

Practice: 642 - Water Well

Scenario: #4 - Small Plastic Farm Well, Less Than 6 in

Scenario Description:

Installation of a well with PVC casing diameter of 4 inches or less; typical farm well has 4 inch diameter PVC casing. Note that doubling the diameter of water well casings only increases specific capacity by 10%. Increasing the length of the screened interval in a well is much more cost-effective at increasing yield. A well is drilled, dug, driven, bored, jetted or otherwise constructed to an aquifer for water supply. A PVC cap and grouting are installed to prevent a direct conduit to ground water, and the well is disinfected in accordance with state and local regulations. The purpose of the practice is to provide water for livestock or small irrigation systems, such as, micro-irrigation. Cost estimate is based on a well depth of 100 feet, with well casing 4 inches in diameter, PVC casing installed to a depth of 50 feet, and typical yield of less than or equal to 250 gpm.

Before Situation:

Livestock have insufficient water or are fenced from their water source or there is insufficient water for use in micro-irrigation/small irrigation systems.

After Situation:

Sufficient water is available for livestock or irrigation. Utilize Pumping Plant (533) and Pipeline (516) or Irrigation water conveyance (430) as associated practices. Use Critical Area Seeding (342) where necessary to prevent erosion following construction activities.

Scenario Feature Measure: Linear Foot of well depth

Scenario Unit: Linear Foot

Scenario Typical Size: 100

Scenario Cost: \$2,099.04

Scenario Cost/Unit: \$20.99

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Rotary Drill Rig with Operator	1595	Rotary drill rig including equipment and power unit costs and labor.	Hour	\$163.85	4	\$655.40
Materials						
Chlorine	1335	Liquid chlorine bleach. Includes materials only.	Gallon	\$2.83	1	\$2.83
Well Screen, plastic, 4"	1998	4" PVC well screen. Materials only.	Foot	\$6.05	50	\$302.50
Test, Standard Water Test, Well Water	309	Well Water Suitability test. Includes materials and shipping only.	Each	\$38.92	1	\$38.92
Well Cap, 4"	1785	Well cap, 4". Materials only.	Each	\$24.82	1	\$24.82
Well Casing, Plastic, 4"	1803	PVC or ABS non-threaded well casing, 4". Materials only.	Foot	\$3.52	50	\$176.00
Grout, cement	1333	Cement grout meeting ASTM specifications for well sealing. Includes both neat-cement grout and bentonite grout mixtures. Includes materials, equipment and labor to place.	Cubic Yard	\$646.59	1	\$646.59
Mobilization						
Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$251.98	1	\$251.98