

Practice: 620 - Underground Outlet

Scenario # 1 UGO<=5" Diameter Pipe with Risers

Missouri

Scenario Description:

Scenario is for the Installation of a 5" or less diameter approved plastic pipe to convey stormwater from one location to a suitable and stable outlet. Payment includes pipe, perforated PVC riser inlet, trench excavation, and trench backfill. This practice is often installed in conjunction with terraces, diversions, sediment control basins, waterways or similar practices.

Before Practice Situation:

Excessive sedimentation and soil erosion as a result of gully, rill or sheet erosion which exceeds "T" from farm fields and other locations. Also, roof runoff or surface runoff that becomes contaminated with agricultural wastes that significantly contributes to the amount of runoff that has to be stored or treated.

After Practice Situation:

Excessive sedimentation and soil erosion is controlled or "clean" storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agricultural waste. Associated practices are Critical Area Planting (342), Grassed Waterway (412), Terrace (600), Diversion (342), Water and Sediment Control Basin (638), and Subsurface Drainage (606)

Scenario Feature Measure:

Length of Conduit

Scenario Typical Size:	500	Foot	Tot Unit Cost	\$2.86
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Pipe, HDPE, 5", PCPT, Single Wall	480	Foot	\$0.74	\$355.20
Materials	Inlet, riser, 6"	2	Each	\$76.64	\$153.28
Materials	Pipe, PVC, 6", SDR 35	20	Foot	\$3.48	\$69.60
Equip./Install.	Trenching, Earth, 12" x 48"	500	Foot	\$1.15	\$575.00
Equip./Install.	Compaction, earthfill, vibratory plate	2	Cubic Yard	\$2.07	\$4.14
Labor	Supervisor or Manager	2	Hour	\$37.21	\$74.42
Mobilization	Mobilization, medium equipment	1	Each	\$200.43	\$200.43

Total Cost: \$1,432.07

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQUIP	\$2.15	EQUIP-HU	\$2.58
EQUIP-NSHTI	\$2.15	EQUIP-HUNSHI	\$2.58
EQUIP-NOI	\$2.15	EQUIP-HUNOI	\$2.58
EQUIP-MRBI	\$2.15	EQUIP-HUMRBI	\$2.58
EQUIP-CCPI	\$2.15	EQUIP-HUCCPI	\$2.58

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Scenario # 2 UGO = 6" Diameter Pipe with Risers

Missouri

Scenario Description:

Scenario is for the Installation of a 6" diameter approved plastic pipe to convey stormwater from one location to a suitable and stable outlet. Payment includes pipe, perforated PVC riser inlet, trench excavation, and trench backfill. This practice is often installed in conjunction with terraces, diversions, sediment control basins, waterways or similar practices.

Before Practice Situation:

Excessive sedimentation and soil erosion as a result of gully, rill or sheet erosion which exceeds "T" from farm fields and other locations. Also, roof runoff or surface runoff that becomes contaminated with agricultural wastes that significantly contributes to the amount of runoff that has to be stored or treated.

After Practice Situation:

Excessive sedimentation and soil erosion is controlled or "clean" storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agricultural waste. Associated practices are Critical Area Planting (342), Grassed Waterway (412), Terrace (600), Diversion (342), Water and Sediment Control Basin (638), and Subsurface Drainage (606)

Scenario Feature Measure:

Length of Conduit

Scenario Typical Size:	500	Foot	Tot Unit Cost	\$3.21
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Pipe, HDPE, 6", CPT, Single Wall	480	Foot	\$1.10	\$528.00
Materials	Inlet, riser, 6"	2	Each	\$76.64	\$153.28
Materials	Pipe, PVC, 6", SDR 35	20	Foot	\$3.48	\$69.60
Equip./Install.	Trenching, Earth, 12" x 48"	500	Foot	\$1.15	\$575.00
Equip./Install.	Compaction, earthfill, vibratory plate	2	Cubic Yard	\$2.07	\$4.14
Labor	Supervisor or Manager	2	Hour	\$37.21	\$74.42
Mobilization	Mobilization, medium equipment	1	Each	\$200.43	\$200.43

Total Cost: \$1,604.87

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQUIP	\$2.41	EQUIP-HU	\$2.89
EQUIP-NSHTI	\$2.41	EQUIP-HUNSHI	\$2.89
EQUIP-NOI	\$2.41	EQUIP-HUNOI	\$2.89
EQUIP-MRBI	\$2.41	EQUIP-HUMRBI	\$2.89
EQUIP-CCPI	\$2.41	EQUIP-HUCCPI	\$2.89

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Scenario # 3 UGO = 8" Diameter Pipe with Risers

Missouri

Scenario Description:

Scenario is for the Installation of a 8" diameter approved plastic pipe to convey stormwater from one location to a suitable and stable outlet. Payment includes pipe, perforated PVC riser inlet, trench excavation, and trench backfill. This practice is often installed in conjunction with terraces, diversions, sediment control basins, waterways or similar practices.

Before Practice Situation:

Excessive sedimentation and soil erosion as a result of gully, rill or sheet erosion which exceeds "T" from farm fields and other locations. Also, roof runoff or surface runoff that becomes contaminated with agricultural wastes that significantly contributes to the amount of runoff that has to be stored or treated.

After Practice Situation:

Excessive sedimentation and soil erosion is controlled or "clean" storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agricultural waste. Associated practices are Critical Area Planting (342), Grassed Waterway (412), Terrace (600), Diversion (342), Water and Sediment Control Basin (638), and Subsurface Drainage (606)

Scenario Feature Measure:

Length of Conduit

Scenario Typical Size:	500	Foot	Tot Unit Cost	\$4.41
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Inlet, riser, 8"	2	Each	\$123.42	\$246.84
Materials	Pipe, HDPE, 8", PCPT, Single Wall	480	Foot	\$2.04	\$979.20
Materials	Pipe, PVC, 8", SDR 35	20	Foot	\$6.23	\$124.60
Equip./Install.	Trenching, Earth, 12" x 48"	500	Foot	\$1.15	\$575.00
Equip./Install.	Compaction, earthfill, vibratory plate	2	Cubic Yard	\$2.07	\$4.14
Labor	Supervisor or Manager	2	Hour	\$37.21	\$74.42
Mobilization	Mobilization, medium equipment	1	Each	\$200.43	\$200.43

Total Cost: \$2,204.63

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQUIP	\$3.31	EQUIP-HU	\$3.97
EQUIP-NSHTI	\$3.31	EQUIP-HUNSHI	\$3.97
EQUIP-NOI	\$3.31	EQUIP-HUNOI	\$3.97
EQUIP-MRBI	\$3.31	EQUIP-HUMRBI	\$3.97
EQUIP-CCPI	\$3.31	EQUIP-HUCCPI	\$3.97

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Scenario # 4 UGO = 10" Diameter Pipe with Risers

Missouri

Scenario Description:

Scenario is for the Installation of a 10" diameter approved plastic pipe to convey stormwater from one location to a suitable and stable outlet. Payment includes pipe, perforated PVC riser inlet, trench excavation, and trench backfill. This practice is often installed in conjunction with terraces, diversions, sediment control basins, waterways or similar practices.

Before Practice Situation:

Excessive sedimentation and soil erosion as a result of gully, rill or sheet erosion which exceeds "T" from farm fields and other locations. Also, roof runoff or surface runoff that becomes contaminated with agricultural wastes that significantly contributes to the amount of runoff that has to be stored or treated.

After Practice Situation:

Excessive sedimentation and soil erosion is controlled or "clean" storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agricultural waste. Associated practices are Critical Area Planting (342), Grassed Waterway (412), Terrace (600), Diversion (342), Water and Sediment Control Basin (638), and Subsurface Drainage (606)

Scenario Feature Measure:

Length of Conduit

Scenario Typical Size:	500	Foot	Tot Unit Cost	\$8.54
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Pipe, PVC, 10", SDR 35	20	Foot	\$9.77	\$195.40
Materials	Pipe, HDPE, 10", PCPT, Single Wall	480	Foot	\$3.80	\$1,824.00
Materials	Inlet, riser, 10"	2	Each	\$170.56	\$341.12
Equip./Install.	Trenching, Earth, clay, 24" x 48"	500	Foot	\$3.11	\$1,555.00
Equip./Install.	Compaction, earthfill, vibratory plate	2	Cubic Yard	\$2.07	\$4.14
Labor	Supervisor or Manager	4	Hour	\$37.21	\$148.84
Mobilization	Mobilization, medium equipment	1	Each	\$200.43	\$200.43

Total Cost: \$4,268.93

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$6.40	EQIP-HU	\$7.68
EQIP-NSHTI	\$6.40	EQIP-HUNSHTI	\$7.68
EQIP-NOI	\$6.40	EQIP-HUNOI	\$7.68
EQIP-MRBI	\$6.40	EQIP-HUMRBI	\$7.68
EQIP-CCPI	\$6.40	EQIP-HUCCPI	\$7.68

Practice: 620 - Underground Outlet

Scenario # 5 UGO = 12" Diameter Pipe with Risers

Missouri

Scenario Description:

Scenario is for the Installation of a 12" diameter approved plastic pipe to convey stormwater from one location to a suitable and stable outlet. Payment includes pipe, perforated PVC riser inlet, trench excavation, and trench backfill. This practice is often installed in conjunction with terraces, diversions, sediment control basins, waterways or similar practices.

Before Practice Situation:

Excessive sedimentation and soil erosion as a result of gully, rill or sheet erosion which exceeds "T" from farm fields and other locations. Also, roof runoff or surface runoff that becomes contaminated with agricultural wastes that significantly contributes to the amount of runoff that has to be stored or treated.

After Practice Situation:

Excessive sedimentation and soil erosion is controlled or "clean" storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agricultural waste. Associated practices are Critical Area Planting (342), Grassed Waterway (412), Terrace (600), Diversion (342), Water and Sediment Control Basin (638), and Subsurface Drainage (606)

Scenario Feature Measure:

Length of Conduit

Scenario Typical Size:	500	Feet	Tot Unit Cost	\$11.62
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Pipe, PVC, 12", SDR 35	20	Foot	\$20.87	\$417.40
Materials	Pipe, HDPE, 12", PCPT, Single Wall	480	Foot	\$4.82	\$2,313.60
Materials	Inlet, riser, 12"	2	Each	\$584.34	\$1,168.68
Equip./Install.	Trenching, Earth, clay, 24" x 48"	500	Foot	\$3.11	\$1,555.00
Equip./Install.	Compaction, earthfill, vibratory plate	2	Cubic Yard	\$2.07	\$4.14
Labor	Supervisor or Manager	4	Hour	\$37.21	\$148.84
Mobilization	Mobilization, medium equipment	1	Each	\$200.43	\$200.43

Total Cost: \$5,808.09

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$8.71	EQIP-HU	\$10.45
EQIP-NSHTI	\$8.71	EQIP-HUNSHTI	\$10.45
EQIP-NOI	\$8.71	EQIP-HUNOI	\$10.45
EQIP-MRBI	\$8.71	EQIP-HUMRBI	\$10.45
EQIP-CCPI	\$8.71	EQIP-HUCCPI	\$10.45

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Scenario # 6 Blind Inlet

Scenario Description:

Missouri

Install an excavated earthen box with perforated collector tubing placed in the bottom and filled to the surface with bedding material and rock riprap to direct surface flow into a "main line" or subsurface drain. Typically installed at the upper end of a waterway to protect the vegetation of the waterway from prolonged surface flow, thus facilitating vegetative growth and controlling ephemeral gully erosion. Costs include the collection pipe, excavation, and rock. This practice is often installed in conjunction with waterways or similar practices.

Before Practice Situation:

Excessive sedimentation and soil erosion as a result of gully, rill or sheet erosion which exceeds "T" from farm fields and other locations. Also, roof runoff or surface runoff that becomes contaminated with agricultural wastes that significantly contributes to the amount of runoff that has to be stored or treated.

After Practice Situation:

Excessive sedimentation and soil erosion is controlled or "clean" storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agricultural waste. Associated practices are Critical Area Planting (342), Grassed Waterway (412), Terrace (600), Diversion (342), Water and Sediment Control Basin (638), and Subsurface Drainage (606)

Scenario Feature Measure:

Length of Conduit

Scenario Typical Size:	40	Foot	Tot Unit Cost	\$51.74
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Pipe, HDPE, 6", CPT, Single Wall	40	Foot	\$1.10	\$44.00
Materials	Rock Riprap, Placed with geotextile	15	Cubic yard	\$58.74	\$881.10
Materials	Aggregate, Gravel, Graded	15	Cubic yard	\$24.76	\$371.40
Equip./Install.	Excavation, common earth, small equipment,	30	Cubic Yard	\$2.37	\$71.10
Equip./Install.	Excavation, common earth, side cast, large	30	Cubic Yard	\$1.74	\$52.20
Labor	Supervisor or Manager	2	Hour	\$37.21	\$74.42
Mobilization	Mobilization, medium equipment	1	Each	\$200.43	\$200.43
Mobilization	Mobilization, large equipment	1	Each	\$374.89	\$374.89

Total Cost: \$2,069.54

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$38.80	EQIP-HU	\$46.56
EQIP-NSHTI	\$38.80	EQIP-HUNSHTI	\$46.56
EQIP-NOI	\$38.80	EQIP-HUNOI	\$46.56
EQIP-MRBI	\$38.80	EQIP-HUMRBI	\$46.56
EQIP-CCPI	\$38.80	EQIP-HUCCPI	\$46.56