

**Practice:** 638 - Water and Sediment Control Basin

**Scenario:** #1 - Base

**Scenario Description:** Typical scenario for the construction of an earthen embankment or the rebuild of an existing WASCOB. Rebuild work includes the removal of accumulated sediment from the pool area to restore original capacity. Outlet is typically an underground outlet. An earthen embankment or combination ridge and channel generally constructed/rebuilt across the slope and minor watercourses to form a sediment trap and water detention basin. Work is done with dozer, scraper, or road grader. Costs include all equipment necessary to excavate, shape, grade and compact the Water and Sediment Control Basin and mobilization of equipment. Seeding not included. This practice is utilized to reduce watercourse and gully erosion, trap sediment, reduce and manage onsite and downstream runoff. Sheet and rill erosion will be controlled by other conservation practices.

**Before Situation:** Farming fields with excessive slope length has resulted in multiple rills and/or ephemeral gullies that will continue to worsen over time. The excessive erosion may lead to deterioration of receiving waters due to excessive sedimentation and nutrient transport. Resource concerns addressed include soil erosion and water quality by trapping sediment and/or reducing erosion in a field to protect riparian areas and water bodies from sediment deposition. Surface water causes erosion and the sediment (and potentially pesticides) to be transported into the riparian areas and water bodies downstream.

**After Situation:** Water and Sediment Control Basin is constructed or rebuilt by the excavation/earthfill with dozer, scraper and/or road grader. Rill and/or gully erosion is reduced. If riser and underground outlet are needed, then include Underground Outlet (620). Include Critical Area Planting (342) where necessary to prevent erosion following construction activities.

**Scenario Feature Measure:** CY of WASCOB Embankment

**Scenario Unit:** Cubic Yard

**Scenario Typical Size:** 700

**Total Scenario Cost:** \$2,014.01

**Scenario Cost/Unit:** \$2.88

**Cost Details**

Component Name	Id	Description	Unit	Cost	Qty	Total
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**Labor**

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	\$39.23	1	\$39.23
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**Mobilization**

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$251.62	1	\$251.62
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**Equipment Installation**

Excavation, common earth, small equipment, 50 ft	1220	Bulk excavation of common earth with dozer <100 HP with average push distance of 50 feet. Includes equipment and labor.	Cubic Yard	\$2.46	700	\$1,723.15
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**Practice:** 638 - Water and Sediment Control Basin

**Scenario:** #2 - Topsoil

**Scenario Description:** Typical scenarios for the construction of an earthen embankment or the rebuild of an existing WASCOB. Prior to constructing/reconstructing the embankment, 6 inches of topsoil is removed and stockpiled. Outlet is typically an underground outlet. An earthen embankment or combination ridge and channel generally constructed/rebuilt across the slope and minor watercourses to form a sediment trap and water detention basin. Topsoil is replaced following construction of the embankment. Costs include all equipment necessary to strip and stock pile topsoil, excavate, shape, grade and compact the Water and Sediment Control Basin, spread and replace topsoil after construction and mobilization of equipment. Seeding not included. This practice is utilized to reduce watercourse and gully erosion, trap sediment, reduce and manage onsite and downstream runoff. Sheet and rill erosion will be controlled by other conservation practices. Work is done with dozer, scraper, or road grader.

**Before Situation:** Site has shallow topsoil which if removed by earthwork for construction of embankment will significantly impact yields. Farming fields with excessive slope length has resulted in multiple rills and/or ephemeral gullies that will continue to worsen over time. The excessive erosion may lead to deterioration of receiving waters due to excessive sedimentation and nutrient transport. Resource concern addressed includes soil erosion and water quality by trapping sediment and/or reduce erosion in a field to protect riparian areas and water bodies from sediment deposition. Surface water causes erosion and the sediment (and potentially pesticides) is being transported into the riparian areas and water bodies downstream.

**After Situation:** Water and Sediment Control Basis is constructed or rebuilt by the excavation/earthfill with dozer, scraper and/or road grader. Rill and/or gully erosion is reduced. If riser and underground outlet are needed, then include Underground Outlet (620). Include Critical Area Planting (342) where necessary to prevent erosion following construction activities.

**Scenario Feature Measure:** CY of WASCOB Embankment

**Scenario Unit:** Cubic Yard

**Scenario Typical Size:** 700

**Total Scenario Cost:** \$2,232.38

**Scenario Cost/Unit:** \$3.19

**Cost Details**

Component Name	Id	Description	Unit	Cost	Qty	Total
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**Labor**

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	\$39.23	1	\$39.23
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**Mobilization**

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$251.62	1	\$251.62
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**Equipment Installation**

Excavation, common earth, small equipment, 50 ft	1220	Bulk excavation of common earth with dozer <100 HP with average push distance of 50 feet. Includes equipment and labor.	Cubic Yard	\$2.46	700	\$1,723.15
Stripping and stockpiling, topsoil	1199	Stripping and stockpiling of topsoil adjacent to stripping area. Includes equipment and labor.	Cubic Yard	\$0.87	250	\$218.37

**Practice:** 638 - Water and Sediment Control Basin

**Scenario:** #5 - Base, crop seasonal construction

**Scenario Description:** Typical scenario for the construction of an earthen embankment or the rebuild of an existing WASCOB. Rebuild work includes the removal of accumulated sediment from the pool area to restore original capacity. Outlet is typically an underground outlet. An earthen embankment or combination ridge and channel generally constructed/rebuilt across the slope and minor watercourses to form a sediment trap and water detention basin. Work is done with dozer, scraper, or road grader. Costs include all equipment necessary to excavate, shape, grade and compact the Water and Sediment Control Basin and mobilization of equipment. Seeding not included. This practice is utilized to reduce watercourse and gully erosion, trap sediment, reduce and manage onsite and downstream runoff. Sheet and rill erosion will be controlled by other conservation practices. Foregone income reflects entire construction area to account for crop loss while constructing during the growing season.

**Before Situation:** Farming fields with excessive slope length has resulted in multiple rills and/or ephemeral gullies that will continue to worsen over time. The excessive erosion may lead to deterioration of receiving waters due to excessive sedimentation and nutrient transport. Resource concerns addressed include soil erosion and water quality by trapping sediment and/or reducing erosion in a field to protect riparian areas and water bodies from sediment deposition. Surface water causes erosion and the sediment (and potentially pesticides) to be transported into the riparian areas and water bodies downstream.

**After Situation:** Water and Sediment Control Basin is constructed or rebuilt by the excavation/earthfill with dozer, scraper and/or road grader. Rill and/or gully erosion is reduced. If riser and underground outlet are needed, then include Underground Outlet (620). Include Critical Area Planting (342) where necessary to prevent erosion following construction activities.

**Scenario Feature Measure:** CY of WASCOB Embankment

**Scenario Unit:** Cubic Yard

**Scenario Typical Size:** 700

**Total Scenario Cost:** \$2,464.04

**Scenario Cost/Unit:** \$3.52

**Cost Details**

Component Name	Id	Description	Unit	Cost	Qty	Total
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**Labor**

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	\$39.23	1	\$39.23
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**Mobilization**

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$251.62	1	\$251.62
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**Equipment Installation**

Excavation, common earth, small equipment, 50 ft	1220	Bulk excavation of common earth with dozer <100 HP with average push distance of 50 feet. Includes equipment and labor.	Cubic Yard	\$2.46	700	\$1,723.15
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**Foregone Income**

FI, Corn Dryland	1959	Dryland Corn is Primary Crop	Acre	\$453.83	0.5	\$226.91
FI, Soybeans Dryland	1961	Dryland Soybeans is Primary Crop	Acre	\$446.23	0.5	\$223.12

**Practice:** 638 - Water and Sediment Control Basin

**Scenario:** #6 - Topsoil, crop seasonal construction

**Scenario Description:** Typical scenarios for the construction of an earthen embankment or the rebuild of an existing WASCOB. Prior to constructing/reconstructing the embankment, 6 inches of topsoil is removed and stockpiled. Outlet is typically an underground outlet. An earthen embankment or combination ridge and channel generally constructed/rebuilt across the slope and minor watercourses to form a sediment trap and water detention basin. Topsoil is replaced following construction of the embankment. Costs include all equipment necessary to strip and stock pile topsoil, excavate, shape, grade and compact the Water and Sediment Control Basin, spread and replace topsoil after construction and mobilization of equipment. Seeding not included. This practice is utilized to reduce watercourse and gully erosion, trap sediment, reduce and manage onsite and downstream runoff. Sheet and rill erosion will be controlled by other conservation practices. Work is done with dozer, scraper, or road grader. Foregone income reflects entire construction area to account for crop loss while constructing during the growing season.

**Before Situation:** Site has shallow topsoil which if removed by earthwork for construction of embankment will significantly impact yields. Farming fields with excessive slope length has resulted in multiple rills and/or ephemeral gullies that will continue to worsen over time. The excessive erosion may lead to deterioration of receiving waters due to excessive sedimentation and nutrient transport. Resource concern addressed includes soil erosion and water quality by trapping sediment and/or reduce erosion in a field to protect riparian areas and water bodies from sediment deposition. Surface water causes erosion and the sediment (and potentially pesticides) is being transported into the riparian areas and water bodies downstream.

**After Situation:** Water and Sediment Control Basis is constructed or rebuilt by the excavation/earthfill with dozer, scraper and/or road grader. Rill and/or gully erosion is reduced. If riser and underground outlet are needed, then include Underground Outlet (620). Include Critical Area Planting (342) where necessary to prevent erosion following construction activities.

**Scenario Feature Measure:** CY of WASCOB Embankment

**Scenario Unit:** Cubic Yard

**Scenario Typical Size:** 700

**Total Scenario Cost:** \$2,682.41

**Scenario Cost/Unit:** \$3.83

**Cost Details**

Component Name	Id	Description	Unit	Cost	Qty	Total
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**Labor**

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	\$39.23	1	\$39.23
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**Mobilization**

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$251.62	1	\$251.62
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**Equipment Installation**

Excavation, common earth, small equipment, 50 ft	1220	Bulk excavation of common earth with dozer <100 HP with average push distance of 50 feet. Includes equipment and labor.	Cubic Yard	\$2.46	700	\$1,723.15
Stripping and stockpiling, topsoil	1199	Stripping and stockpiling of topsoil adjacent to stripping area. Includes equipment and labor.	Cubic Yard	\$0.87	250	\$218.37

**Foregone Income**

FI, Corn Dryland	1959	Dryland Corn is Primary Crop	Acre	\$453.83	0.5	\$226.91
FI, Soybeans Dryland	1961	Dryland Soybeans is Primary Crop	Acre	\$446.23	0.5	\$223.12