to remove undesirable vegetation and improve site conditions for establishing trees and/or shrubs. Typical sites include abandoned fields, pastures, rangelands, agricultural fields or forestland that was recently harvested. This practice is typically used to address the following resource concerns: degraded plant condition - undesirable plant productivity and health and inadequate structure and composition.

**Before Situation:**

Undesirable vegetation is present on the site including herbaceous plants and woody vegetation. Noxious and invasive species may also be present on the site. If left uncontrolled, undesirable vegetation will inhibit successful establishment of target species of trees and/or shrubs.

**After Situation:**

Undesirable vegetation has been treated using appropriate herbicides, reducing competition for target trees and/or shrubs. Site conditions are favorable for successful establishment of trees and/or shrubs. The typical size of the practice is 40 acres.

**Scenario Feature Measure: Area of Treatment**

**Scenario Unit:** Acre

**Scenario Typical Size:** 40

**Scenario Cost:** \$2,876.49

**Scenario Cost/Unit:** \$71.91

**Cost Details (by category):**

| Component Name                 | ID   | Component Description   | Unit | Price (\$/unit) | Quantity | Cost       |
|--------------------------------|------|---|------|-----------------|----------|------------|
| <b>Equipment/Installation</b>  |      |   |      |                 |          |            |
| Chemical, ground application   | 948  | Chemical application performed by ground equipment. Includes equipment, power unit and labor costs.   | Acre | \$5.67          | 40       | \$226.80   |
| <b>Labor</b>                   |      |   |      |                 |          |            |
| Supervisor or Manager          | 234  | Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.  | Hour | \$36.28         | 1        | \$36.28    |
| Skilled Labor                  | 230  | Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.   | Hour | \$25.61         | 1        | \$25.61    |
| <b>Materials</b>               |      |   |      |                 |          |            |
| Herbicide, Surfactant          | 1095 | Surfactants reduce the surface tension of water to produce more uniform coverage and penetration of herbicides, and weed killers. Paraffin Based Petroleum Surfactant. Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only. | Acre | \$1.32          | 40       | \$52.80    |
| Herbicide, Glyphosate          | 334  | A broad-spectrum, non-selective systemic herbicide. Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.  | Acre | \$15.63         | 40       | \$625.20   |
| Herbicide, Imazapyr            | 336  | Pre and post-emergent, non-selective herbicide for control of undesirable vegetation in non-crop areas. Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.  | Acre | \$41.50         | 40       | \$1,660.00 |
| <b>Mobilization</b>            |      |   |      |                 |          |            |
| Mobilization, medium equipment | 1139 | Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.   | Each | \$249.80        | 1        | \$249.80   |