

**Practice: 484 - Mulching**

**Scenario: #1 - Natural Material - Full Coverage**

**Scenario Description:**

Application of straw mulch or other other state approved natural material to reduce erosion and facilitate the establishment of vegetative cover. Mulch provides full coverage and is typically used with critical area planting. Assumes typical rate of 2.5 tons straw spread per acre, 40 lb. is typical weight of square bale, and 125 bales are used per acre.

**Before Situation:**

Typical scenario ranges from a 0.1 to 1.0 acre disturbed site around a newly constructed structural practice. The potential for soil erosion is high and mulch is needed to stabilize the soil and facilitate the establishment of vegetative cover.

**After Situation:**

Straw mulch has been applied to areas needing mulch. Erosion and sedimentation is reduced, water and soil quality is protected, and vegetative cover is established.

**Scenario Feature Measure:** Area Covered by Mulch

**Scenario Unit:** Acre

**Scenario Typical Size:** 1

**Scenario Cost:** \$518.16

**Scenario Cost/Unit:** \$518.16

**Cost Details (by category):**

| Component Name                | ID   | Component Description  | Unit | Price (\$/unit) | Quantity | Cost     |
|-------------------------------|------|--|------|-----------------|----------|----------|
| <b>Equipment/Installation</b> |      |  |      |                 |          |          |
| Mulch crimper, straight blade | 2310 | Equipment and power unit costs. Labor not included.  | 0    | \$10.07         | 1        | \$10.07  |
| Mulcher, straw blower         | 1305 | Straw bale mulcher/blower to mechanically spread small or large straw bales. Labor not included.   | Hour | \$44.81         | 2        | \$89.62  |
| Truck, Pickup                 | 939  | Equipment and power unit costs. Labor not included.  | Hour | \$36.60         | 0.5      | \$18.30  |
| <b>Labor</b>                  |      |  |      |                 |          |          |
| Equipment Operators, Light    | 232  | Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers  | Hour | \$20.08         | 3        | \$60.24  |
| 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 | \$18.70         | 3        | \$56.10  |
| <b>Materials</b>              |      |  |      |                 |          |          |
| Straw                         | 1237 | Small grain straw (non organic and certified organic). Includes materials only.  | Ton  | \$113.53        | 2.5      | \$283.83 |

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**Scenario: #2 - Natural Material - Partial Coverage**

**Scenario Description:**

Application of straw mulch or other other state approved natural material (such as wood chips, compost, or hay) to reduce erosion, moderate soil temperature and suppress weeds. Typically used to provide partial coverage (either in-row or between rows) to suppress weeds, conserve moisture and aid establishment of permanent vegetation. Payment based on total acres mulched, assuming 3-5 ft. swatch and 10-12 ft. row spacing.

**Before Situation:**

Site conditions vary. Typically scenarios include new tree and shrub plantings, irrigated orchards or vineyards, or annual and perennial specialty crops. Water quantity and soil moisture is a concern.

**After Situation:**

Straw or other natural mulch is applied in rows by hand or by mechanized means. Soil moisture is conserved, energy use associated with irrigation is decreased, and weed growth is suppressed.

**Scenario Feature Measure:** Total Acres Mulched

**Scenario Unit:** Acre

**Scenario Typical Size:** 2

**Scenario Cost:** \$655.05

**Scenario Cost/Unit:** \$327.52

**Cost Details (by category):**

| Component Name                | ID   | Component Description  | Unit | Price (\$/unit) | Quantity | Cost     |
|-------------------------------|------|--|------|-----------------|----------|----------|
| <b>Equipment/Installation</b> |      |  |      |                 |          |          |
| Tractor, agricultural, 60 HP  | 963  | Agricultural tractor with horsepower range of 50 to 90. Equipment and power unit costs. Labor not included.  | Hour | \$23.09         | 6        | \$138.54 |
| <b>Labor</b>                  |      |  |      |                 |          |          |
| Equipment Operators, Light    | 232  | Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers  | Hour | \$20.08         | 6        | \$120.48 |
| 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 | \$18.70         | 6        | \$112.20 |
| <b>Materials</b>              |      |  |      |                 |          |          |
| Straw                         | 1237 | Small grain straw (non organic and certified organic). Includes materials only.  | Ton  | \$113.53        | 2.5      | \$283.83 |

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**Scenario: #4 - Erosion Control Blanket**

**Scenario Description:**

Installation of erosion control blanket on critical areas with steep slopes, grassed waterways or diversions.. Blanket is typically made of coconut coir, wood fiber, straw and is typically covered on both sides with polypropylene netting. Used to help control erosion and establish vegetative cover.

**Before Situation:**

There are areas of concentrated flow and a grassed waterway is being installed. Soil erosion is a concern and there is little to no vegetation.

**After Situation:**

The erosion control blanket is placed on concentrated flow areas and secured with ground stables. Soil erosion is minimized and vegetative cover is established.

**Scenario Feature Measure:** Area Covered by Mulch

**Scenario Unit:** Square Foot

**Scenario Typical Size:** 5,000

**Scenario Cost:** \$787.85

**Scenario Cost/Unit:** \$0.16

**Cost Details (by category):**

| Component Name                         | ID   | Component Description  | Unit        | Price (\$/unit) | Quantity | Cost     |
|--|------|--|-------------|-----------------|----------|----------|
| <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        | \$18.70         | 8        | \$149.60 |
| <b>Materials</b>                       |      |  |             |                 |          |          |
| Erosion Control Blanket, biodegradable | 1213 | Biodegradable erosion control blanket, typically a composite of natural fibers with reinforcing polymer netting. Materials and shipping only.  | Square Yard | \$1.15          | 555      | \$638.25 |

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**Scenario: #5 - Synthetic Material**

**Scenario Description:**

Installation of geotextile, biodegradable plastic, polyethylene plastic, or other state approved synthetic mulch to conserve soil moisture, moderate soil temperature, suppress weed growth and provide erosion control. Payment based on actual area covered by mulching material.

**Before Situation:**

Site conditions vary. Typically scenarios include new tree and shrub plantings, irrigated orchards or vineyards, or annual and perennial specialty crops. Water quantity and soil moisture is a concern.

**After Situation:**

Synthetic mulch is applied in rows with a mulch layer or by other mechanized means. Soil moisture is conserved, energy use associated with irrigation is decreased, and weed growth is suppressed.

**Scenario Feature Measure:** Area Covered by Mulch

**Scenario Unit:** Square Foot

**Scenario Typical Size:** 5,000

**Scenario Cost:** \$305.00

**Scenario Cost/Unit:** \$0.06

**Cost Details (by category):**

| Component Name                        | ID   | Component Description  | Unit        | Price (\$/unit) | Quantity | Cost     |
|---------------------------------------|------|--|-------------|-----------------|----------|----------|
| <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        | \$18.70         | 8        | \$149.60 |
| <b>Materials</b>                      |      |  |             |                 |          |          |
| Mulch, biodegradable plastic, 0.8 mil | 1304 | 0.8 mil starch-based biodegradable plastic mulch, with anchoring. Includes materials and shipping only.  | Square Yard | \$0.28          | 555      | \$155.40 |