Practice: 430 - Irrigation Pipeline

Scenario # 1 **PVC (Iron Pipe Size) <2" Micro (ft)**

Scenario Description: **Louisiana**

Description: Below ground installation of PVC (Iron Pipe Size) pipeline. PVC (IPS) is manufactured in sizes (nominal diameter) from ½-inch to 36-inch; typical practice sizes range from 2-inch to 24-inch; and typical scenario size is 1 ½-inch. Construct 260' of 1-inch, Class 125 (SDR-32.5), PVC pipeline with appurtenances, installed below ground with a minimum of 2 feet of ground cover. 260' of 1 ½ inch, Class 125 (SDR-32.5) PVC pipe weighs 0.227 lb/ft, or a total of 59.02 pounds. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements.Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use. Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Practice Situation:

Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Practice Situation:

Pipeline installed to convey and/or distribute water to micro-irrigation systems, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use.

Scenario Feature Measure:

Length of Pipe

Scenario Typical Size:	260	Linear Foot	Unit Cost	$2.71

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Pipe, PVC, dia. < 18", weight priced	64.9	Pound	$1.38	$89.56
Equip./Install.	Trenching, Pipeline Plowing	260	Foot	$0.91	$236.60
Labor	General Labor	6	Hour	$18.57	$111.42
Mobilization	Mobilization, medium equipment	2	Each	$133.51	$267.02
				Total Cost:	$704.60

Practice: 430 - Irrigation Pipeline

Scenario # 2 **PVC (Iron Pipe Size) 2" - <4" Micro (ft)**

Scenario Description: **Louisiana**

Description: Below ground installation of PVC (Iron Pipe Size) pipeline. PVC (IPS) is manufactured in sizes (nominal diameter) from ½-inch to 36-inch; typical practice sizes range from 2-inch to 24-inch; and typical scenario size is 3-inch. Construct 260 feet of 3-inch, Class 125 (SDR-32.5), PVC pipeline with appurtenances, installed below ground with a minimum of 2 feet of ground cover. The unit is weight of pipe material in pounds. 260 feet of 3-inch, Class 125 (SDR-32.5) PVC pipe weighs .730 lb/ft, or a total of 189.8 pounds. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements.Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use. Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Practice Situation:

Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Practice Situation:

Pipeline installed to convey and/or distribute water to micro-irrigation systems, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use.

Scenario Feature Measure:

Length of Pipe

Scenario Typical Size:	260	Linear Foot	Unit Cost	$3.47

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Pipe, PVC, dia. < 18", weight priced	208.78	Pound	$1.38	$288.12
Equip./Install.	Trenching, Pipeline Plowing	260	Foot	$0.91	$236.60
Labor	General Labor	6	Hour	$18.57	$111.42
Mobilization	Mobilization, medium equipment	2	Each	$133.51	$267.02
				Total Cost:	$903.16

Practice: 430 - Irrigation Pipeline

Scenario # 3 **PVC (Iron Pipe Size) 4" - 6" Micro (ft)**

Scenario Description: **Louisiana**

Description: Below ground installation of PVC (Iron Pipe Size) pipeline. PVC (IPS) is manufactured in sizes (nominal diameter) from ½-inch to 36-inch; typical practice sizes range from 2-inch to 24-inch; and typical scenario size is 5-inch. Construct 260 feet of 5-inch, Class 125 (SDR-32.5), PVC pipeline with appurtenances, installed below ground with a minimum of 2 feet of ground cover. The unit is weight of pipe material in pounds. 260 feet of 5-inch, Class 125 (SDR-32.5) PVC pipe weighs 1.810 lb/ft, or a total of 470.6 pounds. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements.Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use. Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Practice Situation:

Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Practice Situation:

Pipeline installed to convey and/or distribute water to micro-irrigation systems, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use.

Scenario Feature Measure:

Length of Pipe

Scenario Typical Size:	260	Linear Foot	Unit Cost	$8.60

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Pipe, PVC, dia. < 18", weight priced	517.66	Pound	$1.38	$714.37
Equip./Install.	Trenching, Earth, clay, 24" x 48"	260	Foot	$2.86	$743.60
Labor	General Labor	6	Hour	$18.57	$111.42
Mobilization	Mobilization, medium equipment	2	Each	$133.51	$267.02
Mobilization	Mobilization, Material, distance > 50 miles	400	Dollar	$1.00	$400.00
				Total Cost:	$2,236.41

Practice: 430 - Irrigation Pipeline

Scenario # 4 **PVC (Iron Pipe Size) 8" Micro (ft)**

Scenario Description: **Louisiana**

Description: Below ground installation of PVC (Iron Pipe Size) pipeline. PVC (IPS) is manufactured in sizes (nominal diameter) from ½-inch to 36-inch; typical practice sizes range from 2-inch to 24-inch; and typical scenario size is 8-inch. Construct 260 feet of 8-inch, Class 125 (SDR-32.5), PVC pipeline with appurtenances, installed below ground with a minimum of 2 feet of ground cover. The unit is weight of pipe material in pounds. 260 feet of 8-inch, Class 125 (SDR-32.5) PVC pipe weighs 4.348 lb/ft, or a total of 1130.5 pounds. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements.Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use. Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Practice Situation:

Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Practice Situation:

Pipeline installed to convey and/or distribute water to micro-irrigation systems, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use.

Scenario Feature Measure:

Length of Pipe

Scenario Typical Size:	260	Linear Foot	Unit Cost	$8.97

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Pipe, PVC, dia. < 18", weight priced	1243.5	Pound	$1.38	$1,716.03
Equip./Install.	Trenching, Pipeline Plowing	260	Foot	$0.91	$236.60
Labor	General Labor	6	Hour	$18.57	$111.42
Mobilization	Mobilization, medium equipment	2	Each	$133.51	$267.02
				Total Cost:	$2,331.07

Practice: 430 - Irrigation Pipeline

Scenario # 5 **PVC (Iron Pipe Size) 6" - 8" Sprinkler (ft)**

Scenario Description: **Louisiana**

Description: Below ground installation of PVC (Iron Pipe Size) pipeline. PVC (IPS) is manufactured in sizes (nominal diameter) from ½-inch to 36-inch; typical practice sizes range from 2-inch to 24-inch; and typical scenario size is 6-inch. Construct 360 feet of 8-inch, Class 160 (SDR-26), PVC pipeline with appurtenances, installed below ground with a minimum of 2 feet of ground cover. The unit is weight of pipe material in pounds. 360 feet of 8-inch, Class 160 (SDR-26) PVC pipe weighs 5.401 lb/ft, or a total of 1944.4 pounds. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements.
Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use.
Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Practice Situation:

Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Practice Situation:

Pipeline installed to convey and/or distribute water to Sprinkler-irrigation systems, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use.

Scenario Feature Measure:

Length of Pipe

Scenario Typical Size:	360	Linear Foot	Unit Cost	$10.31

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Pipe, PVC, dia. < 18", weight priced	2138.8	Pound	$1.38	$2,951.54
Equip./Install.	Trenching, Pipeline Plowing	360	Foot	$0.91	$327.60
Labor	General Labor	9	Hour	$18.57	$167.13
Mobilization	Mobilization, medium equipment	2	Each	$133.51	$267.02
				Total Cost:	$3,713.29

Practice: 430 - Irrigation Pipeline

Scenario # 6 **PVC (Iron Pipe Size) 10" Sprinkler (ft)**

Scenario Description: **Louisiana**

Description: Below ground installation of PVC (Iron Pipe Size) pipeline. PVC (IPS) is manufactured in sizes (nominal diameter) from ½-inch to 36-inch; typical practice sizes range from 2-inch to 24-inch; and typical scenario size is 6-inch. Construct 360 feet of 10-inch, Class 160 (SDR-26), PVC pipeline with appurtenances, installed below ground with a minimum of 2 feet of ground cover. The unit is weight of pipe material in pounds. 360 feet of 10-inch, Class 160 (SDR-26) PVC pipe weighs 8.376 lb/ft, or a total of 3015.4 pounds. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements.
Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use.
Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Practice Situation:

Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Practice Situation:

Pipeline installed to convey and/or distribute water to Sprinkler-irrigation systems, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use.

Scenario Feature Measure:

Length of Pipe

Scenario Typical Size:	360	Linear Foot	Unit Cost	$14.83

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Pipe, PVC, dia. < 18", weight priced	3316.9	Pound	$1.38	$4,577.32
Equip./Install.	Trenching, Pipeline Plowing	360	Foot	$0.91	$327.60
Labor	General Labor	9	Hour	$18.57	$167.13
Mobilization	Mobilization, medium equipment	2	Each	$133.51	$267.02
				Total Cost:	$5,339.07

Practice: 430 - Irrigation Pipeline

Scenario # 7 PVC (Plastic Irrigation Pipe) ≤ 10" ft

Scenario Description: **Louisiana**

Description: Below ground installation of PVC (Plastic Irrigation Pipe) pipeline. PVC (PIP) is manufactured in sizes (nominal diameter) from 4-inch to 27-inch; typical practice sizes range from 4-inch to 24-inch; and typical scenario size is 8-inch. Construct 1/4 mile (1,320 feet) of 8-inch, Class 50 (SDR-81.0), PVC PIP with appurtenances, installed below ground with a minimum of 2 feet of ground cover. The unit is weight of pipe in pounds. 1,320 feet of 8-inch, Class 50 (SDR-81.0) PVC PIP weighs 2.515 lb/ft, or a total of 3319.8 pounds. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements.
Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use.
Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Practice Situation:

Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Practice Situation:

Pipeline installed to convey and/or distribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use.

Scenario Feature Measure:

Length of pipe

Scenario Typical Size:	1320	Linear Foot	Unit Cost	$8.35

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Pipe, PVC, dia. < 18", weight priced	3651.8	Pound	$1.38	$5,039.48
Equip./Install.	Trenching, Earth, clay, 24" x 48"	1320	Foot	$2.86	$3,775.20
Labor	General Labor	75	Hour	$18.57	$1,392.75
Mobilization	Mobilization, medium equipment	2	Each	$133.51	$267.02
Mobilization	Mobilization, Material, distance > 50 miles	550	Dollar	$1.00	$550.00
				Total Cost:	$11,024.45

Practice: 430 - Irrigation Pipeline

Scenario # 8 **PVC (Plastic Irrigation Pipe) 12" ft**

Scenario Description: **Louisiana**

Description: Below ground installation of PVC (Plastic Irrigation Pipe) pipeline. PVC (PIP) is manufactured in sizes (nominal diameter) from 4-inch to 27-inch; typical practice sizes range from 4-inch to 24-inch; and typical scenario size is 12-inch. Construct 1/4 mile (1,320 feet) of 12-inch, Class 80 (SDR-51.0) , PVC PIP with appurtenances, installed below ground with a minimum of 2 feet of ground cover. The unit is weight of pipe in pounds. 1,320 feet of 12-inch, Class 80 (SDR-51.0) PVC PIP weighs 5.654 lb/ft, or a total of 7,463 pounds. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements.
Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use.
Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Practice Situation:

Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Practice Situation:

Pipeline installed to convey and/or distribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use.

Scenario Feature Measure:

Length of pipe

Scenario Typical Size:	1320	Linear Foot	Unit Cost	$11.87

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Pipe, PVC, dia. < 18", weight priced	8209	Pound	$1.38	$11,328.42
Equip./Install.	Trenching, Earth, loam, 24" x 48"	1320	Foot	$2.41	$3,181.20
Labor	General Labor	48	Hour	$18.57	$891.36
Mobilization	Mobilization, medium equipment	2	Each	$133.51	$267.02
				Total Cost:	$15,668.00

Practice: 430 - Irrigation Pipeline

Scenario # 9 PVC (Plastic Irrigation Pipe) 15" (ft)

Scenario Description: **Louisiana**

Description: Below ground installation of PVC (Plastic Irrigation Pipe) pipeline. PVC (PIP) is manufactured in sizes (nominal diameter) from 4-inch to 27-inch; typical practice sizes range from 4-inch to 24-inch; and typical scenario size is 15-inch. Construct 1/4 mile (1,320 feet) of 15-inch, Class 80 (SDR-51.0) , PVC PIP with appurtenances, installed below ground with a minimum of 2 feet of ground cover. The unit is weight of pipe in pounds. 1,320 feet of 15-inch, Class 80 (SDR-51.0) PVC PIP weighs 8.874 lb/ft, or a total of 11,713.7 pounds. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements.
Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use.
Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Practice Situation:

Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Practice Situation:

Pipeline installed to convey and/or distribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use.

Scenario Feature Measure:

Length of pipe

Scenario Typical Size:	1320	Linear Foot	Unit Cost	$16.76

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Pipe, PVC, dia. < 18", weight priced	12885	Pound	$1.38	$17,781.30
Equip./Install.	Trenching, Earth, loam, 24" x 48"	1320	Foot	$2.41	$3,181.20
Labor	General Labor	48	Hour	$18.57	$891.36
Mobilization	Mobilization, medium equipment	2	Each	$133.51	$267.02
				Total Cost:	$22,120.88

Practice: 430 - Irrigation Pipeline

Scenario # 10 PVC (Plastic Irrigation Pipe) ≥18" (ft)

Scenario Description: **Louisiana**

Description: Below ground installation of PVC (Plastic Irrigation Pipe) pipeline. PVC (PIP) is manufactured in sizes (nominal diameter) from 4-inch to 27-inch; typical practice sizes range from 4-inch to 24-inch; and typical scenario size is 21-inch. Construct 1/4 mile (1,320 feet) of 21-inch, Class 80 (SDR-51.0), PVC PIP with appurtenances, installed below ground with a minimum of 2 feet of ground cover. The unit is weight of pipe in pounds. 1,320 feet of 21-inch, Class 80 (SDR-51.0) PVC PIP weighs 18.41 lb/ft, or a total of 24,301 pounds. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements.
Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use.
Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Practice Situation:

Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Practice Situation:

Pipeline installed to convey and/or distribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use.

Scenario Feature Measure:

Length of pipe

Scenario Typical Size:	1320	Linear Foot	Unit Cost	$34.88

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Pipe, steel, smooth wall, galvanized, weight priced	26731	Pound	$1.56	$41,700.36
Equip./Install.	Trenching, Earth, loam, 24" x 48"	1320	Foot	$2.41	$3,181.20
Labor	General Labor	48	Hour	$18.57	$891.36
Mobilization	Mobilization, medium equipment	2	Each	$133.51	$267.02
				Total Cost:	$46,039.94

Practice: 430 - Irrigation Pipeline

Scenario # 11 Steel (IPS) StreamXSleeve

Scenario Description: **Louisiana**

Description: Steel (Iron Pipe Size) sleeve for PVC underground pipeline. Steel (IPS) is manufactured in sizes (nominal diameter) from ½-inch to 36-inch; typical practice sizes range from 2-inch to 18-inch; and typical scenario size is 18-inch. Construct 60 ft of 18-inch, Schedule 10, Galvanized Steel Pipe across a stream as a sleeve for a PVC underground pipeline. The unit is the weight of pipe material in pounds. 60 feet of 18-inch, Schedule 10, Galvanized Steel Pipe weighs 47.39 lb/ft, for total of 2843.4 pounds. Typical installation applies to soils with no special bedding requirements.

Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use.

Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Practice Situation:

Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Practice Situation:

Pipeline installed to convey and/or distribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use.

Scenario Feature Measure:

Length of Pipe

Scenario Typical Size:	60	Linear Foot	Unit Cost	$63.27

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Pipe, smooth steel, weight priced	2843.4	Pound	$1.12	$3,184.61
Equip./Install.	Backhoe, 80 HP	4	Hour	$40.48	$161.92
Labor	Equipment Operators, Heavy	4	Hour	$25.62	$102.48
Equip./Install.	Portable Welder	4	Hour	$14.88	$59.52
Labor	Skilled Labor	4	Hour	$26.82	$107.28
Equip./Install.	Truck, Pickup	2	Hour	$23.48	$46.96
Mobilization	Mobilization, medium equipment	1	Each	$133.51	$133.51
				Total Cost:	$3,796.28

Practice: 430 - Irrigation Pipeline

Scenario # 12 Steel (IPS) RoadXing Sleeve No Bore

Scenario Description: **Louisiana**

Description: Steel (Iron Pipe Size) sleeve for PVC underground pipeline. Steel (IPS) is manufactured in sizes (nominal diameter) from ½-inch to 36-inch; typical practice sizes range from 2-inch to 18-inch; and typical scenario size is 18-inch. Construct 60 ft of 18-inch, Schedule 10, Galvanized Steel Pipe under a county road as a sleeve for a PVC underground pipeline. The unit is the weight of pipe material in pounds. 60 feet of 18-inch, Schedule 10, Galvanized Steel Pipe weighs 47.39 lb/ft, for total of 2843.4 pounds. Typical installation applies to soils with no special bedding requirements.

Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use.

Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Practice Situation:

Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Practice Situation:

Pipeline installed to convey and/or distribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use.

Scenario Feature Measure:

Length of Pipe

Scenario Typical Size:	60	Linear Foot	Unit Cost	$71.85

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Pipe, smooth steel, weight priced	2843.4	Pound	$1.12	$3,184.61
Equip./Install.	Backhoe, 80 HP	6	Hour	$40.48	$242.88
Labor	Equipment Operators, Heavy	6	Hour	$25.62	$153.72
Equip./Install.	Portable Welder	6	Hour	$14.88	$89.28
Labor	Skilled Labor	6	Hour	$26.82	$160.92
Equip./Install.	Truck, Pickup	2	Hour	$23.48	$46.96
Mobilization	Mobilization, medium equipment	1	Each	$133.51	$133.51
Equip./Install.	Dozer, 80 HP	4	Hour	$49.22	$196.88
Labor	Equipment Operators, Heavy	4	Hour	$25.62	$102.48
				Total Cost:	$4,311.24

Practice: 430 - Irrigation Pipeline

Scenario # 13 **Steel (IPS) RoadXing Sleeve with Boring**

Scenario Description: **Louisiana**

Description: Steel (Iron Pipe Size) sleeve for PVC underground pipeline. Steel (IPS) is manufactured in sizes (nominal diameter) from ½-inch to 36-inch; typical practice sizes range from 2-inch to 18-inch; and typical scenario size is 18-inch. Bore across a county road, state highway or interstate with 60 ft of 18-inch, Schedule 10, Galvanized Steel Pipe as a sleeve for a PVC underground pipeline. The unit is the weight of pipe material in pounds. 60 feet of 18-inch, Schedule 10, Galvanized Steel Pipe weighs 47.39 lb/ft, for total of 2843.4 pounds. Typical installation applies to soils with no special bedding requirements.

Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use.

Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Practice Situation:

Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Practice Situation:

Pipeline installed to convey and/or distribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use.

Scenario Feature Measure:

Length of Pipe

Scenario Typical Size: 60 Linear Foot Unit Cost $110.74

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Pipe, smooth steel, weight priced	2843.4	Pound	$1.12	$3,184.61
Equip./Install.	Backhoe, 80 HP	6	Hour	$40.48	$242.88
Labor	Equipment Operators, Heavy	6	Hour	$25.62	$153.72
Equip./Install.	Portable Welder	6	Hour	$14.88	$89.28
Labor	Skilled Labor	6	Hour	$26.82	$160.92
Equip./Install.	Truck, Pickup	2	Hour	$23.48	$46.96
Mobilization	Mobilization, medium equipment	1	Each	$133.51	$133.51
Equip./Install.	Horizontal Boring, > 3" diameter	60	Foot	$43.88	$2,632.80
				Total Cost:	$6,644.68

Practice: 430 - Irrigation Pipeline

Scenario # 14 Stand Pipe, Steel (IPS)

Scenario Description: **Louisiana**

Description: New or replacement of Steel (Iron Pipe Size) stand or manifold. Steel (IPS) is manufactured in sizes (nominal diameter) from ½-inch to 36-inch; typical practice sizes range from 16-inch to 36-inch; and typical scenario size is 30-inch. Fabricate and install 8 ft of 30-inch, Schedule 10, Galvanized Steel Pipe stand/manifold at a well, relift pump or within a pipeline . The unit is the weight of pipe material in pounds. 8 feet of 30-inch, Schedule 10, Galvanized Steel Pipe weighs 98.93 lb/ft, for total of 791.4 pounds. Appurtenances include: fittings, air vents, and pressure relief valves, and are included in the cost of pipe material (additional 10% of pipe material quantity).
Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use.
Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Practice Situation:

An old undersizes stand pipe/manifold in need of replacing or no stand pipe/manifold currently in place.

After Practice Situation:

Stand pipe/Manifold installed either at a well, relift or at a junction of several underground pipelines.

Scenario Feature Measure:

Length of Pipe

Scenario Typical Size:	8	Linear Foot	Unit Cost	$227.91

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Pipe, smooth steel, weight priced	870.6	Pound	$1.12	$975.07
Materials	Steel, Plate, ⅛"	4.91	Square Foot	$4.26	$20.92
Equip./Install.	Backhoe, 80 HP	6	Hour	$40.48	$242.88
Labor	Equipment Operators, Heavy	6	Hour	$25.62	$153.72
Equip./Install.	Portable Welder	6	Hour	$14.88	$89.28
Labor	Skilled Labor	6	Hour	$26.82	$160.92
Equip./Install.	Truck, Pickup	2	Hour	$23.48	$46.96
Mobilization	Mobilization, medium equipment	1	Each	$133.51	$133.51
				Total Cost:	$1,823.26

Practice: 430 - Irrigation Pipeline

Scenario # 15 Dog Leg, Steel (IPS)

Scenario Description: **Louisiana**

Description: New or replacement of Steel (Iron Pipe Size) stand or manifold. Steel (IPS) is manufactured in sizes (nominal diameter) from ½-inch to 36-inch; typical practice sizes range from 10-inch to 18-inch; and typical scenario size is 12-inch. Fabricate and install 12 ft of 12-inch, Schedule 10, Galvanized Steel Pipe dogleg/z pipe at a well or relift pump. The unit is the weight of pipe material in pounds. 12 feet of 12-inch, Schedule 10, Galvanized Steel Pipe weighs 24.16 lb/ft, for total of 289.9 pounds. Appurtenances include: fittings, air vents, and pressure relief valves, and are included in the cost of pipe material (additional 10% of pipe material quantity).
Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use.
Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Practice Situation:

Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Practice Situation:

Pipeline installed to convey and/or distribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use.

Scenario Feature Measure:

Length of Pipe

Scenario Typical Size:	25	Linear Foot	Unit Cost	$76.82

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Pipe, smooth steel, weight priced	664.4	Pound	$1.12	$744.13
Equip./Install.	Backhoe, 80 HP	8	Hour	$40.48	$323.84
Labor	Equipment Operators, Heavy	8	Hour	$25.62	$204.96
Equip./Install.	Portable Welder	8	Hour	$14.88	$119.04
Labor	Skilled Labor	8	Hour	$26.82	$214.56
Equip./Install.	Truck, Pickup	2	Hour	$23.48	$46.96
Mobilization	Mobilization, medium equipment	2	Each	$133.51	$267.02
				Total Cost:	$1,920.51