

**Scenario Worksheet**

**Practice and Scenario Description:**

<b>Information Type</b>	<b>Data</b>
Region	New England
State	Connecticut
Discipline Group	Agricultural Engineering
Practice Code/Name	638 - Water & Sediment Control Basin
Scenario ID	3
Scenario Name	WASCOB >=350 CY
Scenario Description	Typical scenario is for excavating 700 CY to create an earthen WASCOB. Outlet is typically an underground outlet. The excavated material is used to build up an earthen embankment or combination ridge and channel generally constructed across the slope and minor watercourses to form a sediment trap and water detention basin. Work is done with excavator and/or dozer. Costs include all equipment necessary to excavate, shape, grade and compact the Water and Sediment Control Basin and mobilization of equipment. 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 Practice 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 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) to be transported into the riparian areas and water bodies downstream.
After Practice Situation	Water and Sediment Control Basin is constructed with 700 CY of 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 Excavation
Scenario Unit	Cubic Yard
Scenario Typical Size	700

**Cost Summary:**

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$3,122.00	\$4.46
Labor	\$83.36	\$0.12
Mobilization	\$374.46	\$0.53
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
<b>Total</b>	<b>\$3,579.82</b>	<b>\$5.11</b>

**Cost Details:**

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	1220	Excavation, common earth, small equipment, 50 ft	Bulk excavation of common earth with dozer <100 HP with average push distance of 50 feet. Includes equipment and labor.	Cubic Yard	\$2.30	700	\$1,610.00
Equipment/Installation	48	Excavation, Common Earth, side cast, small equipment	Bulk excavation and side casting of common earth with hydraulic excavator with less than 1 CY capacity. Includes equipment and labor.	Cubic yard	\$2.16	700	\$1,512.00
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$41.68	2	\$83.36
Mobilization	1138	Mobilization, small equipment	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	\$187.23	2	\$374.46

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**Practice and Scenario Description:**

<b>Information Type</b>	<b>Data</b>
Region	New England
State	Connecticut
Discipline Group	Agricultural Engineering
Practice Code/Name	638 - Water & Sediment Control Basin
Scenario ID	4
Scenario Name	WASCOB >=350 CY-Topsoil
Scenario Description	Typical scenario is for excavating 700 CY to create an earthen WASCOB. Prior to building the embankment, 6 inches of topsoil is removed and stockpiled. The excavated material is used to build up an earthen embankment or combination ridge and channel generally constructed across the slope and minor watercourses to form a sediment trap and water detention basin. Topsoil is replaced following construction of the embankment. Outlet is typically an underground outlet. 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 Practice 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 Practice Situation	Water and Sediment Control Basis is constructed with 700 CY of 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 Excavation
Scenario Unit	Cubic Yard
Scenario Typical Size	700

**Cost Summary:**

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$2,782.00	\$3.97
Labor	\$83.36	\$0.12
Mobilization	\$548.66	\$0.78
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
<b>Total</b>	<b>\$3,414.02</b>	<b>\$4.88</b>

**Cost Details:**

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	1220	Excavation, common earth, small equipment, 50 ft	Bulk excavation of common earth with dozer <100 HP with average push distance of 50 feet. Includes equipment and labor.	Cubic Yard	\$2.30	700	\$1,610.00
Equipment/Installation	1199	Stripping and stockpiling, topsoil	Stripping and stockpiling of topsoil adjacent to stripping area. Includes equipment and labor.	Cubic Yard	\$0.80	250	\$200.00
Equipment/Installation	48	Excavation, Common Earth, side cast, small equipment	Bulk excavation and side casting of common earth with hydraulic excavator with less than 1 CY capacity. Includes equipment and labor.	Cubic yard	\$2.16	450	\$972.00
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$41.68	2	\$83.36
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$274.33	2	\$548.66

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## Practice and Scenario Description:

Information Type	Data
Region	New England
State	Connecticut
Discipline Group	Agricultural Engineering
Practice Code/Name	638 - Water & Sediment Control Basin
Scenario ID	1
Scenario Name	WASCOB <350 CY
Scenario Description	Typical scenario is for excavating 100 CY to create an earthen WASCOB. The excavated material is used to build up an earthen embankment or combination ridge and channel generally constructed across the slope and minor watercourses to form a sediment trap and water detention basin. Outlet is typically an underground outlet. Work is done with excavator and/or dozer. Costs include all equipment necessary to excavate, shape, grade and compact the Water and Sediment Control Basin and mobilization of equipment. 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 Practice 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 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) to be transported into the riparian areas and water bodies downstream.
After Practice Situation	Water and Sediment Control Basin is constructed with 100 CY of 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 excavation
Scenario Unit	Cubic Yard
Scenario Typical Size	100

## Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$446.00	\$4.46
Labor	\$41.68	\$0.42
Mobilization	\$374.46	\$3.74
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$862.14	\$8.62

## Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	1220	Excavation, common earth, small equipment, 50 ft	Bulk excavation of common earth with dozer <100 HP with average push distance of 50 feet. Includes equipment and labor.	Cubic Yard	\$2.30	100	\$230.00
Equipment/Installation	48	Excavation, Common Earth, side cast, small equipment	Bulk excavation and side casting of common earth with hydraulic excavator with less than 1 CY capacity. Includes equipment and labor.	Cubic yard	\$2.16	100	\$216.00
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$41.68	1	\$41.68
Mobilization	1138	Mobilization, small equipment	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	\$187.23	2	\$374.46

**Scenario Worksheet**

**Practice and Scenario Description:**

<b>Information Type</b>	<b>Data</b>
Region	New England
State	Connecticut
Discipline Group	Agricultural Engineering
Practice Code/Name	638 - Water & Sediment Control Basin
Scenario ID	2
Scenario Name	WASCOB <350 CY-Topsoil
Scenario Description	Typical scenarios is for excavating 100 CY to create an earthen WASCOB. Prior to building the embankment, 6 inches of topsoil is removed and stockpiled. The excavated material is used to build up an earthen embankment or combination ridge and channel generally constructed across the slope and minor watercourses to form a sediment trap and water detention basin. Topsoil is replaced following construction of the embankment. Outlet is typically an underground outlet. 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 Practice 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 Practice Situation	Water and Sediment Control Basis is constructed with 100 CY of 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 Excavation
Scenario Unit	Cubic Yard
Scenario Typical Size	100

**Cost Summary:**

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$405.20	\$4.05
Labor	\$41.68	\$0.42
Mobilization	\$548.66	\$5.49
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$995.54	\$9.96

**Cost Details:**

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	1220	Excavation, common earth, small equipment, 50 ft	Bulk excavation of common earth with dozer <100 HP with average push distance of 50 feet. Includes equipment and labor.	Cubic Yard	\$2.30	100	\$230.00
Equipment/Installation	1199	Stripping and stockpiling, topsoil	Stripping and stockpiling of topsoil adjacent to stripping area. Includes equipment and labor.	Cubic Yard	\$0.80	30	\$24.00
Equipment/Installation	48	Excavation, Common Earth, side cast, small equipment	Bulk excavation and side casting of common earth with hydraulic excavator with less than 1 CY capacity. Includes equipment and labor.	Cubic yard	\$2.16	70	\$151.20
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$41.68	1	\$41.68
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$274.33	2	\$548.66