

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Access Control	472	Excluding animals, people, or vehicles from an area.	1 1/4 hr time per 10 acres to monitor and manage access control devices (see fence for fence costs)	Ac.	\$ 2.00	10	\$0.06
Access Road	560	A travel-way for equipment and vehicles constructed as part of a conservation plan.	14 ft wide including shoulders. 22A gravel 6" deep. Geotextile. includes on 15 inch diameter culvert in the 500 ft of lane.	Ft.	\$ 16.00	10	\$0.48
Agrichemical Handling Facility	309	An impermeable barrier and containment placed or constructed on the ground where	Small agrichemical handling facility for storage, mixing, and loading, 800 sq ft.	each	\$ 28,600.00	15	\$858.00
Agrichemical Handling Facility	309	An impermeable barrier and containment placed or constructed on the ground where	Large agrichemical handling facility for storage, mixing, and loading, 1600 sq ft.	each	\$ 43,500.00	15	\$1,305.00
Agrichemical Handling Facility	309	An impermeable barrier and containment placed or constructed on the ground where agricultural storage, loading, mixing, and clean-up occur.	Liquid fertilizer facility with timber frame metal roof. Typical size is 30' x 40' lined with flexible membrane liner walls with modular block walls stacked 2 height (4'), operational pad is 20' x 30' (6" of concrete over 4" compacted sand).	No.	\$ 23,000.00	15	\$690.00
Agrichemical Handling Facility	309	An impermeable barrier and containment placed or constructed on the ground where agricultural storage, loading, mixing, and clean-up occur.	Dry fertilizer facility with timber frame metal roof. Typical is 3 sided facility with a bin typical 32' X 40' with 6' R/C walls and R/C floor. Operational pad is 6" of concrete over 4" compacted sand typical size 12' x 20' .	No.	\$ 26,000.00	15	\$780.00
Agrichemical Handling Facility	309	An impermeable barrier and containment placed or constructed on the ground where	Mix load pad or Operational pad only, concrete	Sq Ft.	\$ 9.25	15	\$0.28
Alley Cropping	311	Trees or shrubs planted in single or multiple rows with agronomic, horticultural, or forage	10 acre (660'x660') site. 26 rows of red oak trees with 25' spacing between rows, and 10' spacing within rows.	Ac.	\$ 215.50	15	\$6.47
Alley Cropping	311	Trees or shrubs planted in single or multiple rows with agronomic, horticultural, or forage	Adding tree protectors for pest control on hardwoods, protector tube, stake, ties, and labor to install	each	\$ 4.75	15	\$0.14
Anaerobic Digester - Controlled Temperature	366	A managed temperature waste treatment facility.	Anaerobic Digester, small digester only. Get an Engineer's design cost estimate.	No.	\$ 285,000.00	25	\$8,550.00
Animal Mortality Facility	316	An on-farm facility for the treatment or disposal of livestock and poultry carcasses for routine and catastrophic mortality events.	Composter, Refrigeration, Incinerator/Gasifier, Burial Pit as per practice standard. See engineer for specific cost estimate based on type of facility. Basic composting facility cost.	No.	\$ 34,000.00	15	\$1,020.00

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Animal Trails and Walkways	575	Established lanes or travel-ways that facilitate animal movement.	Aggregate surface (MDOT 22A gravel) surface 6" thick, 16 feet wide, includes grading and shaping, geotextile, seeding and mulching. Fence not included.	Ft.	\$ 19.00	10	\$0.57
Aquaculture Ponds	397	A water impoundment constructed and managed for commercial aquaculture production.	Embankment in or off channel (above ground embankments cost more depending on design and fill materials) or Excavated. Range of \$115,100 to \$185,900 for 3-5 acre ponds. May also require a liner. Use Pond Sealing or Lining - Flexible Membrane (521A). Get an Engineer's design cost estimate.	Ac.	\$ 24,000.00	10	\$720.00
Aquatic Organism Passage	396	Modification or removal of barriers that restrict or prevent movement or migration of fish.	box culvert. Replace culvert with passable culvert - 4' x 10'. Includes excavation, backfill and outlet protection, not road surface.	No.	\$ 49,600.00	5	\$1,488.00
Aquatic Organism Passage	396	Modification or removal of barriers that restrict or prevent movement or migration of fish.	Replace culvert with passable culvert - 54" diameter. Includes excavation, backfill and outlet protection, not road surface. By Mile of passage installed.	No.	\$ 26,000.00	5	\$780.00
Aquatic Organism Passage	396	Modification or removal of barriers that restrict or prevent movement or migration of fish.	Replace culvert with passable culvert - 36" diameter. Includes excavation, backfill and outlet protection, not road surface.	No.	\$ 19,500.00	5	\$585.00
Aquatic Organism Passage	396	Modification or removal of barriers that restrict or prevent movement or migration of fish.	install arch culvert with stream gravel/ fish friendly bottom. Remove old culvert with fish blockage and install arch culvert.	No.	\$ 55,000.00	5	\$1,650.00
Aquatic Organism Passage	396	Modification or removal of barriers that restrict or prevent movement or migration of	Install arch culvert with slope needing cellular confinement system.	No.	\$ 64,000.00	5	\$1,920.00
Aquatic Organism Passage	396	Modification or removal of barriers that restrict or prevent movement or migration of	Rock scour hole protection - 16 tons riprap plus geotextile, shaping	No.	\$ 2,700.00	5	\$81.00
Aquatic Organism Passage	396	Modification or removal of barriers that restrict or prevent movement or migration of	Timber Bridge, single lane	No.	\$ 4,500.00	5	\$135.00
Aquatic Organism Passage	396	Modification or removal of barriers that restrict or prevent movement or migration of	Timber Bridge, Two lane	No.	\$ 6,100.00	5	\$183.00

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Brush Management	314	Removal, reduction, or manipulation of non-herbaceous plants.	Flail type mower or bush-hog with tractor, some handwork for removal of undesirable species scattered throughout pasture acres. Typical pasture treatment on 20 acres with < 20% shrubs >2 inches.	Ac.	\$ 55.00	10	\$1.65
Brush Management	314	Removal, reduction, or manipulation of non-herbaceous plants.	Typical forestland or wildlife habitat treatment. Mechanical and/or chemical treatment of brush foliage, stem, bark as spot spraying handwork; injection with or without cutting; stump treatment immediate after cutting.	Ac.	\$ 56.00	10	\$1.68
Brush Management	314	Removal, reduction, or manipulation of non-herbaceous plants.	Forest/Wildlife Site, clean invasive woody species, cut and treat stems (\$400-750 per acre depending on density of material)	Ac.	\$ 475.00	10	\$14.25
Brush Management	314	Removal, reduction, or manipulation of non-herbaceous plants.	Pasture site, tractor and chain to pull smaller plants and dozer to push larger and grub stumps.	Ac.	\$ 430.00	10	\$12.90
Channel Bed Stabilization	584	Measure(s) used to stabilize the bed or bottom of a channel.	Installation of channel bottom armoring (lining). Riprap D50 = 6-inch angular rock for armoring. Minor clearing of channel to remove deadfall, stumps, trees, and debris. On site disposal of materials. 12 foot wide channel. 200 lin. feet. Does not include cost of DEQ Hydraulic review.	Ft.	\$ 55.00	10	\$1.65
Combustion System Improvement	372	Installing, replacing, or retrofitting agricultural combustion systems and/or related components or devices for air quality and	Addition of a variable frequency drive to a 100 HP electric motor that is replacing an older diesel pump motor with fuel tank and lines used for an irrigation pump.	each	\$ 19,700.00	10	\$591.00
Composting Facility	317	This is a treatment component of an agricultural management system for the biological stabilization of organic material.	For composting manure, vegetable or other crop materials ONLY. Gravel (5") surface over compacted sand (4"). Typical is 8,000sq.ft	Sq Ft.	\$ 1.45	15	\$0.04
Composting Facility	317	This is a treatment component of an agricultural management system for the biological stabilization of organic material.	Concrete pad for composting manure, vegetable or other crop material ONLY. Typical cost is concrete (5") over 4" compacted sand. Typical is 8,000sq.ft.	Sq. Ft.	\$ 3.70	15	\$0.11
Conservation Cover	327	Establishing and maintaining permanent vegetative cover to protect soil and water resources.	Cool season grass and legume mix 3 from practice standard 5 lbs per ac red clover and 8 lb per acre smooth brome grass.	Ac.	\$ 155.00	5	\$4.65

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Conservation Cover	327	Establishing and maintaining permanent vegetative cover to protect soil and water resources.	Cool season grass and legume mix 3 from practice standard 5 lbs per ac red clover and 8 lb per acre smooth brome grass.	Ac.	\$ 285.00	5	\$8.55
Conservation Cover	327	Establishing and maintaining permanent vegetative cover to protect soil and water resources.	Cool season grass and legume mix suitable for orchard, vineyard alleys. Assumes 60% of total orchard/vineyard site is planted to conservation cover	Ac.	\$ 115.00	5	\$3.45
Conservation Cover	327	Establishing and maintaining permanent vegetative cover to protect soil and water	Warm season grass and Michigan pollinator wildflower mix	Ac.	\$ 575.00	5	\$17.25
Conservation Cover	327	Establishing and maintaining permanent vegetative cover to protect soil and water	Warm season grass mix	Ac.	\$ 65.00	5	\$1.95
Conservation Cover	327	Establishing and maintaining permanent vegetative cover to protect soil and water	Warm season grass and wildflower mix	Ac.	\$ 213.00	5	\$6.39
Conservation Crop Rotation	328	Growing crops in a recurring sequence on the same field.	analysis of crops, and acreages to determine rotation. Includes analysis of the recordkeeping of fields and crops to create crop rotations.	Ac.	\$ 5.00	1	\$0.00
Constructed Wetland	656	A constructed shallow water ecosystem designed to simulate natural wetlands.	milkhouse waste water, runoff containminated waste clean up in wetland	No.	\$ 41,500.00	15	\$1,245.00
Contour Buffer Strips	332	Narrow strips of permanent, herbaceous vegetative cover established across the slope	Warm season buffer strip	Ac.	\$ 250.00	5	\$7.50
Contour Buffer Strips	332	Narrow strips of permanent, herbaceous vegetative cover established across the slope	cool season buffer strip	Ac.	\$ 120.00	5	\$3.60
Contour Buffer Strips	332	Narrow strips of permanent, herbaceous vegetative cover established across the slope	Organic buffer strip	Ac.	\$ 145.00	5	\$4.35
Contour Farming	330	Tillage, planting, and other farming operations performed on or near the contour of the field	typical 20 ac crop field. Measure out and mark contours for farming operations. Document contours.	Ac.	\$ 6.00	5	\$0.18
Contour Orchard or Other Fruit Area	331	Planting orchards, vineyards, or small fruits so that all cultural practices are done on the	typical 10 acre orchard. Measure out and mark contours before planting new orchard. Document actions	Ac.	\$ 12.00	10	\$0.36
Cover Crop	340	Grasses, legumes, forbs, or other herbaceous plants established for seasonal cover and	Non-Legume Cover Crop (cereal grain)	Ac.	\$ 67.70	1	\$0.00
Cover Crop	340	Grasses, legumes, forbs, or other herbaceous plants established for seasonal cover and	Organic Non-Legume Cover Crop (cereal grain)	Ac.	\$ 100.00	1	\$0.00

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Cover Crop	340	Grasses, legumes, forbs, or other herbaceous plants established for seasonal cover and	legume cover crop for crop and/or vegetable crop fields. Regular, aerial, or manure slurry seeding.	Ac.	\$ 75.00	1	\$0.00
Cover Crop	340	Grasses, legumes, forbs, or other herbaceous plants established for seasonal cover and	organic legume cover crop for crop and/or vegetable crop fields. Regular, aerial, or manure slurry seeding.	Ac.	\$ 112.00	1	\$0.00
Cover Crop	340	Grasses, legumes, forbs, or other herbaceous plants established for seasonal cover and	per acre cost for typical virginia wild rye for weed supression cover crop for tree shrub establishment	Ac.	\$ 74.00	1	\$0.00
Cover Crop	340	Grasses, legumes, forbs, or other herbaceous plants established for seasonal cover and conservation purposes.	oil seed radish for deep roots compaction breakup with mechanical removal roller crimper or disk	Ac.	\$ 123.00	1	\$0.00
Cross Wind Trap Strip - Filter or Field	342	Establishing permanent vegetation on sites that have physical, chemical, or biological conditions that prevent the establishment of	one or more strips across prevailing wind direction, typical 25 ft wide less than 1 ft tall. 1742 ft per acre.	Ac.	\$ 125.00	10	\$3.75
Cross Wind Trap Strip - Filter or Field	342	Establishing permanent vegetation on sites that have physical, chemical, or biological	Organic, one or more strips across prevailing wind direction, typical 25 ft wide less than 1 ft tall. 1742 ft per acre.	Ac.	\$ 220.00	10	\$6.60
Deep Tillage	324	Performing tillage operations below the normal tillage depth to modify the physical or	Subsoiling and/or V-ripping used to relieve compaction.	Ac.	\$ 17.00	1	\$0.00
Dike	356	A barrier constructed of earth or manufactured materials.	Excavation and compaction of earthfill. Get an Engineer's design cost estimate.	Cu. Yd.	\$ 4.50	20	\$0.14
Diversion	362	A channel constructed across the slope generally with a supporting ridge on the lower	Combination earth dike 1 foot high and channel cut 1 foot deep, 8 foot bottom width with 4:1 uphill slope, 8 foot top	Ft.	\$ 4.50	10	\$0.14
Diversion	362	A channel constructed across the slope generally with a supporting ridge on the lower side.	Concrete Curb and channel for diverting water from animal operations 1 foot high with graded channel	Ft.	\$ 26.00	10	\$0.78
Drainage Water Management (Ac.)	554	Control of water surface elevations and discharge from surface and subsurface	6 adjustments per year with 1 water control structure in a nearly flat tile drained crop field from November 1 through	Ac.	\$ 8.85	1	\$0.00

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Dry Hydrant (No.)	432	A non-pressurized permanent pipe assembly system installed into dependable water source that permits the withdrawal of water by suction.	Get an Engineer's design cost estimate.	No.	\$ 35,000.00	15	\$1,050.00
Early Successional Habitat Development/Management	647	Manage early plant succession to benefit desired wildlife or natural communities.	Mow strips 50-100 feet wide with bobcat fitted fecon head (or similar equipment) approximately 1-5 acres in size with five strips.	Ac.	\$ 400.00	1	\$0.00
Early Successional Habitat Development/Management	647	Manage early plant succession to benefit desired wildlife or natural communities.	clear cut aspen areas - regeneration. labor and equipment for clear cut.	Ac.	\$ 500.00	1	\$0.00
Early Successional Habitat Development/Management	647	Manage early plant succession to benefit desired wildlife or natural communities.	Mowing, raking, and removal of material from grassland area.	Ac.	\$ 106.00	1	\$0.00
Early Successional Habitat Development/Management	647	Manage early plant succession to benefit desired wildlife or natural communities.	Spot spraying of 6 acres per 25 acres of grassland area (approx. 25%).	Ac.	\$ 5.41	1	\$0.00
Farmstead Energy Improvement	374	This practice may be applied as part of a conservation management system to reduce energy use.	Removal of 400W Mercury Vapor (455W total input watt) fixtures and replace with high-efficiency PSMH lighting system includes materials and installation.	No.	\$ 175.00	10	\$5.25
Farmstead Energy Improvement	374	This practice may be applied as part of a conservation management system to reduce energy use.	variable frequency drive and appurtances attached to a electric motor used to drive a ventilation fan, irrigation pumps, vacuum pump, or similar equipment with 5 to 30 HP motors involved with agricultural production.	HP	\$ 215.00	10	\$6.45

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Farmstead Energy Improvement	374	This practice may be applied as part of a conservation management system to reduce energy use.	Install screens / energy curtains in a greenhouse. The mechanical energy screen system consists of a drive motor, support cables, controls, and shade material, which may be	Sq Ft.	\$ 1.66	10	\$0.05
Farmstead Energy Improvement	374	This practice may be applied as part of a conservation management system to reduce energy use.	Replacement of conventional 48" circulation fan with 48" panel circulation fan with a thrust of 30.62 (lbf) and a thrust efficiency of 25.6 (lbf/kW) .	No.	\$ 450.00	10	\$13.50
Farmstead Energy Improvement	374	This practice may be applied as part of a conservation management system to reduce energy use.	High-efficiency heating systems include any heating unit with efficiency rating of 80%+ for fuel oil and 90%+ for	BTU output	\$ 0.02	10	\$0.00
Farmstead Energy Improvement	374	This practice may be applied as part of a conservation management system to reduce energy use.	a 10 HP vacuum pump used for milking facility that is replaced with a new NEMA premium pump motor	No.	\$ 673.00	10	\$20.19
Farmstead Energy Improvement	374	This practice may be applied as part of a conservation management system to reduce energy use.	Install plate cooler ahead of the milk storage tank to reduce milk temperatures 55°F to 70°F before it enters the refrigerated storage tank.	No.	\$ 4,155.00	10	\$124.65
Fence	382	A constructed barrier to animals or people.	Interior high tensile electric, 2 strand, metal T posts, wood post corners and braces, 3/4 to 1 mile per grazing system, wire gates. Light site prep with <30% on installation area	Ft.	\$ 1.40	20	\$0.04
Fence	382	A constructed barrier to animals or people.	10' Woven wire for exclusion of deer, etc from feed storage. TB concern. 66'x660', 1452 lin ft with 1 gate. 20 ft post spacing.	Ft.	\$ 4.00	20	\$0.12
Fence	382	A constructed barrier to animals or people.	Permanent Safety fence around waste storage as required per standard 313; 600 feet of 4 strand HT smooth,	Ft.	\$ 3.10	20	\$0.09
Field Border	386	A strip of permanent vegetation established at the edge or around the perimeter of a field.	cool season, on farm equipment, seed, fertilizer, herbicide, drill, 2 mowing to establish.	Ac.	\$ 130.00	10	\$3.90
Field Border	386	A strip of permanent vegetation established at the edge or around the perimeter of a field.	MI pollinator mix added to planting, 2 mowing to establish	Ac.	\$ 554.00	10	\$16.62
Field Border	386	A strip of permanent vegetation established at the edge or around the perimeter of a field.	MI prairie restoration mesic mix	Ac.	\$ 1,082.00	10	\$32.46

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Filter Strip	393	A strip of grass or other permanent vegetation used to reduce sediment, organics, nutrients,	cool season grass, lime, fertilizer and installed	Ac.	\$ 130.00	10	\$3.90
Filter Strip	393	A strip of grass or other permanent vegetation used to reduce sediment, organics, nutrients,	Organic cool season grass, lime, fertilizer and installed	Ac.	\$ 243.00	10	\$7.29
Firebreak	394	A strip of bare land or vegetation that retards fire.	30' wide permanent cool season grass firebreak.	Ft.	\$ 0.08	5	\$0.00
Firebreak	394	A strip of bare land or vegetation that retards fire.	Disking to create firebreak for Prescribed burning of a grassland site. 15ft wide	Ft.	\$ 0.02	5	\$0.00
Fish Raceway or Tank	398	A channel or tank with a continuous flow of water constructed or used for high-density fish	Fiberglass or other material tank with fittings.	each	\$ 3,000.00	10	\$90.00
Fish Raceway or Tank	398	A channel or tank with a continuous flow of water constructed or used for high-density fish production.	Concrete raceway by linear ft of raceway based on typical 4' wide and 4' deep concrete lined.	Ft.	\$ 120.00	10	\$3.60
Fishpond Management	399	Managing impounded water for the production of fish or other aquatic organisms	management of 1/2 acre pond for production of fish, 20 hr per yr @ \$28 to carry out practice standard. Does not	No.	\$ 560.00	1	\$0.00
Forage and Biomass Planting	512	Establishing native or introduced forage species.	forages for pasture.	Ac.	\$ 240.00	5	\$7.20
Forage and Biomass Planting	512	Establishing native or introduced forage species.	Interseeding or overseeding of cool season grasses and/or legumes into existing pasture	Ac.	\$ 100.00	5	\$3.00
Forage and Biomass Planting	512	Establishing native or introduced forage species.	warm season grass or grass mixes for pasture	Ac.	\$ 200.00	5	\$6.00
Forage Harvest Management	511	The timely cutting and removal of forages from the field such as hay, green-chop, or ensilage. This does not include harvest by grazing livestock.	Timely cutting, harvest and removal of forage from field as hay, green-chop or ensilage. management of forage dry down for hay.	Ac.	\$ 12.00	1	\$0.00

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Forest Stand Improvement	666	Manipulation of species composition, stand structure, and stocking by cutting or killing selected trees and understory vegetation.	analysis (inventory), marking, and removal of undesirable trees in a high density, uneven-aged hardwood stand to increase productivity, health, and vigor. Basal area is reduced from 100 to 75 sq. ft./acre. Timber revenue covers cost of removal.	Ac.	\$ 40.00	10	\$1.20
Forest Stand Improvement	666	Manipulation of species composition, stand structure, and stocking by cutting or killing selected trees and understory vegetation.	Analysis (inventory), marking, and removal of undesirable trees in a high density, uneven-aged hardwood stand, to increase stand productivity, healthy, and vigor. Basal area is reduced from 100 to 75 sq. ft./acre. Cut trees are	Ac.	\$ 280.00	10	\$8.40
Forest Stand Improvement	666	Manipulation of species composition, stand structure, and stocking by cutting or killing selected trees and understory vegetation.	Analysis (inventory), marking, and removal of every third row in a 20 year old red pine plantation to increase productivity, health, and vigor. Removed trees are sold commercially. Timber revenue covers cost of removal.	Ac.	\$ 20.00	10	\$0.60
Forest Stand Improvement	666	Manipulation of species composition, stand structure, and stocking by cutting or killing selected trees and understory vegetation.	Analysis (inventory), marking, and removal of every third row in a 20 year old red pine plantation to increase productivity, health, and vigor. Cut trees are disposed of locally (e.g. firewood) and not sold commercially.	Ac.	\$ 100.00	10	\$3.00
Forest Trails and Landings	655	Laying out, constructing, and using forest harvest trails and landings.	New trail to access forest for installation of other forestry practices, and to address soil erosion, water quality, compaction, and plant health through proper layout of trail and installation of waterbars and/or broadbased dips. Trail	Ac.	\$ 3,493.00	5	\$104.79
Fueling Facility Above-Ground Storage	713	Permanently located above ground facilities designed to provide safe storage of on-farm oil products.	Tanks and fueling area are placed on a reinforced concrete pad to collect any spills and drips. Tanks protected by guard posts. Surface and ground water protected. 600 sq ft	No.	\$ 3,900.00	0	\$0.00
Fueling Facility Above-Ground	713	Permanently located above ground facilities designed to provide safe storage of on-farm oil	New dual wall tanks and fueling area are placed on a reinforced concrete pad to collect any spills and drips.	No.	\$ 7,022.00	0	\$0.00
Grade Stabilization Structure	410	A structure used to control the channel grade in natural or constructed watercourses.	Geotextile vegetated chute	No.	\$ 974.00	15	\$29.22

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Grade Stabilization Structure	410	A structure used to control the channel grade in natural or constructed watercourses.	Rock/Block Chute	No.	\$ 4,655.00	15	\$139.65
Grade Stabilization Structure	410	A structure used to control the channel grade in natural or constructed watercourses.	Pipe drop structure with 40 feet of 30 inch dia. Corr. Plastic pipe with 42 inch diam. Drop inlet 8 feet tall, anti swirl baffle, grading and filling, seeding and mulching	No.	\$ 4,193.00	15	\$125.79
Grade Stabilization Structure	410	A structure used to control the channel grade in natural or constructed watercourses.	Structure with 10 foot weir, 4 foot drop, riprap outlet, made of 2X2X6 concrete blocks, 2:1 DS slopes, geotextile and sand or gravel backfill, grading and filling, riprap basin,	No.	\$ 6,353.00	15	\$190.59
Grassed Waterway	412	A natural or constructed channel that is shaped or graded to required dimensions and established with suitable vegetation.	New grassed waterway without drainage tubing. Grading , shaping, seeding and mulching. Mulch netting in center 1/3 of waterway.	Ac.	\$ 3,600.00	10	\$108.00
Grassed Waterway	412	A natural or constructed channel that is shaped or graded to required dimensions and	Grassed waterway with rock center. 40 foot width, rock 6" d50, 6 feet wide and 1 foot deep Grading , shaping, seeding	Ac.	\$ 27,549.00	10	\$826.47
Heavy Use Area Protection	561	The stabilization of areas frequently and intensively used by people, animals, or	Gravel surface with geotextile base. 1,600 square feet, 9" thick, compacted in place.	Sq. Ft.	\$ 1.76	10	\$0.05
Heavy Use Area Protection	561	The stabilization of areas frequently and intensively used by people, animals, or	2000 sq ft (40 ft. x 50 ft.) with 5" concrete over 4"compacted sand.	Sq. Ft.	\$ 3.70	10	\$0.11
Heavy Use Area Protection	561	The stabilization of areas frequently and intensively used by people, animals, or	2000 sq ft (40 ft. x 50 ft.) with 5" concrete over 4"compacted sand. 1 ft reinforced concrete wall.	Sq. Ft.	\$ 4.42	10	\$0.13
Heavy Use Area Protection	561	The stabilization of areas frequently and intensively used by people, animals, or vehicles by establishing vegetative cover, by surfacing with suitable materials, and/or installing needed structures.	2000 sq ft (40 ft. x 50 ft.) with 5" concrete over 4"compacted sand. 2ft reinforced concrete wall.	Sq. Ft.	\$ 6.70	10	\$0.20

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Hedgerow Planting	422	Establishing a linear planting of shrubs or trees in, across, or around a field.	One row of trees (10' spacing within row) and one row of shrubs (6' spacing within row) with 12' spacing between rows or mixed trees/shrubs within each row. Includes initial herbicide treatment plus second and third year herbicide treatments. 612' x 24' wide.	Ft.	\$ 0.80	15	\$0.02
Hedgerow Planting	422	Establishing a linear planting of shrubs or trees in, across, or around a field.	Wildlife corridor, minimum 66 ft wide. One row of trees (10' spacing within row), two rows of small trees (8' spacing within row) and three rows of shrubs (6' spacing within row) with 16' spacing between tree and small tree rows and	Ft.	\$ 1.83	15	\$0.05
Herbaceous Weed Control	315	The removal or control of herbaceous weeds including invasive, noxious and prohibited	chemical treatment using spot spraying in 36" diameter spots around individual trees, to reduce weed competition	Ac.	\$ 33.00	5	\$0.99
Herbaceous Weed Control	315	The removal or control of herbaceous weeds including invasive, noxious and prohibited	chemical spray time after mechanical treatment, tractor with brush hog and hand tools on quad runner.	Ac.	\$ 55.00	5	\$1.65
Herbaceous Wind Barriers	603	Herbaceous vegetation established in rows or narrow strips in the field across the prevailing	Typical 1/2 mile strips or rows. 2 rows spaced 3 ft apart, vegetation >0.5 ft tall.	Ft.	\$ 0.24	5	\$0.01
Integrated Pest Management	595	Utilizing environmentally-sensitive prevention, avoidance, monitoring, and suppression	Forage and Field Crops, Basic	Ac.	\$ 23.00	1	\$0.00
Integrated Pest Management	595	Utilizing environmentally-sensitive prevention, avoidance, monitoring, and suppression	Orchards, Basic	Ac.	\$ 173.00	1	\$0.00
Integrated Pest Management	595	Utilizing environmentally-sensitive prevention, avoidance, monitoring, and suppression strategies to manage weeds, insects, diseases,	Small Fruit, Vegetable, and Specialty Crops, Basic	Ac.	\$ 114.00	1	\$0.00
Irrigation Pipeline	430	A pipeline and appurtenances installed to convey water for storage or application, as	Plastic pipeline installed underground . Typical is 400 lin ft of pipeline installed with trencher serving an micro	Ft.	\$ 2.81	20	\$0.08
Irrigation Reservoir	436	An irrigation water storage structure made by constructing a dam, embankment, or pit.	See engineer or get bids for site specific cost information.	Ac. Ft.		15	\$0.00

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Irrigation System, Microirrigation	441	An irrigation system for distribution of water directly to the plant root zone by means of	two small 2178 sq ft hoop houses fro seasonal growing. Complete micro system for water use to effieciently provide	Sq Ft.	\$ 0.19	15	\$0.01
Irrigation System, Sprinkler	442	An irrigation system in which all necessary equipment and facilities are installed for efficiently applying water by means of nozzles	Upgrade sprinkler package for center pivot, linear move, fixed solid set, or periodic move irrigation systems	Ft.	\$ 6.00	15	\$0.18
Irrigation System, Surface and Subsurface	443	A system in which all necessary water-control structures have been installed for the efficient distribution of water by surface means, such as furrows, borders, contour levees, or contour	See engineer or get bids for site specific cost information.	Ac.		15	\$0.00
Irrigation Water Management	449	The process of determining and controlling the volume, frequency, and application rate of irrigation water in a planned, efficient manner.	Conduct in-field system evaluation AND implementation of an Irrigation Water Management Plan. \$19.65 to \$280 per acre depending on irrigation type and operation size. Typical is 72 acres of crops with pivot system.	Ac.	\$ 20.00	1	\$0.00
Land Reclamation, Abandoned Mined Land	543	Restoring land and water areas that are adversely affected by past mining practices and increasing the productivity of the areas for a beneficial use.	Removal of wood and other debris; grade and shape site to address future runoff considerations after covering, etc.; place appropriate soil cap 6" thick and establish basic vegetation. 5 acre site, 6" cover thickness.	Ac.	\$ 15,000.00	15	\$450.00
Land Reclamation, Currently Mined	544	Restoring currently mined land to an acceptable form and planned use.	Removal of wood and other debris; grade and shape site to address future runoff considerations after covering, etc.;	Ac.	\$ 15,000.00	15	\$450.00
Land Smoothing	466	Removing irregularities on the land surface.	small dozer for 4 hr on site with mob and demob works smaller areas within 10 acre field	Ac.	\$ 98.00	10	\$2.94
Lined Waterway or Outlet	468	A waterway or outlet having an erosion-resistant lining of concrete, stone, synthetic turf reinforcement fabrics, or other permanent	12 foot wide X 200 foot long rock lined waterway with 6" d50, 8 oz nonwoven geotextile, seeding and mulching disturbed areas at edge, seeding at edge = rock area	Ft.	\$ 4.00	15	\$0.12
Lined Waterway or Outlet	468	A waterway or outlet having an erosion-resistant lining of concrete, stone, synthetic turf reinforcement fabrics, or other permanent	100 foot X 12 foot turf reinforcement lined waterway without drainage. Seeding, mulching and netting. Seeding = total 2 X TRF area. Grading and shaping	Ft.	\$ 2.70	15	\$0.08
Lined Waterway or Outlet	468	A waterway or outlet having an erosion-resistant lining of concrete, stone, synthetic	100 X 12 foot turf reinforcement lined waterway with 4" drain tubing. Seeding, mulching and netting. Seeding = 2X	Ft.	\$ 3.10	15	\$0.09

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Livestock Pipeline	516	Pipeline having an inside diameter of 8 inches (203 mm) or less.	Above ground pipeline for livestock water. 1 1/4" pipe at 160 psi, 3,000 ft long with 300 ft of 2" overflow pipe from	Ft.	\$ 1.10	20	\$0.03
Livestock Pipeline	516	Pipeline having an inside diameter of 8 inches (203 mm) or less.	Shallow buried pipeline for livestock water. Buried 18" deep. 1 1/4" pipe at 160 psi, 1,800 ft long with 200 ft of 2" overflow pipe from watering tanks to safe outlet..	Ft.	\$ 1.25	20	\$0.04
Livestock Pipeline	516	Pipeline having an inside diameter of 8 inches (203 mm) or less.	Pipeline from plate cooler water tank to reuse endpoint. Gravity flow, 2" pipe at 100psi, 200 ft long.	Ft.	\$ 2.11	20	\$0.06
Livestock Pipeline	516	Pipeline having an inside diameter of 8 inches (203 mm) or less.	Pipeline Buried (Year Round Use)	Ft.	\$ 2.66	20	\$0.08
Mine Shaft and Adit Closing	457	Closure of underground mine opening by filling, plugging, capping, installing barriers, gating, or fencing.	small adit or shaft Framed steel plate with door and slot, or grate for openings	No.	\$ 10,000.00	15	\$300.00
Mine Shaft and Adit Closing	457	Closure of underground mine opening by filling, plugging, capping, installing barriers,	Shaft or Adit closure grate for openings, excavation at entrance, rock scaling for stability	No.	\$ 25,000.00	15	\$750.00
Mulching	484	Applying plant residues or other suitable materials not produced on the site to the soil	Straw, hay, wood chip, or bark chip mulch hand spread in rows for moisture and weed control. Typical vegetable or	Ac.	\$ 45.00	1	\$0.00
Mulching	484	Applying plant residues or other suitable materials not produced on the site to the soil	Organic Straw, hay, wood chip, or bark chip mulch hand spread in rows for moisture and weed control. Typical	Ac.	\$ 50.00	1	\$0.00
Mulching	484	Applying plant residues or other suitable materials not produced on the site to the soil	Straw, hay, wood chip, or bark chip mulch. Small construction sites where critical area planting is not used,	Sq. Ft.	\$ 0.20	1	\$0.00
Mulching	484	Applying plant residues or other suitable materials not produced on the site to the soil	Weed barrier fabric squares 36" x 36" installed with 5 sod staples each, around individual trees and shrubs to control	each	\$ 2.00	1	\$0.00
Mulching	484	Applying plant residues or other suitable materials not produced on the site to the soil	as per RS Means, Straw	Sq. Yd.	\$ 1.48	1	\$0.00

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Mulching	484	Applying plant residues or other suitable materials not produced on the site to the soil surface.	hydro mulcher as per RS Means, Straw	1000 Sq. Ft.	\$ 66.00	1	\$0.00
Nutrient Management	590	Managing the amount, source, placement, form, and timing of the application of nutrients and soil amendments.	Basic Field Crops and Forages (Organic and Non-Organic Production).	Ac.	\$ 8.00	1	\$0.00
Nutrient Management	590	Managing the amount, source, placement, form, and timing of the application of nutrients and soil amendments.	Vegetables, Small Fruits and/or other Specialty Crops	Ac.	\$ 35.00	1	\$0.00
Nutrient Management	590	Managing the amount, source, placement, form, and timing of the application of nutrients	Tree Fruit and/or Grapes	Ac.	\$ 31.00	1	\$0.00
Obstruction Removal	500	Removal and disposal of unwanted, unsightly, or hazardous buildings, structures, vegetation,	Mob. & Demob. Plus 70 - 250 HP dozer @ 6 hr per 1/2 acre. On site disposal.	Ac.	\$ 2,223.00	10	\$66.69
Open Channel	582	Constructing or improving a channel, either natural or artificial, in which water flows with a free surface.	Create 2 stage ditch from existing open channel. 1500 ft long, excavation and shaping. Includes seed & mulch of construction site.	Ft.	\$ 11.00	15	\$0.33
Pond	378	A water impoundment made by constructing a dam or an embankment, or by excavating a pit or dugout.	Excavated pond 1/4 acre, 6 foot average depth, with 2 foot high embankment, Rock Chute spillway, shallow core trench, seeding and mulching	No.	\$ 9,950.00	20	\$298.50
Pond	378	A water impoundment made by constructing a dam or an embankment, or by excavating a pit or dugout.	Embankment pond with 12 in diameter principal spillway, 18 inch riser w/ anti swirl baffle, 2500 cubic yard, 15 foot tall earthfill and excavation, 10 foot top width, shallow core trench, sand filter diaphragm, seeding and mulching	No.	\$ 11,200.00	20	\$336.00
Pond Sealing or Lining - Bentonite Treatment	521C	A liner for a pond or waste impoundment consisting of a compacted soil-bentonite mixture.	Aquaculture pond line only. Bentonite treatment. 25,000 sq.ft. pond top dimensions surface area. 6 foot average water depth. Silty sand soils. Use existing outlet structure and harvest kettle. 1 foot of earthfill compacted over bentonite layer. reline pond after empty and cleaned out	No.	\$ 19,755.00	15	\$592.65

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Pond Sealing or Lining - Flexible Membrane	521A	A manufactured hydraulic barrier consisting of a functionally continuous sheet of synthetic or partially synthetic, flexible material.	43,560 sq.ft. (two-0.5 ac) pond top dimensions surface area. 45 mil LLDPE liner. 8 oz. nonwoven geotextile installed under the liner for protection. A gas venting system installed consisting of 12" wide J-Drain on 50 ft	Sq Ft.	\$ 1.65	20	\$0.05
Pond Sealing or Lining - Soil Dispersant	521B	A liner for a pond or waste impoundment consisting of a compacted soil-dispersant mixture.	Aquacultural pond relining. Soil Dispersant (soda ash) treatment. 25,000 sq.ft. pond top dimensions surface area. 6 foot average water depth. Silty sand soils. Use existing outlet structure and harvest kettle.	No.	\$ 4,750.00	20	\$142.50
Prescribed Burning	338	Apply controlled fire to predetermined area.	Small Prescribed burning on 15 acres of grassland or forestland to control undesirable plants, reduce wildfire risk by removing fuel, and encourage regeneration of desirable	Ac.	\$ 750.00	1	\$0.00
Prescribed Grazing	528	Managing the controlled harvest of vegetation with grazing animals.	Prescribed grazing and/or browsing to harvest vegetation to improve species composition and vigor over extensive grazing.	Ac.	\$ 65.00	1	\$0.00
Prescribed Grazing	528	Managing the controlled harvest of vegetation with grazing animals.	Prescribed grazing and/or browsing to harvest vegetation to improve or maintain quantity and quality of forage when	Ac.	\$ 86.00	1	\$0.00
Pumping Plant	533	A pumping facility installed to transfer water for a conservation need.	10 HP diesel with 4" output, electric start. Pipeline contracted separately.	No.	\$ 3,300.00	15	\$99.00
Pumping Plant	533	A pumping facility installed to transfer water for a conservation need.	Add variable frequency drive to existing irrigation pump electric motor or to new electric motor that is replacing a	No.	\$ 20,000.00	15	\$600.00
Pumping Plant	533	A pumping facility installed to transfer water for a conservation need.	10 HP diesel with 4" output, electric start for aquacultural pond. Pipeline contracted separately	No.	\$ 6,800.00	15	\$204.00
Recreation Land Grading and Shaping	566	Reshaping the surface of the land to support recreational land use.	Dozer with Mob. & DeMob for 8 hr day	day	\$ 1,027.00	15	\$30.81

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Residue Management, Mulch-Till	345	Managing the amount, orientation, and distribution of crop and other plant residue on the soil surface year-round, while limiting the soil-disturbing activities used to grow crops in	Gathering data on residue cover, analysis of data and crop rotations and keeping records of residue management.	Ac.	\$ 12.00	1	\$0.00
Residue Management, No-Till/Strip Till/Direct Seed	329	Managing the amount, orientation, and distribution of crop and other plant residue on the soil surface year-round, while growing crops in previously untilled soil or residue.	No-Till Drill/Planter rental rate plus mobilization	Ac.	\$ 17.00	1	\$0.00
Residue Management, Ridge Till	346	Managing the amount, orientation, and distribution of crop residue and other plant residues on the soil surface year-round, while	Gathering data on residue cover, analysis of data and crop rotations and keeping records of residue management. Use on farm equipment to do ridge tillage.	Ac.	\$ 23.00	1	\$0.00
Residue Management, Seasonal	344	Managing the amount, orientation, and distribution of crop and other plant residues on the soil surface during part of the year,	Gathering data on residue cover, analysis of data and crop rotations and keeping records of residue management.	Ac.	\$ 12.00	1	\$0.00
Restoration and Management of Declining Habitats	643	Restoring and conserving rare or declining native vegetative communities and associated wildlife species to conserve biodiversity.	Mesic Tallgrass Prairie Seed mixture of Michigan genotype with 5 lb of 7 native warm season grasses and 3 lbs of 27 forbs wildflower mixture per acre.	Ac.	\$ 1,082.00	15	\$32.46
Restoration and Management of Declining Habitats	643	Restoring and conserving rare or declining native vegetative communities and associated wildlife species to conserve biodiversity.	Restoration of oak savanna which includes tall grass prairie establishment on the entire acreage plus oak trees and shrubs planted in clumps on approximately 25% of the area. Includes dry short grass prairie mix with grasses and forbs suited to restoration.	Ac.	\$ 1,333.00	15	\$39.99
Restoration and Management of Declining Habitats	643	Restoring and conserving rare or declining native vegetative communities and associated wildlife species to conserve biodiversity.	Restoration of oak savanna which includes tall grass prairie establishment on the entire acreage plus oak trees and shrubs planted in clumps on approximately 25% of the area. Includes dry short grass prairie mix with grasses and forbs	Ac.	\$ 1,770.00	15	\$53.10
Riparian Forest Buffer	391	An area of predominantly trees and/or shrubs located adjacent to and up-gradient from	Trees and shrubs planting. 5 rows of lg hardwoods with 12' spacing and 80% with tree protectors. 2 rows of med. trees	Ac.	\$ 1,277.00	15	\$38.31

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Riparian Herbaceous Cover	390	Riparian herbaceous cover is an area of grass or grass-like plants and forbs that are tolerant	Introduced / cool season cover.	Ac.	\$ 324.00	5	\$9.72
Riparian Herbaceous Cover	390	Riparian herbaceous cover is an area of grass or grass-like plants and forbs that are tolerant of intermittent flooding or saturated soils and that are established or managed in the	native planting / warm season cover.	Ac.	\$ 435.00	5	\$13.05
Road/Trail/Landing Closure and	654	The closure, decommissioning, or abandonment of roads, trails, and/or landings	4 hr work by each a dozer and backhoe with mob and demob shape site with on-site soils to prepare site for	each	\$ 1,240.00	10	\$37.20
Roof Runoff Structure	558	A facility for collecting, controlling, and disposing of runoff water from roofs.	Roof Runoff Structure with gutter cross section of 24 or more sq inches by feet of gutter. Includes downspouts.	Ft.	\$ 13.00	15	\$0.39
Roof Runoff Structure	558	A facility for collecting, controlling, and disposing of runoff water from roofs.	French drain is 2' x 2' trench with geotextile, 4" tile, 80 ft long.	Ft.	\$ 21.75	15	\$0.65
Roofs and Covers	367	A fabricated rigid, semi-rigid, or flexible membrane over a waste treatment or storage facility.	flexible membrane cover material	Sq. Ft.	\$ 2.00	15	\$0.06
Roofs and Covers	367	A fabricated rigid, semi-rigid, or flexible membrane over a waste treatment or storage	Hoop Roof Structure with fabric cover for Dry Stacking Waste Storage Facilities. Typical size is 58' x 70' over a	Sq. Ft.	\$ 4.80	15	\$0.14
Roofs and Covers	367	A fabricated rigid, semi-rigid, or flexible membrane over a waste treatment or storage facility.	Rigid Roof structure. By sq ft of facility footprint	Sq. Ft.	\$ 12.00	15	\$0.36
Seasonal High Tunnel System for Crops	798	A seasonal polyethylene covered structure with no electrical, heating, and/or mechanical ventilation systems that is used to cover crops	seasonal movable high tunnel from supplier covers. 30x96 of vegetable crop field. Without electrical, heat, ventilation, etc.	Sq. Ft.	\$ 3.00	4	\$0.09
Sediment Basin	350	A basin constructed to collect and store debris or sediment.	Excavated sediment basin - may have up to 1/2 excavated material used in fill. Seeding and mulching, corrugated plastic pipe outlet, assume 500 cu yd	No.	\$ 3,145.00	20	\$94.35
Sediment Basin	350	A basin constructed to collect and store debris or sediment.	Earthfill sediment basin Grading and shaping, Seeding and mulching, corrugated 8" pipe outlet with 12" riser, assume 300 cu yd fill	No.	\$ 2,488.00	20	\$74.64

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Shallow Water Development and	646	The inundation of land to provide habitat for fish and/or wildlife.	Shallow Water development, push out and locate spoil on site to create 18" water. Small site where hydrology and	Ac.	\$ 1,198.00	5	\$35.94
Solid/Liquid Waste Separation Facility	632	A filtration or screening device, settling tank, settling basin, or settling channel used to separate a portion of solids from a liquid waste	Sand Lane SeapARATION	No.	\$ 89,600.00	15	\$2,688.00
Spring Development	574	Utilizing springs and seeps to provide water for conservation need.	Spring development with an interceptor tile with a collection trench cross slope to catch seep with restrictive barrier downstream and spring box.	No.	\$ 3,500.00	20	\$105.00
Stream Crossing	578	A stabilized area or structure constructed across a stream to provide a travel-way for people, livestock, equipment, or vehicles.	Aggregate is 20 feet wide by 100 feet long, 1ft. depth. Geotextile under aggregate. Includes fence or other confinement measures to control livestock travel.	No.	\$ 5,490.00	10	\$164.70
Stream Habitat Improvement and Management	395	Maintain, improve, or restore the physical, chemical, and biological functions of a stream.	Root wad and gravel bar placement to provide aquatic habitat and provide channel morphology for desired species.	Ac.	\$ 41,700.00	5	\$1,251.00
Stream Habitat Improvement and Management	395	Maintain, improve, or restore the physical, chemical, and biological functions of a stream.	Rock placement to provide aquatic habitat and provide channel morphology for desired species.	Ac.	\$ 23,052.00	5	\$691.56
Streambank and Shoreline Protection	580	Treatment(s) used to stabilize and protect banks of streams or constructed channels, and shorelines of lakes, reservoirs, or estuaries.	Wave and ice protection. Riprap D50 = 6 inch angular rock. With geotextile. 4H:1V shore slope. 4 feet vertical protection. 250 lin. Feet	Ft.	\$ 77.00	20	\$2.31
Stripcropping	585	Growing row crops, forages, small grains, or fallow in a systematic arrangement of equal width strips across a field.	measurement and alignment of tillage and planting operations to follow the designed strip layout. Documentation of practice implementation. Typical 20 acre	Ac.	\$ 4.00	5	\$0.12
Structure for Water Control	587	A structure in a water management system that conveys water, controls the direction or rate of flow, maintains a desired water surface	70 feet of 15-inch dia plastic pipe, Agridrain in-line water control structure 6 foot tall, D50 = 6-inch riprap at inlet and outlet, rodent guard.	No.	\$ 4,585.00	20	\$137.55
Structure for Water Control	587	A structure in a water management system that conveys water, controls the direction or	Drainage water management water level control structure on an 8" tile, 6' high in a nearly flat 80 acre tile-drained crop	No.	\$ 1,284.00	20	\$38.52

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Structure for Water Control	587	A structure in a water management system that conveys water, controls the direction or rate of flow, maintains a desired water surface	Rock Chute Riprap D50 = 6 inch, geotextile, seeding and mulching edges, shaping, 12' X 50'.	No.	\$ 3,856.00	20	\$115.68
Structure for Water Control	587	A structure in a water management system that conveys water, controls the direction or	Prefabricated in-line water control structure for water table management: 10 feet of 12-inch dia CPT dual-wall pipe,	No.	\$ 1,347.00	20	\$40.41
Subsurface Drain	606	A conduit, such as corrugated plastic tubing, tile, or pipe, installed beneath the ground	Waterway Support Drain, tile	Ft.	\$ 3.40	20	\$0.10
Surface Drainage, Field Ditch	607	A graded ditch for collecting excess water in a field.		Ft.		15	\$0.00
Surface Drainage, Main or Lateral	608	An open drainage ditch constructed to a designed size and grade.		Ft.		15	\$0.00
Terrace	600	An earth embankment, or a combination ridge and channel, constructed across the field		Ft.	\$ 12.00	10	\$0.36
Trails and Walkways	568	A pathway for pedestrian, equestrian, bicycle, and other off-road modes of travel through or	gravel	Sq. Ft.	\$ 1.30	15	\$0.04
Trails and Walkways	568	A pathway for pedestrian, equestrian, bicycle, and other off-road modes of travel through or	wood chips, bark	Sq. Ft.	\$ 1.53	15	\$0.05
Trails and Walkways	568	A pathway for pedestrian, equestrian, bicycle, and other off-road modes of travel through or to recreation resources.	wood elevated	Sq. Ft.	\$ 3.56	15	\$0.11
Tree/Shrub Establishment	612	Establishing woody plants by planting seedlings, container/potted stock, cuttings,	Planting hardwood, conifer and shrub mix at 12' x 12' spacing (302 plants per acre). Planting consists of red oak,	Ac.	\$ 500.00	15	\$15.00
Tree/Shrub Establishment	612	Establishing woody plants by planting seedlings, container/potted stock, cuttings, direct seeding, or natural regeneration.	Tree Shelters, installed	Each	\$ 4.75	15	\$0.14
Tree/Shrub Establishment	612	Establishing woody plants by planting seedlings, container/potted stock, cuttings,	Supplemental under planting, add new desirable species and/or increase stand density. 200 added trees/shrubs per	Ac.	\$ 300.00	15	\$9.00

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Tree/Shrub Pruning	660	Removing all or parts of selected branches or leaders from trees and shrubs.	Chainsaw work pruning	Ac.	\$ 215.00	10	\$6.45
Tree/Shrub Site Preparation	490	Treating acres to improve site conditions for establishing a forest.	In areas with dense sod, or other dense, aggressive vegetation, use both tillage and herbicide for tree/shrub site preparation. Apply both to the entire planning unit. Multiple tillage passes and herbicide applications may be necessary. Cultipack to create a smooth, firm planting bed,	Ac.	\$ 66.00	1	\$0.00
Tree/Shrub Site Preparation	490	Treating acres to improve site conditions for establishing a forest.	Herbicide site preparation, in 36" wide bands on land with slight to moderate herbaceous or grass cover (e.g., recently farmed or tilled). Bands are spaced every 10', centered on tree rows, such that herbicide is applied to 30% of total acreage.	Ac.	\$ 29.00	1	\$0.00
Tree/Shrub Site Preparation	490	Treating acres to improve site conditions for establishing a forest.	Tillage site preparation on land with slight to moderate herbaceous or grass cover (e.g., recently farmed or tilled).	Ac.	\$ 38.00	1	\$0.00
Underground Outlet	620	A conduit installed beneath the surface of the ground to collect surface water and convey it to a suitable outlet.	8-inch diameter CPT, single-wall pipe; 250 lin. feet; backhoe excavated trench	Ft.	\$ 5.30	20	\$0.16
Upland Wildlife Habitat Management	645	Provide and manage upland habitats and connectivity within the landscape for wildlife.	add bee tubes where natural habitat is inadequate for habitat. Add 2 bundles of 20-25 per acre.	Ac.	\$ 38.00	1	\$0.00
Upland Wildlife Habitat Management	645	Provide and manage upland habitats and connectivity within the landscape for wildlife.	Construct brush piles as per NRCS Biology Technical Note #18	Ac.	\$ 28.00	1	\$0.00
Upland Wildlife Habitat Management	645	Provide and manage upland habitats and connectivity within the landscape for wildlife.	Large Bird Boxes	Each	\$ 80.00	1	\$0.00

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Upland Wildlife Habitat Management	645	Provide and manage upland habitats and connectivity within the landscape for wildlife.	Add small bird boxes plus mounting pole and associated hardware for tree swallow, house wren, bluebird, etc. at 2 boxes per 4 acres.	Each	\$ 49.00	1	\$0.00
Upland Wildlife Habitat Management	645	Provide and manage upland habitats and connectivity within the landscape for wildlife.	add bat boxes, mounting post and associated hardware at 2 per acre where natural habitat is inadequate.	Ac.	\$ 169.00	1	\$0.00
Upland Wildlife Habitat Management	645	Provide and manage upland habitats and connectivity within the landscape for wildlife.	Baiting and Monitoring Feral Swine Traps	each	\$ 246.00	1	\$0.00
Upland Wildlife Habitat Management	645	Provide and manage upland habitats and connectivity within the landscape for wildlife.	Feral Swine Scouting	each	\$ 871.00	1	\$0.00
Vegetated Treatment Area	635	A treatment component of an agricultural waste management system consisting of a strip or area of herbaceous vegetation.	0.5 ac. Grass channel Concrete collection system interior clean-out ramp on one side. No outlet storage area.	Ac.	\$ 30,729.00	10	\$921.87
Vegetative Barrier	601	Permanent strips of stiff, dense vegetation along the general contour of slopes or across concentrated flow areas.	Vegetative barrier with plugs and transplants in center section and seeding at ends. Three rows spaced across the field. Plugs at 3" spacing for 400 plants per 100' of strip plus seeding at ends	Ft.	\$ 4.37	5	\$0.13
Waste Facility Closure	360	The closure of waste impoundments (treatment lagoons and liquid storage facilities), that are no longer used for their intended purpose, in an environmentally-safe manner.	Removal of residual waste, backfill of impoundment with leveling and seeding. Includes removal of embankment (or fill to bank grade), and shaping.	No.	\$ 3,970.00	15	\$119.10
Waste Facility Closure	360	The closure of waste impoundments (treatment lagoons and liquid storage	Removal of residual waste, removal of materials, fill hole in with sand. Stabilization of site.	No.	\$ 870.00	15	\$26.10
Waste Recycling	633	Using agricultural wastes such as manure and wastewater or other organic residues.	Compost testing and analysis for use of compost as nutrients	No.	\$ 24.00	1	\$0.00

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Waste Storage Facility	313	A waste storage impoundment made by constructing an embankment and/or excavating a pit or dugout, or by fabricating a structure.	Dry Stacking Facility without roof Typical is based on 50 A.U. beef cow operation with bedding 50' X70' with 4 ft walls, stacked 6ft.	No.	\$ 23,000.00	15	\$690.00
Waste Storage Facility	313	A waste storage impoundment made by constructing an embankment and/or excavating a pit or dugout, or by fabricating a structure.	Excavated and Lined Liquid Storage pit (no roof). Volume based on AWM output report, Structural Volume. Typical is a LLDPE Membrane liner 250'x150' with 26,000 sq ft liner. 12' deep with geocomposite drainage/venting system on side slopes and bottom. Includes a concrete bottom, concrete ramp, 1:1 push off, 100 ft long with safety cable.	No.	\$ 174,000.00	15	\$5,220.00
Waste Storage Facility	313	A waste storage impoundment made by constructing an embankment and/or excavating a pit or dugout, or by fabricating a structure.	Prefabricated or cast in place reinforced concrete panel/tank under barn, based on AWM output report, Structural Volume. Typical is ADL tank with slats that is 40'x120'x10' deep built 8 ft into the ground. Structural Volume is 48,000 cu ft. Includes concrete slats on top of	No.	\$ 174,000.00	15	\$5,220.00
Waste Storage Facility	313	A waste storage impoundment made by constructing an embankment and/or excavating a pit or dugout, or by fabricating a structure.	Relining of existing excavated storage pond. Volume based on AWM output report, Structural Volume. Typical is relining with 5" concrete on side slopes. Typical size is 100' x 200' x 10' top dimensions. Assuming existing concrete bottom and concrete ramp.	No.	\$ 68,600.00	15	\$2,058.00
Waste Storage Facility	313	A waste storage impoundment made by constructing an embankment and/or excavating a pit or dugout, or by fabricating a structure.	Above Ground Fabricated Liquid Manure Storage Structure. Volume based on AWM output report, Structural Volume.	No.	\$ 225,165.00	15	\$6,754.95
Waste Transfer	634	A manure conveyance system using structures, conducts, or equipment.	Convey manure to storage. 8 ft x 20 ft x 8 ft reinforced concrete tank with 100 feet of 30" smooth walled pipe.	No.	\$ 18,700.00	15	\$561.00
Waste Transfer	634	A manure conveyance system using structures, conducts, or equipment.	Convey manure to storage. 14 ft x 14 ft x 8 ft reinforced tank with centrifugal pump, 100 feet of 8" PVC discharge	No.	\$ 49,200.00	15	\$1,476.00

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Waste Transfer	634	A manure conveyance system using structures, conducts, or equipment.	Conveyor belt system for stacking of litter.	No.	\$ 21,930.00	15	\$657.90
Waste Transfer	634	A manure conveyance system using structures, conducts, or equipment.	Trapezoid channel, plain concrete 5 in. thick with 4 in. compacted sand. 100 ft long, 8 ft bottom, 5" depth. 10H:1V	No.	\$ 6,185.00	15	\$185.55
Waste Transfer	634	A manure conveyance system using structures, conducts, or equipment.	ramped concrete settling basin 6" PVC pipe 50 ft. 2000 gallon septic tank/pump chamber with sewage pump	No.	\$ 36,730.00	15	\$1,101.90
Waste Transfer	634	A manure conveyance system using structures, conducts, or equipment.	ramped concrete settling basin 12" smooth walled pipe	No.	\$ 31,835.00	15	\$955.05
Waste Transfer	634	A manure conveyance system using structures, conducts, or equipment.	pipeline and pump from plate cooler to water holding tank. Variable speed pump with plate cooler with 900 gallons per hour capacity.	No.	\$ 3,072.00	15	\$92.16
Water and Sediment Control Basin (WASCOB)	638	An earth embankment or a combination ridge and channel generally constructed across the slope and minor watercourses to form a	6 foot fill height with 200 foot length, outlet structure, 10:1 front slope, 2:1 back slope, seeding and mulching, 540 cu yd typical	No.	\$ 3,600.00	10	\$108.00
Water Well	642	A hole drilled, driven, bored, jetted, or otherwise constructed to an aquifer.	80-150 foot deep well with casing, includes pump, drop pipe, pipe to pressure tank, and pressure tank. (Does not include cost of power supply to pump.)	No.	\$ 8,270.00	20	\$248.10
Water Well Decommissioning	351	The plugging and permanent closure of a well no longer in use.	Dug Well - 12 feet deep; shored with stone, timber or brick; 3-foot diameter; some foreign debris in well to be removed	No.	\$ 830.00	20	\$24.90
Water Well Decommissioning	351	The plugging and permanent closure of a well no longer in use.	Dug Well - 15-25 feet deep; shored with stone, timber or brick; 3-foot diameter; some foreign debris in well to be	No.	\$ 1,500.00	20	\$45.00
Water Well Decommissioning	351	The plugging and permanent closure of a well no longer in use.	Drilled or Driven Well - 100 feet deep; 2-inch diameter casing	No.	\$ 845.00	20	\$25.35
Watering Facility	614	A device (tank, trough, or other watertight container) for providing animal access to	Access for livestock watering without a crossing. 15 feet wide by 40 feet long, excavation, geotextile and 1 foot	No.	\$ 2,082.00	10	\$62.46
Watering Facility	614	A device (tank, trough, or other watertight container) for providing animal access to	300 gallon tank with fittings	No.	\$ 700.00	10	\$21.00

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Watering Facility	614	A device (tank, trough, or other watertight container) for providing animal access to	50-100 gallon poly tank with fittings including quick connects	No.	\$ 175.00	10	\$5.25
Wetland Creation	658	A wetland created on a site which historically was not a wetland or is a wetland but the site will be converted to a wetland with a different hydrology, vegetation type, or function than naturally occurred on the site.	farmland suitable to create a wetland	Ac.	\$ 3,660.00	15	\$109.80
Wetland Enhancement	659	The rehabilitation or reestablishment of a degraded wetland, and/or the modification of an existing wetland.	Create excavated area of varying depths to enhance surface water. Spoil used on site.	Ac.	\$ 8,000.00	15	\$240.00
Wetland Enhancement	659	The rehabilitation or reestablishment of a degraded wetland, and/or the modification of an existing wetland.	Construction of serpentine channel(s) in riparian wetland area to mimic oxbow wetlands. On-site sidecast disposal of spoil.	Ac.	\$ 6,900.00	15	\$207.00
Wetland Enhancement	659	The rehabilitation or reestablishment of a degraded wetland, and/or the modification of an existing wetland.	Constructed embankment to enhance surface water - by cu. yd. of embankment.	Cu Yd	\$ 11.00	15	\$0.33
Wetland Restoration	657	A rehabilitation of a degraded wetland or the reestablishment of a wetland so that soils, hydrology, vegetative community, and habitat are close approximation of the original natural condition that existed prior to modification to the extent practicable.	Drainage removal (ditch plugs).	Cu Yd.	\$ 10.00	15	\$0.30
Wetland Restoration	657	A rehabilitation of a degraded wetland or the reestablishment of a wetland so that soils, hydrology, vegetative community, and habitat are close approximation of the original natural condition that existed prior to modification to the extent practicable.	Removal of site drainage pumping equipment. Number of pumping locations to be removed.	No.	625	15	\$18.75

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Wetland Restoration	657	A rehabilitation of a degraded wetland or the reestablishment of a wetland so that soils, hydrology, vegetative community, and habitat are close approximation of the original natural condition that existed prior to modification to the extent practicable.	Drainage removal or destruction (tile breaks). Tile break/removal drainage tile.	No.	880	15	\$26.40
Wetland Restoration	657	A rehabilitation of a degraded wetland or the reestablishment of a wetland so that soils, hydrology, vegetative community, and habitat are close approximation of the original natural condition that existed prior to modification to the extent practicable.	Microtopography restoration - create shallow depressions and hummocks to restore wetland topography.	Ac.	\$ 1,400.00	15	\$42.00
Wetland Wildlife Habitat Management	644	Retaining, developing, or managing wetland habitat for wetland wildlife.	Large bird box for wood duck plus mounting post, predator guard and necessary hardware @ 1 box per 8 acres.	Each	\$ 80.00	1	\$0.00
Windbreak/Shelter belt Establishment	380	Linear planting of single or multiple rows of trees or shrubs established for environmental purposes.	1-row white spruce windbreak, 1320' long. Trees planted every 10' along length of windbreak.	Ft.	\$ 0.40	15	\$0.01
Windbreak/Shelter belt Establishment	380	Linear planting of single or multiple rows of trees or shrubs established for environmental purposes.	2-row windbreak, with one row of white spruce and one row of mixed shrubs (3-5 spp.) 1320' long. Trees planted every 10' and shrubs planted every 6' along length of windbreak. Rows approx. 12' apart.	Ft.	\$ 0.70	15	\$0.02
Windbreak/Shelter belt Establishment	380	Linear planting of single or multiple rows of trees or shrubs established for environmental purposes.	3-row windbreak, with two rows of white spruce and one row of mixed shrubs (3-5 spp.) 1320' long. Trees planted every 10' and shrubs planted every 6' along length of windbreak. Rows approx. 12' apart.	Ft.	\$ 1.00	15	\$0.03
Windbreak/Shelter belt Establishment	380	Linear planting of single or multiple rows of trees or shrubs established for environmental purposes.	4-row windbreak, with two rows of deciduous trees (3-5 spp.) and two row of mixed shrubs (3-5 spp.) 1320' long. Trees planted every 10' and shrubs planted every 6' along length of windbreak. Rows approx. 16' apart (between trees) and 12' apart (bet. trees and shrubs).	Ft.	\$ 1.20	15	\$0.04

Practice	Code	Description (from Practice Standard)	Typical Installation	Unit	Cost Per Unit	design lifespan	Average Annual Maintenance
Windbreak/Shelter belt Establishment	380	Linear planting of single or multiple rows of trees or shrubs established for environmental purposes.	add tree protectors installed	Each	\$ 4.75	15	\$0.14
Windbreak/Shelter belt Renovation	650	Widening, partial replanting, removing, and replacing selected trees and shrubs to improve an existing windbreak or shelterbelt.	reinforcement, supplemental planting & thinning existing. Repair existing select few trees to be removed and replaced.	Ft.	\$ 5.34	15	\$0.16
Windbreak/Shelter belt Renovation	650	Widening, partial replanting, removing, and replacing selected trees and shrubs to improve an existing windbreak or shelterbelt.	Remove trees in rows and replace with 3 - 5' trees and shrubs. on site disposal pile and burn. 30% dead and damaged trees that need to be removed and replaced.	Ft.	\$ 10.27	15	\$0.31
Windbreak/Shelter belt Renovation	650	Widening, partial replanting, removing, and replacing selected trees and shrubs to improve an existing windbreak or shelterbelt.	Remove single row and replace with poplar whips for cherry orchard site. 1/4 mile for 40 acre site. Spacing 10', on site disposal pile and burn.	Ft.	\$ 6.57	15	\$0.20

Total Average Annual Cost per Unit @ 2.8%
\$0.29
\$2.34
\$3,219.20
\$4,896.34
\$2,588.87
\$2,926.55
\$1.04
\$24.26
\$0.53
\$24,554.36
\$3,827.02

Total Average Annual Cost per Unit @ 2.8%
\$2.77
\$3,504.89
\$12,256.62
\$6,424.84
\$4,818.63
\$13,591.01
\$15,814.99
\$667.19
\$1,111.99
\$1,507.37

Total Average Annual Cost per Unit @ 2.8%
\$8.03
\$8.18
\$69.37
\$62.80
\$8.03
\$2,876.93
\$0.16
\$0.42
\$38.30

Total Average Annual Cost per Unit @ 2.8%
\$70.43
\$28.42
\$142.09
\$16.06
\$52.63
\$5.00
\$4,671.22
\$61.78
\$29.65
\$35.83
\$1.48
\$1.75
\$67.70
\$100.00

Total Average Annual Cost per Unit @ 2.8%
\$75.00
\$112.00
\$74.00
\$123.00
\$18.25
\$32.13
\$17.00
\$0.43
\$0.66
\$3.80
\$8.85

Total Average Annual Cost per Unit @ 2.8%
\$3,939.58
\$400.00
\$500.00
\$106.00
\$5.41
\$25.56
\$31.40

Total Average Annual Cost per Unit @ 2.8%
\$0.24
\$65.72
\$0.00
\$98.28
\$606.78
\$0.13
\$0.38
\$0.30
\$18.98
\$80.90
\$158.01

Total Average Annual Cost per Unit @ 2.8%
\$18.98
\$35.49
\$0.02
\$0.00
\$438.11
\$17.52
\$560.00
\$59.31
\$24.71
\$49.42
\$12.00

Total Average Annual Cost per Unit @ 2.8%
\$5.84
\$40.89
\$2.92
\$14.60
\$863.15
\$3,900.00
\$7,022.00
\$109.63

Total Average Annual Cost per Unit @ 2.8%
\$523.96
\$471.96
\$715.09
\$525.73
\$4,023.18
\$0.26
\$0.54
\$0.65
\$0.98

Total Average Annual Cost per Unit @ 2.8%
\$0.09
\$0.21
\$8.15
\$13.59
\$0.06
\$23.00
\$173.00
\$114.00
\$0.27
\$0.00

Total Average Annual Cost per Unit @ 2.8%
\$0.02
\$0.68
\$0.00
\$20.00
\$1,688.39
\$1,688.39
\$14.31
\$0.45
\$0.30
\$0.35

Total Average Annual Cost per Unit @ 2.8%
\$0.11
\$0.12
\$0.20
\$0.26
\$1,125.59
\$2,813.99
\$45.00
\$50.00
\$0.20
\$2.00
\$1.48

Total Average Annual Cost per Unit @ 2.8%
\$66.00
\$8.00
\$35.00
\$31.00
\$324.64
\$1.24
\$954.99
\$1,074.96
\$2,223.61

Total Average Annual Cost per Unit @ 2.8%
\$0.16
\$455.90
\$750.00
\$65.00
\$86.00
\$371.45
\$2,251.19
\$765.40
\$115.60

Total Average Annual Cost per Unit @ 2.8%
\$12.00
\$17.00
\$23.00
\$12.00
\$121.79
\$150.04
\$199.23
\$143.74

Total Average Annual Cost per Unit @ 2.8%
\$80.06
\$107.49
\$181.09
\$1.46
\$2.45
\$0.23
\$0.54
\$1.35
\$0.89
\$301.85
\$238.80

Total Average Annual Cost per Unit @ 2.8%
\$296.04
\$10,085.33
\$335.93
\$801.74
\$10,304.45
\$5,696.36
\$7.39
\$0.99
\$440.06
\$123.24

Total Average Annual Cost per Unit @ 2.8%
\$370.09
\$129.28
\$0.33
\$0.00
\$0.00
\$1.75
\$0.15
\$0.17
\$0.40
\$56.28
\$0.53
\$33.77

Total Average Annual Cost per Unit @ 2.8%
\$31.40
\$66.00
\$29.00
\$38.00
\$0.51
\$38.00
\$28.00
\$80.00

Total Average Annual Cost per Unit @ 2.8%
\$49.00
\$169.00
\$246.00
\$871.00
\$4,487.57
\$1.08
\$446.86
\$97.93
\$24.00

Total Average Annual Cost per Unit @ 2.8%
\$2,588.87
\$19,585.35
\$19,585.35
\$7,721.58
\$25,344.46
\$2,104.86
\$5,537.93

Total Average Annual Cost per Unit @ 2.8%
\$2,468.43
\$696.18
\$4,134.31
\$3,583.33
\$345.78
\$525.73
\$793.75
\$79.66
\$143.97
\$81.10
\$304.05
\$102.23

Total Average Annual Cost per Unit @ 2.8%
\$25.56
\$411.97
\$900.48
\$776.66
\$1.24
\$1.13
\$70.35

Total Average Annual Cost per Unit @ 2.8%
--

\$99.05

\$157.58

\$80.00

\$0.05

\$0.08

\$0.11

\$0.14

Total Average Annual Cost per Unit @ 2.8%
\$0.53
\$0.60
\$1.16
\$0.74