Scenario Worksheet

Practice and Scenario Description:	
Information Type	**Data**
Region	Appalachian
State	North Carolina
Discipline Group	Water Management Engineering
Practice Code/Name	516 - Pipeline
Scenario ID	2
Scenario Name	HDPE (Iron Pipe Size & Tubing)
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 1-inch to 4-inch; and typical scenario size is 1½-inch. Construct 1000 feet of 1½-inch, Class 200 (SDR-9.0, PE4708), HDPE Pipeline with appurtenances, installed below ground with a minimum 1.5 feet of ground cover. Typical size range of pipe installed: 1-inch to 4-inch. The scenario unit is Linear Foot of Pipe. 1000 feet of 1½-inch, Class 200 (SDR-9.0, PE4708), HDPE pipe weighs 0.475 lb/ft, or a total of 475 pounds. Appurtenances include: fittings, anchors, thrust blocks, gate valves (2), air release valves (2), drain valve (1), and pressure relief valve (1), and are included in the cost of pipe material (additional 10% of pipe material quantity). Revegetation is not included. **Resource Concerns**: Inadequate Livestock Water, Inefficient Energy Use. **Associated Practices**: Critical Area Planting (342), Pumping Plant (533), Watering Facility (614), and Water Harvesting Catchment (636).
Before Practice Situation	Water supplies need to be conveyed through pipelines for use by livestock or wildlife.
After Practice Situation	Pipeline(s) convey and/or distribute water to storage and/or watering facilities, for use by livestock or wildlife.
Scenario Feature Measure	Length of pipe
Scenario Unit	Linear Foot
Scenario Typical Size	1,000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$1,268.46	$1.27
Equipment/Installation	$1,064.68	$1.06
Labor	$149.36	$0.15
Mobilization	$185.20	$0.19
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$2,667.70	$2.67

Cost Details:

Select Components

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost	Component Justification	Quantity Justification
Materials	1379	Pipe, HDPE, smooth wall, weight priced	High Density Polyethylene (HDPE) compound manufactured into smooth wall pipe. Materials only.	Pound	$2.43	522	$1,268.46		(0.475lbs/ft * 1000ft)*1.10 = 522lbs
Equipment/Installation	1096	Trenching, Pipeline Plowing	Includes equipment and labor for plowing small diameter lines in common earth (< 3")	Foot	$1.02	1000	$1,020.00		Plow in 1000 feet of pipe
Equipment/Installation	1383	Fuser for HDPE Pipe	Fusing machine for 1" to 12" diameter HDPE pipe joints. Equipment costs only. Does not include labor.	Hour	$22.34	2	$44.68		
Labor	231	General Labor	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	$18.67	8	$149.36		Laying 1000 feet of pipe
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	$92.60	2	$185.20		Trencher move in & out