

Table D-1. Line items and unit costs used in the development of unit costs for watershed restoration practices				
Practice Type	Item	Unit Cost	Units	Costing Source
Alternate Livestock Watering	alternate livestock watering source, gravity system	\$7,000.00	EA	Lynch and Tjaden 2000
Barnyard Runoff Controls	animal waste management system, barnyard runoff controls	\$7,200.00	EA	CWP 2005
Buffer Planting/Reforestation	soil amendments	\$1,500.00	AC	CWP 2005
	rubble removal	\$500.00	AC	CWP 2005
	invasive plant removal	\$250.00	AC	CWP 2005
	container trees	\$2,000.00	AC	CWP 2005
Dedicated Stream Crossing	crossing constructed with stone	\$6,000.00	EA	Lynch and Tjaden 2000
Detention Berm	fill by borrow, load, 1 mile haul, spread with dozer for embankments	\$9.35	LCY	RSMMeans 2005
	seeding, vegetative cover	\$3,542.00	AC	RSMMeans 2005
	tipping fee for excavation spoil	\$6.00	CY	RSMMeans 2005
Grass Swale	10' wide grass drainage swale	\$5.29	LF	RSMMeans 2003
Infiltration Trench	grass ditching, 5' bottom, 5' deep, 4:1 side slopes	\$37.58	LF	RSMMeans 2003
	geotextile, 6oz/sy, non-woven (60 mil)	\$1.14	SY	RSMMeans 2003
	crushed stone	\$22.84	CY	RSMMeans 2003
	seeding, vegetative cover	\$3,542.00	AC	RSMMeans 2003
	soil/bentonite liner	\$1.33	SY	RSMMeans 2003
	tipping fee for excavation spoil	\$6.00	CY	RSMMeans 2003
	mushroom compost	\$18.65	CY	RSMMeans 2003
	Rain Barrels	rain barrel with sealed top	\$120.00	EA
	overflow kit/runoff pipe	\$35.00	EA	LID Center, Inc. undated
	rain diverter	\$18.00	EA	LID Center, Inc. undated
	soaker hose	\$21.00	EA	LID Center, Inc. undated
	linking kit	\$12.00	EA	LID Center, Inc. undated
	spigot, if not supplied	\$5.00	EA	LID Center, Inc. undated
	additional guttering	\$5.00	EA	LID Center, Inc. undated
Rain Gardens	5 miles, dump truck, load & haul debris	\$3.06	CY	RSMMeans 2005
	excavate planting pit, 1/2 c.y. backhoe, heavy soil or clay	\$8.55	CY	RSMMeans 2005
	backfill planting pit, skid steer loader, prepared planting mix	\$3.00	CY	RSMMeans 2005
	spread (loam and topsoil) from pile to rough finish grade, front end loader, 1.5 cy	\$4.25	CY	RSMMeans 2005
	tipping fee for excavation spoil	\$6.00	CY	RSMMeans 2003
	mulching, aged barks, 3" deep, hand spread	\$5.55	SY	RSMMeans 2005
	10 foot wide grass drainage swale	\$5.29	LF	RSMMeans 2003
	trees	\$200.00	EA	RSMMeans 2005
	shrubs	\$30.00	EA	RSMMeans 2005
	moving trees onsite, 24" ball	\$56.00	EA	RSMMeans 2005
	moving shrubs onsite, 12" ball	\$44.00	EA	RSMMeans 2005
Road Demolition	demolish bituminous road with power equipment	\$23.04	CY	RSMMeans 2003
	dump charges (general, non-hazardous)	\$10.33	CY	RSMMeans 2003
	953 2 cy track loader	\$107.18	HR	RSMMeans 2003
	26 c.y. semi-dump	\$94.95	HR	RSMMeans 2003
Streambank Fencing	high tensile, 3-strand electric fence	\$2.60	LF	Lynch and Tjaden 2000
SWM Pond Retrofit	cut and chip light trees to 6" diameter.	\$3,225.00	AC	RSMMeans 2005
	grub stumps and remove	\$1,475.00	AC	RSMMeans 2005
	clearing brush with dozer, ball and chain, light clearing	\$880.00	AC	RSMMeans 2005
	no hydrostatic head, 15' deep, 1 line of braces, minimum	\$23.00	SF	RSMMeans 2005
	backhoe, hydraulic, crawler mounted., 2 c.y. cap. = 130 c.y./hr.	\$1.70	BCY	RSMMeans 2005
	track mounted front end loader, 2.5 c.y. cap. = 95 c.y./hr.	\$1.57	BCY	RSMMeans 2005
	dozer, loader, backhoe, excav., grader, paver, roller 70 to 150 hp	\$207.00	EA	RSMMeans 2005
	gabions, galvanized steel mesh mats or boxes, stone filled, 18" deep	\$69.50	SY	RSMMeans 2005
	silt fence, polypropylene, 3' high, ideal conditions	\$0.77	LF	RSMMeans 2005

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	fill by borrow, load, 1 mile haul, spread with dozer for embankments	\$9.35	LCY	RSMMeans 2005
	12 c.y. dump truck, 10 mile round trip, 0.6 load/hr.	\$14.85	LCY	RSMMeans 2005
	finish grading area to be paved with grader, small area	\$3.14	SY	RSMMeans 2005
	vibratory plate, 8" lifts, common fill	\$1.80	ECY	RSMMeans 2005
	seeding, vegetative cover	\$3,542.00	AC	RSMMeans 2005
	mushroom compost, bulk	\$18.65	CY	RSMMeans 2003
	wetland vegetation planting	\$28.97	CSF	RSMMeans 2003
	seed wetland w/bionutrients	\$1.59	LB	RSMMeans 2003
	soil/bentonite liner-6" lifts	\$1.33	SF	RSMMeans 2003
	clay 10e-7, 6" lifts, off-site	\$21.20	CY	RSMMeans 2003
	12oz/sy geotextile/drainage fabric (130mil)	\$1.96	SY	RSMMeans 2003
	rock cover, rip rap, medium (10 to 200 lb. pieces)	\$23.18	CY	RSMMeans 2003
	18" reinforced concrete pipe, class 3, with gaskets	\$19.95	LF	RSMMeans 2003
	36-inch diameter riser outlet	\$6,368.00	EA	RSMMeans 2003
Tree box filters	pre-cast concrete, 6' x 6' manufactured tree box filter to treat ¼ acre impervious surface, installation	\$7,500.00	EA	LID Center, Inc. undated
Wildflower Plantings	fertilize, 800 lbs./acre push rotary	\$93.12	AC	RSMMeans 2003
	seeding, vegetative cover	\$3,542.00	AC	RSMMeans 2003