

Practice: 464 - Irrigation Land Leveling

Scenario: #1 - Irrigation Land Leveling

Scenario Description:

This scenario will level 80 acres of irrigated crop land to a planned grade to permit uniform and efficient application of irrigation water to the leveled land. Equipment used include dirt pans/carry-all/pan-scraper equipment that are typically laser or GPS guided. The typical volume of earth moved is 100 to 700 cubic yards per acre.

Resource Concern: Excess/Insufficient - Inefficient Use of Irrigation Water

Associated Conservation Practices: 433 - Irrigation System, Surface and Subsurface; 607 - Surface Drain, Field Ditch; 388 - Irrigation Field Ditch; 449 - Irrigation Water Management; or 587 - Structure for Water Control.

Before Situation:

Irregular field surface reduces uniformity of surface application and reduced irrigation efficiency by localized ponding, excessive deep percolation, and/or excess runoff/runon.

After Situation:

Cropland will be reshaped to provide uniform distribution of irrigation water in promote efficient use of irrigation water and achieve designed irrigation efficiencies.

Scenario Feature Measure: Volume of Earth Moved

Scenario Unit: Cubic Yard

Scenario Typical Size: 52,000

Scenario Cost: \$123,308.24

Scenario Cost/Unit: \$2.37

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Excavation, Common Earth, side cast, small equipment	48	Bulk excavation and side casting of common earth with hydraulic excavator with less than 1 CY capacity. Includes equipment and labor.	Cubic yard	\$2.29	52000	\$119,080.00
Mobilization						
Mobilization, large equipment	1140	Equipment >150HP or typical weights greater than 30,000 pounds or loads requiring over width or over length permits.	Each	\$528.53	8	\$4,228.24

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Scenario: #2 - Irrigation Land Leveling Remote

Scenario Description:

This scenario will level 80 acres of irrigated crop land in remote loactions (>50 miles from equipment source) to a planned grade to permit uniform and efficient application of irrigation water to the leveled land. Equipment used include dirtfans/carry-all/pan-scraper equipment that are typically laser or GPS guided. The typical volume of earth moved is 400 to 700 cubic yards per acre. Typically, Fields have been rough leveled and have excessive row and side fall. Earth moving, using a guided system, involves higher yardage amounts. Field locations are remote and require transport of equipment at distances of 50 miles or greater. Resource Concern: Excess/Insufficient - Inefficient Use of Irrigation Water
 Associated Conservation Practices: 433 - Irrigation System, Surface and Subsurface; 607 - Surface Drain, Field Ditch; 388 - Irrigation Field Ditch; 449 - Irrigation Water Management; or 587 - Structure for Water Control.

Before Situation:

Irregular field surface reduces uniformity of surface application and reduced irrigation efficiency by localized ponding, excessive deep percolation, and/or excess runoff/runon. Field locations are remote requiring transport of equipment 50 miles or greater.

After Situation:

Cropland will be reshaped to provide uniform distribution of irrigation water in promote efficient use of irrigation water and achieve designed irrigation efficiencies.

Scenario Feature Measure: Volume of earth moved

Scenario Unit: Cubic Yard

Scenario Typical Size: 52,000

Scenario Cost: \$131,764.72

Scenario Cost/Unit: \$2.53

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Excavation, Common Earth, side cast, small equipment	48	Bulk excavation and side casting of common earth with hydraulic excavator with less than 1 CY capacity. Includes equipment and labor.	Cubic yard	\$2.29	52000	\$119,080.00
Mobilization						
Mobilization, large equipment	1140	Equipment >150HP or typical weights greater than 30,000 pounds or loads requiring over width or over length permits.	Each	\$528.53	24	\$12,684.72