

Scenario Worksheet

Practice and Scenario Description:	
Information Type	Data
Region	Mid Atlantic
State	New Jersey
Discipline Group	Water Management Engineering
Practice Code/Name	430 - Irrigation Pipeline
Scenario ID	1
Scenario Name	PVC (Iron Pipe Size) ≤ 8"

Scenario Description	<p>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 1/4 mile (1,320 feet) of 6-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. 1,320 feet of 6-inch, Class 125 (SDR-32.5) PVC pipe weighs 2.596 lb/ft, or a total of 3,427 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.</p> <p>Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use.</p> <p>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.</p>
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	Weight of Pipe
Scenario Unit	Pound
Scenario Typical Size	3,427

Cost Summary:		
Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$5,879.64	\$1.72
Equipment/Installation	\$1,716.00	\$0.50
Labor	\$729.28	\$0.21
Mobilization	\$571.80	\$0.17
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$8,896.72	\$2.60

Scenario Worksheet

Practice and Scenario Description:	
Information Type	Data
Region	Mid Atlantic
State	New Jersey
Discipline Group	Water Management Engineering
Practice Code/Name	430 - Irrigation Pipeline
Scenario ID	2
Scenario Name	PVC (Iron Pipe Size) ≥ 10"

Scenario Description

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 12-inch. Construct 1/4 mile (1,320 feet) of 12-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. 1,320 feet of 12-inch, Class 125 (SDR-32.5) PVC pipe weighs 9,505 lb/ft, or a total of 12,547 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	Weight of Pipe
Scenario Unit	Pound
Scenario Typical Size	12,547

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$21,529.56	\$1.72
Equipment/Installation	\$3,907.20	\$0.31
Labor	\$1,093.92	\$0.09
Mobilization	\$571.80	\$0.05
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$27,102.48	\$2.16

Scenario Worksheet

Practice and Scenario Description:	
Information Type	Data
Region	Mid Atlantic
State	New Jersey
Discipline Group	Water Management Engineering
Practice Code/Name	430 - Irrigation Pipeline
Scenario ID	3
Scenario Name	PVC (Plastic Irrigation Pipe) ≤ 8"

Scenario Description	<p>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 6-inch. Construct 1/4 mile (1,320 feet) of 6-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 6-inch, Class 50 (SDR-81.0) PVC PIP weighs 0.936 lb/ft, or a total of 1,236 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.</p> <p>Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use.</p> <p>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.</p>
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Before Practice Situation	Pipeline needed to replace or supplement inefficient irrigation conveyance systems.
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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.
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Scenario Feature Measure	Weight of Pipe
Scenario Unit	Pound
Scenario Typical Size	1,236

Cost Summary:		
Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$2,120.04	\$1.72
Equipment/Installation	\$1,716.00	\$1.39
Labor	\$1,093.92	\$0.89
Mobilization	\$571.80	\$0.46
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$5,501.76	\$4.45

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Mid Atlantic
State	New Jersey
Discipline Group	Water Management Engineering
Practice Code/Name	430 - Irrigation Pipeline
Scenario ID	4
Scenario Name	PVC (Plastic Irrigation Pipe) ≥ 10"

Scenario Description

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 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 12-inch, Class 50 (SDR-81.0) PVC PIP weighs 3,594 lb/ft, or a total of 4,744 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	Weight of Pipe
Scenario Unit	Pound
Scenario Typical Size	4,744

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$8,140.08	\$1.72
Equipment/Installation	\$3,907.20	\$0.82
Labor	\$1,458.56	\$0.31
Mobilization	\$571.80	\$0.12
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$14,077.64	\$2.97

Scenario Worksheet

Practice and Scenario Description:	
Information Type	Data
Region	Mid Atlantic
State	New Jersey
Discipline Group	Water Management Engineering
Practice Code/Name	430 - Irrigation Pipeline
Scenario ID	5
Scenario Name	

Scenario Description	<p>HDPE (Iron Pipe Size & Tubing) ≤ 8"</p> <p>Description: Below ground installation of HDPE (Iron Pipe Size & Tubing) pipeline. HDPE (IPS & Tubing) is manufactured in sizes (nominal diameter) from ½-inch to 24-inch; typical practice sizes range from 2-inch to 24-inch; and typical scenario size is 6-inch. Construct 1/4 mile (1,320 feet) of 6-inch, Class 130 (SDR-13.5), HDPE pipeline with appurtenances, installed below ground with a minimum 2 feet of ground cover. The unit is weight of pipe material in pounds. 1,320 feet of 8-inch, Class 130 (SDR-13.5), HDPE weighs 4.024 lb/ft, or a total of 5,312 pounds. Appurtenances include: 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.</p> <p>Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use.</p> <p>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.</p>
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	Weight of Pipe
Scenario Unit	Pound
Scenario Typical Size	5,312

Cost Summary:		
Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$15,892.96	\$2.99
Equipment/Installation	\$2,073.44	\$0.39
Labor	\$729.28	\$0.14
Mobilization	\$571.80	\$0.11
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$19,267.48	\$3.63

Scenario Worksheet

Practice and Scenario Description:	
Information Type	Data
Region	Mid Atlantic
State	New Jersey
Discipline Group	Water Management Engineering
Practice Code/Name	430 - Irrigation Pipeline
Scenario ID	6
Scenario Name	

Scenario Description

Description: Below ground installation of HDPE (Iron Pipe Size & Tubing) pipeline. HDPE (IPS & Tubing) is manufactured in sizes (nominal diameter) from ½-inch to 24-inch; typical practice sizes range from 2-inch to 24-inch; and typical scenario size is 12-inch. Construct 1/4 mile (1,320 feet) of 12-inch, Class 130 (SDR-13.5), HDPE pipeline with appurtenances, installed below ground with a minimum 2 feet of ground cover. The unit is weight of pipe material in pounds. 1,320 feet of 8-inch, Class 130 (SDR-13.5), HDPE weighs 14.89 lb/ft, or a total of 19,655 pounds. Appurtenances include: 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	Weight of Pipe
Scenario Unit	Pound
Scenario Typical Size	19,655

Cost Summary:		
Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$58,806.40	\$2.99
Equipment/Installation	\$4,264.64	\$0.22
Labor	\$1,093.92	\$0.06
Mobilization	\$571.80	\$0.03
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$64,736.76	\$3.29

