

Statewide Conservation Practice Typical Installation Cost Information

Practice Name and Unit	Code	Description (from Practice Standard)	Typical Installation Scenario	Unit	Installation Cost per Unit	Design Life (years)	National NRCS O&M Factor	Annual Maintenance Cost per Unit (installation x O&M factor)	Average Annual Cost per Unit (amortized installation @ design life, 3.9% interest rate + annual O&M)
Access Control (Ac.)	472	Excluding animals, people, or vehicles from an area.	Control of animal, people, and/or vehicular access to of sensitive forest or surface water areas. Reroute animal off sensitive area and forgo forage production there. Riparian pasture zone to keep livestock out of sensitive area.	Ac.	\$4.50	10	3%	\$0.14	\$0.69
Access Road (Ft.)	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. 15 inch diameter culvert every 500 feet. Includes extra grading and/or site work to prepare site on 10% of the project and 10% of shaping can be done with on farm equipment	Ft.	\$14.60	10	5%	\$0.73	\$2.52
Agrichemical Handling Facility (No.)	309	An impermeable barrier and containment placed or constructed on the ground where agricultural storage, loading, mixing, and clean-up occur.	Storage of pesticides in a building with reinforced concrete floor (6" concrete over 4" compacted sand) including the mix load pad and epoxy coating. Typical is a 32' x 24' building with 4 sides. Typical Mix load pad with sump is 12' x 32'.	No.	\$26,227.00	15	3%	\$786.81	\$3,129.23
Agrichemical Handling Facility (No.)	309	An impermeable barrier and containment placed or constructed on the ground where agricultural storage, loading, mixing, and clean-up occur.	Liquid fertilizer facility only, non-commercial. 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.	\$13,018.00	15	3%	\$390.54	\$1,553.22
Agrichemical Handling Facility (No.)	309	An impermeable barrier and containment placed or constructed on the ground where agricultural storage, loading, mixing, and clean-up occur.	Dry fertilizer facility only, non-commercial. 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 roof, fertilizer is covered with a tarp.	No.	\$22,105.00	15	3%	\$663.15	\$2,637.42
Agrichemical Handling Facility (No.)	309	An impermeable barrier and containment placed or constructed on the ground where agricultural storage, loading, mixing, and clean-up occur.	Dry fertilizer facility only, non-commercial. 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' . Roof 32 x 40.	No.	\$32,345.00	15	3%	\$970.35	\$3,859.19

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Agrichemical Handling Facility (No.)	309	An impermeable barrier and containment placed or constructed on the ground where agricultural storage, loading, mixing, and clean-up occur.	Mix load pad only. Typical includes 6" concrete slab with flexible membrane liner. Includes curbing and shaping. Typical size is 12' x 20'	No.	\$2,277.00	15	3%	\$68.31	\$271.68
Agrichemical Handling Facility (No.)	309	An impermeable barrier and containment placed or constructed on the ground where agricultural storage, loading, mixing, and clean-up occur.	Operational area/pad only. 8" Reinforced concrete surface includes shaping, typical size is 20' x 30'	No.	\$5,413.00	15	3%	\$162.39	\$645.84
Agrichemical Handling Facility (No.)	309	An impermeable barrier and containment placed or constructed on the ground where agricultural storage, loading, mixing, and clean-up occur.	Construction to convert an existing building to a containment facility. Install floor, sump and curbing with 896 sq. ft. epoxy coated for pesticide and mix load, 384 sq. ft. for fertilizer storage w/ no epoxy coating (32' x 40' floor)	No.	\$10,493.00	15	3%	\$314.79	\$1,251.95
Agrichemical Handling Facility (No.)	309	An impermeable barrier and containment placed or constructed on the ground where agricultural storage, loading, mixing, and clean-up occur.	Pole style building, 6" reinforced concrete floor over 4" compacted sand and sump area. Average size 30' x 30'. No epoxy coating.	No.	\$26,446.00	15	3%	\$793.38	\$3,155.36
Agrichemical Handling Facility (No.)	309	An impermeable barrier and containment placed or constructed on the ground where agricultural storage, loading, mixing, and clean-up occur.	Pesticide storage only, non-commercial. Small prefabricated building with liner inside the building. Typical building 12' x 12' for storage from lumber supply with a wooden floor and flexible membrane liner. 14' x 20' Mix load pad for containment included. 6" Concrete mix load surface is treated with an impervious coating. poly pad and portable pad set up for greenhouse, etc. with small prefab	No.	\$4,850.00	15	3%	\$145.50	\$578.67
Agrichemical Handling Facility (No.)	309	An impermeable barrier and containment placed or constructed on the ground where agricultural storage, loading, mixing, and clean-up occur.	poly pad and portable pad set up for greenhouse, etc.	No.	\$955.00	15	3%	\$28.65	\$113.94

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Alley Cropping (Ac.)	311	Trees or shrubs planted in single or multiple rows with agronomic, horticultural, or forage crops cultivated in the alleys between the rows of woody plants.	Conifers. 10 acre 660x660 site. 26 rows 10' spacing Plant trees and/or shrubs along with crops or forages to improve or optimize the economic viability of the operation.	Ac.	\$282.14	20	1%	\$2.82	\$23.40
Alley Cropping (Ac.)	311	Trees or shrubs planted in single or multiple rows with agronomic, horticultural, or forage crops cultivated in the alleys between the rows of woody plants.	Hardwood tree rows with cropping rotation spaced for 12 row farm equipment. 10' spacing.	Ac.	\$1,097.24	20	1%	\$10.97	\$91.00
Anaerobic Digester - Controlled Temperature (No.)	366	A managed temperature waste treatment facility.	800 AU total on farm with raised replacements. Liquid manure system. Digester only. Need to use manure transfer, waste storage facility, and waste facility cover in addition to this practice.	No.	\$856,120.00	25	5%	\$42,806.00	\$97,030.21
Aquaculture Ponds (Ac.)	397	A water impoundment constructed and managed for commercial aquaculture production.	Embankment or excavated ponds. In Channel and off Channel designs. Harvest kettle that is tank style or concrete. As per site specific design. Range of \$35,000 to \$160,000. Contact engineer for cost estimate.	Ac.	\$125,000.00	15	5%	\$6,250.00	\$17,414.17
Brush Management (Ac.)	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 or forestland acres. Typical pasture treatment on 20 acres with < 20% shrubs >2 inches. Typical forestland or wildlife habitat treatment on 5 acres. Organic method. or Chemical treatment of brush foliage, stem, bark as spot spraying handwork; injection with or without cutting; stump treatment immediate to cutting; Typical 20 acre pasture with <40% undesirable plant cover. Wildlife habitat acres with difficult access require complete handwork on 5 acres.	Ac.	\$55.75	10	5%	\$2.79	\$9.63

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Brush Management (Ac.)	314	Removal, reduction, or manipulation of non-herbaceous plants.	Livestock trained to browse target species and/or biological agents identified as feeding on or otherwise disrupting target species function. Treatment on less than 5 acres.	Ac.	\$48.00	10	5%	\$2.40	\$8.29
Brush Management (Ac.)	314	Removal, reduction, or manipulation of non-herbaceous plants.	Removal of undesirable woody species by handwork and heavy equipment on pastures where target species is dominant on treatment area. Typical pasture treatment area 10 acres with target species >40% of plant cover. Pasture condition score of 3 or less for desirable plants.	Ac.	\$453.53	10	5%	\$22.68	\$78.31
Channel Stabilization (Ft.)	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. Design based on the geomorphic assessment and analysis of channel bed. On site disposal of materials. 12 foot wide channel. 200 lin. feet	Sq. Ft.	\$4.61	10	5%	\$0.23	\$0.80
Channel Stabilization (Ft.)	584	Measure(s) used to stabilize the bed or bottom of a channel.	Installation of grade control structures in the channel bottom. Rock ramp structure with D50 = 12 inch cubical rock riprap. 55 foot chute length. Minor clearing of channel to remove deadfall, stumps, trees, and debris. Design based on the geomorphic assessment and analysis of channel bed. On site disposal of materials. 15 foot wide channel. 500 lin. feet. One structure per 500 lin. ft. of stream.	Lin. Ft.	\$44.00	10	5%	\$2.20	\$7.60
Closure of Waste Impoundments (No.)	360	The closure of waste impoundments (treatment lagoons and liquid waste storage facilities), that are no longer used for their intended purpose, in an environmentally-safe manner.	Embankment or excavated waste impoundments - After manure has been removed using Nutrient Management or Waste Utilization. Removal of residual waste, backfill of impoundment with leveling and seeding. Includes removal of embankment (or fill to bank grade), and shaping. Approx size 110' x 100', 6 feet deep with 4 foot berms.	No.	\$921.60	15	2%	\$18.43	\$100.74

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Closure of Waste Impoundments (No.)	360	The closure of waste impoundments (treatment lagoons and liquid waste storage facilities), that are no longer used for their intended purpose, in an environmentally-safe manner.	Reception pit structure - After the removal of manure using Nutrient Management or Waste Utilization. Fill in with sand. Stabilization of site. Reception pit 10x10x6, and decommission of outlet pipe.	No.	\$570.80	15	2%	\$11.42	\$62.40
Closure of Waste Impoundments (No.)	360	The closure of waste impoundments (treatment lagoons and liquid waste storage facilities), that are no longer used for their intended purpose, in an environmentally-safe manner.	Reception pit structure - After the removal of manure using Nutrient Management or Waste Utilization. Removal of residual waste, removal of materials, fill hole in with sand. Stabilization of site. Reception pit 10x10x6, and decommission of outlet	No.	\$2,025.20	15	2%	\$40.50	\$221.38
Closure of Waste Impoundments (No.)	360	The closure of waste impoundments (treatment lagoons and liquid waste storage facilities), that are no longer used for their intended purpose, in an environmentally-safe manner.	Reinforced concrete waste storage structure - After the removal of manure using Nutrient Management or Waste Utilization. Removal of residual waste, punch 3 ft. x 3 ft. hole in wall so that no water can be impounded. Onsite disposal of rubble by	No.	\$286.60	15	2%	\$5.73	\$31.33
Closure of Waste Impoundments (No.)	360	The closure of waste impoundments (treatment lagoons and liquid waste storage facilities), that are no longer used for their intended purpose, in an environmentally-safe manner.	Reinforced concrete waste storage structure - After the removal of manure using Nutrient Management or Waste Utilization. Demolition of walls only; leave floor. Disposal of rubble off site. Concrete structure 40' x 60' x 8 ft deep with 8" walls.	No.	\$5,782.00	15	2%	\$115.64	\$632.05
Closure of Waste Impoundments (No.)	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.	Reinforced concrete waste storage structure - After the removal of manure using Nutrient Management or Waste Utilization. Demolition of walls only; leave floor. Disposal of rubble off site. Concrete structure 40' x 60' x 8 ft deep with 8" walls. By sq. ft. of walls	Sq. Ft.	\$3.61	15	2%	\$0.07	\$0.39
Closure of Waste Impoundments (No.)	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.	Reinforced concrete waste storage structure - After the removal of manure using Nutrient Management or Waste Utilization. Demolition of walls only; leave floor. Disposal of rubble off site. Fill in hole. Concrete structure 40' x 60' x 8 ft deep with 8" walls.	No.	\$6,007.60	15	2%	\$120.15	\$656.71

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Closure of Waste Impoundments (No.)	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.	Reinforced concrete waste storage structure - After the removal of manure using Nutrient Management or Waste Utilization. Demolition of walls only; leave floor. Disposal of rubble off site. Fill in hole. Concrete structure 40' x 60' x 8 ft deep with 8" walls. by sq. ft. of wall	Sq. Ft.	\$3.75	15	2%	\$0.08	\$0.41
Composting Facility (No.)	317	This is a treatment component of an agricultural management system for the biological stabilization of organic material.	Concrete pad for composting manure, vegetative waste, and or animal mortality. Typical cost is concrete (5") over 4" compacted sand. Typical is 8,000 sq ft. When used for mortality the size of concrete or other hard surface to be calculated using the MSU- ATS_System Planner Spreadsheet. The pad size is to be determined using square footage shown in the "Size of pad including working space" cell. Runoff is to be controlled with additional practices or determined not to be a	Sq.Ft..	\$11.49	15	5%	\$0.57	\$1.60
Composting Facility (No.)	317	This is a treatment component of an agricultural management system for the biological stabilization of organic material.	Bin system with Roof. Size of the bin system is to be calculated using the MSU- ATS_System Planner Spreadsheet. The bin size is based on the "effective volume of the bin" multiplied by the " total number of bins needed " is to be used. Typical system is 6 bins 10' x 12' with R/C 5' walls, an effective volume of bin is 425 cu.ft.. multiplied by 6 bins to estimate cu.ft.. (2,550 cu.ft. needed). 5 active composting bins and 1 bin for bulking	No.	\$186,657.00	15	5%	\$9,332.85	\$26,003.81
Composting Facility (No.)	317	This is a treatment component of an agricultural management system for the biological stabilization of organic material.	Overlapping pile system with roof. Size of the overlapping pile system is to be calculated using the MSU-ATS_System Planner Spreadsheet. The overlapping pile facility is to be based on the "total effective volume of piles". Typical system is 6 piles, 30' x 48' building with roof, 4' walls on ends, a curb down the center of the facility. 5" of concrete over 4" compacted sand with apron.	No.	\$25,437.00	15	5%	\$1,271.85	\$3,543.71

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Composting Facility (No.)	317	This is a treatment component of an agricultural management system for the biological stabilization of organic material.	Gravel (5") surface over compacted sand (4"). For composting manure, vegetable or other crop materials. Typical is 8,000 sq ft.	Sq.Ft.	\$1.62	15	5%	\$0.08	\$0.23
Composting Facility (No.)	317	This is a treatment component of an agricultural management system for the biological stabilization of organic material.	Concrete pad for composting manure, vegetative waste, and or animal mortality. Typical cost is concrete (5") over 4" compacted sand. Typical is 8,000 sq ft. When used for mortality the size of concrete or other hard surface to be calculated using the MSU- ATS_System Planner Spreadsheet. The pad size is to be determined using square footage shown in the "Size of pad including working space" cell. Runoff is to be controlled with additional practices or determined not to be a	Sq.Ft.	\$3.49	15	5%	\$0.17	\$0.49
Composting Facility (No.)	317	This is a treatment component of an agricultural management system for the biological stabilization of organic material.	5"concrete slab on 4" compacted sand facility with sides of 2x2x6 concrete blocks . 8000 sq ft of flat work . 50 x160 ft, 370 lin ft wall (62 blocks) for 18,000 cu ft	Sq.Ft.	\$1.83	15	5%	\$0.09	\$0.25
Conservation Cover (Ac.)	327	Establishing and maintaining permanent vegetative cover to protect soil and water resources.	Cool season planting, 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.	\$196.97	10	3%	\$5.91	\$30.07
Conservation Cover (Ac.)	327	Establishing and maintaining permanent vegetative cover to protect soil and water resources.	Warm season without wildflowers Seed mix 17 from practice standard table.	Ac.	\$258.37	10	3%	\$7.75	\$39.45
Conservation Cover (Ac.)	327	Establishing and maintaining permanent vegetative cover to protect soil and water resources.	Warm season with wildflowers Seed mix 18 from practice standard table.	Ac.	\$278.37	10	3%	\$8.35	\$42.50
Conservation Cover (Ac.)	327	Establishing and maintaining permanent vegetative cover to protect soil and water resources.	Organic cool season grass and legume mix 7 from practice standard Alsike clover and orchard grass.	Ac.	\$274.12	10	3%	\$8.22	\$41.85
Conservation Cover (Ac.)	327	Establishing and maintaining permanent vegetative cover to protect soil and water resources.	Warm season grasses only all switch grass, mix 16 from practice standard table	Ac.	\$180.72	10	3%	\$5.42	\$27.59

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Conservation Cover (Ac.)	327	Establishing and maintaining permanent vegetative cover to protect soil and water resources.	One acre of warm season grasses and Michigan native specified pollinator wildflower mix.	Ac.	\$456.22	10	3%	\$13.69	\$69.65
Conservation Cover (Ac.)	327	Establishing and maintaining permanent vegetative cover to protect soil and water resources.	Vegetative plugs installed in wetland soils to facilitate establishment of native communities of plants. Used with wetland restoration and/or upland areas to do a rapid re-establish of native plant community. Installed on 18" centers without seeding. 4,444 plugs per 10,000 sq ft. purchased	sq. ft.	\$0.75	10	3%	\$0.02	\$0.11
Conservation Cover (Ac.)	327	Establishing and maintaining permanent vegetative cover to protect soil and water resources.	Vegetative plugs installed in wetland soils to facilitate establishment of native communities of plants. Used with wetland restoration and/or upland areas to do a rapid re-establish of native plant community. Installed on 18" centers with seeding. 4,444 plugs per 10,000 sq ft. purchased in flats of 32. Seeding with 100 seeds per sq ft.	sq.ft. ft.	\$0.78	10	3%	\$0.02	\$0.12
Conservation Cover (Ac.)	327	Establishing and maintaining permanent vegetative cover to protect soil and water resources.	Used with wetland restoration to re-establish of native plant community. Seeding mix to be specific to wetland site conditions as per biologist decision.	Ac.	\$1,348.83	10	3%	\$40.46	\$205.94
Conservation Crop Rotation (Ac.)	328	Growing crops in a recurring sequence on the same field.	Cropland with 2-4 crops in rotation, analysis of crops, and acreages to determine rotation. Includes recordkeeping of fields and crops. Typical field is 20 ac	Ac.	\$10.00	1	0%	\$0.00	\$10.39
Conservation Crop Rotation (Ac.)	328	Growing crops in a recurring sequence on the same field.	Cropland with 6-8 crops in rotation, analysis of crops, and acreages to determine rotation. Includes recordkeeping of fields and crops. Typical field is 10 ac vegetable farm.	Ac.	\$20.00	1	0%	\$0.00	\$20.78
Contour Buffer Strips (Ac.)	332	Narrow strips of permanent, herbaceous vegetative cover established across the slope and alternated down the slope with parallel, wider cropped strips.	Tillage site prep so can be organic or non-organic, seed, fert and 2 post plant trips to establish vegetative stand in buffer strips.	Ac.	\$250.00	10	3%	\$7.50	\$38.17

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Contour Buffer Strips (Ac.)	332	Narrow strips of permanent, herbaceous vegetative cover established across the slope and alternated down the slope with parallel, wider cropped strips.	Cool Season, tillage site prep, seed, fert and 2 post plant trips to establish vegetative stand in buffer strips.	Ac.	\$137.00	10	3%	\$4.11	\$20.92
Contour Buffer Strips (Ac.)	332	Narrow strips of permanent, herbaceous vegetative cover established across the slope and alternated down the slope with parallel, wider cropped strips.	Organic Cool Season, tillage site prep, seed, fert and 2 post plant trips to establish vegetative stand in buffer strips.	Ac.	\$144.50	10	3%	\$4.34	\$22.06
Cover Crop (Ac.)	340	Grasses, legumes, forbs, or other herbaceous plants established for seasonal cover and conservation purposes.	Cover Crop	Ac.	\$51.00	1	0%	\$0.00	\$52.99
Cover Crop (Ac.)	340	Grasses, legumes, forbs, or other herbaceous plants established for seasonal cover and conservation purposes.	Organic Cover Crop	Ac.	\$53.40	1	0%	\$0.00	\$55.48
Critical Area Planting (Ac.)	342	Establishing permanent vegetation on sites that have physical, chemical, or biological conditions that prevent the establishment of vegetation with normal practices.	Seeding with mulch and netting typical is cool season with sites of 4860 sq ft.	Sq.Ft.	\$0.26	10	5%	\$0.01	\$0.04
Critical Area Planting (Ac.)	342	Establishing permanent vegetation on sites that have physical, chemical, or biological conditions that prevent the establishment of vegetation with normal practices.	Sodding, small critical area construction sites 600 sq ft. on sloped ground with hand work	Sq.Ft.	\$0.86	10	5%	\$0.04	\$0.15
Critical Area Planting (Ac.)	342	Establishing permanent vegetation on sites that have physical, chemical, or biological conditions that prevent the establishment of vegetation with normal practices.	Hydro seeding, custom contracting of hydro or air seeding small critical area sites	Sq.Ft.	\$0.14	10	5%	\$0.01	\$0.02

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Critical Area Planting (Ac.)	342	Establishing permanent vegetation on sites that have physical, chemical, or biological conditions that prevent the establishment of vegetation with normal practices.	Seeding typical is cool season with sites of 4860 sq ft.	Sq.Ft.	\$0.034	10	5%	\$0.00	\$0.01
Cross Wind Trap Strip - Filter or Field (Ac.)	589C	Herbaceous cover resistant to wind erosion, established adjacent to surface drainage ditches across the prevailing wind erosion direction.	Field or filter designed to be 25 ft wide and less than 1' in height. 1742 ft per acre.	Ac.	\$104.90	5	5%	\$5.25	\$28.74
Deep Tillage (Ac.)	324	Performing tillage operations below the normal tillage depth to modify the physical or chemical properties of a soil.	Deep tillage.	Ac.	\$18.00	1	0%	\$0.00	\$18.70
Diversion (Ft.)	362	A channel constructed across the slope generally with a supporting ridge on the lower side.	Grading and shaping and earthfill, seeding is typically cool season. typical 6 foot bottom 1 foot in ground with 1 foot berm. 4000 sq ft of seeding.	Ft.	\$3.75	10	5%	\$0.19	\$0.65
Diversion (Ft.)	362	A channel constructed across the slope generally with a supporting ridge on the lower side.	Grading and shaping and earthfill, seeding is typically cool season. typical 6 foot bottom 1 foot in ground with 1 foot berm. 4000 sq ft of seeding. With Concrete curb and channel for diverting water from animal operations 1 foot high with graded channel adjacent	Ft.	\$29.50	10	5%	\$1.48	\$5.09
Drainage Water Management (Ac.)	554	Control of water surface elevations and discharge from surface and subsurface drainage systems.	Management of typical stand pipe with gates, typically 1 per 50 acres. With installation of stand pipe gate to facilitate management.	Ac.	\$4.00	10	2%	\$0.08	\$0.57
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.	\$60.00	15	3%	\$1.80	\$7.16
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.	\$17.00	15	3%	\$0.51	\$2.03

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Early Successional Habitat Development/Management (Ac.)	647	Manage early plant succession to benefit desired wildlife or natural communities.	Regenerate aspen and create young age-classes of aspen where mostly mature stands exist by clearcut the aspen according to the guidelines in the practice standard(every stem of all species two inches diameter and over gets cut)in order to create a very dense stand of young aspen. Our goal is to create two or preferably three age-classes of aspen over time, in many locations throughout a property. The size of these clearcut areas usually ranges from .5 acres to 2 acres. Create significantly improved habitat for our target species ruffed grouse and American woodcock & also benefit some neotropical migrants(golden winged warbler), and many other species of wildlife that require a young forest habitat. This practice can be used throughout the UP and probably also in the northern third of the lower peninsula. All trees of all species greater than two inches in diameter are cut within the clearcut area. The trees are dropped into the site and not removed except for possibly some firewood usage by the landowner. The trees should be cut during the dormant season from November through mid March for best results. We prefer all tops to be left in the clearcut area since the aspen sprouts will	Ac.	\$1,531.00	15	3%	\$45.93	\$182.67
Fence (Ft.)	382	A constructed barrier to animals or people.	interior high tensile electric and non-electric, or barbed wire. 1/2 mile per standard with 2 strand; metal t posts in line, wood post corner and braces and line boss. Light sight prep <30% of installation area hand removal of shrubs. Contractor installed fence after site prep.	Ft.	\$1.32	20	5%	\$0.07	\$0.16

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Fence (Ft.)	382	A constructed barrier to animals or people.	Permanent installation perimeter; 40acres; 1320x1320; 2 gates; HT or regular woven wire per standard; clearing <50% perimeter and/or cut/fill< 1 ft on < 20% perimeter.	Ft.	\$1.81	20	5%	\$0.09	\$0.22
Fence (Ft.)	382	A constructed barrier to animals or people.	Permanent Safety fence around waste storage as required per standard 313; 4 strand HT smooth, polycoated, barbed or regular barbed wire for livestock safety; gates every 150 ft for access and 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.	\$2.35	20	5%	\$0.12	\$0.29
Fence (Ft.)	382	A constructed barrier to animals or people.	Permanent installation perimeter; 40acres; 1320x1320; 2 gates; HT or regular woven wire per standard; clearing <50% perimeter and/or cut/fill< 1 ft on < 20% perimeter.	Ft.	\$3.36	20	5%	\$0.17	\$0.41
Field Border (Ft.)	386	A strip of permanent vegetation established at the edge or around the perimeter of a field.	Cool season, 1 acre, on farm equipment, seed, fertilizer, herbicide, drill, 2 mowing to establish	Ac.	\$196.27	10	3%	\$5.89	\$29.97
Field Border (Ft.)	386	A strip of permanent vegetation established at the edge or around the perimeter of a field.	Organic, 1 acre, on farm equipment, seed, fertilizer, herbicide, drill, 2 mowing to establish	Ac.	\$199.32	10	3%	\$5.98	\$30.43
Field Border (Ft.)	386	A strip of permanent vegetation established at the edge or around the perimeter of a field.	Warm season, 1 acre, on farm equipment, seed, fertilizer, herbicide, drill, 2 mowing to establish	Ac.	\$252.24	10	3%	\$7.57	\$38.51
Field Border (Ft.)	386	A strip of permanent vegetation established at the edge or around the perimeter of a field.	Michigan wildlife pollinator with warm season grasses, 1 acre, on farm equipment, seed, fertilizer, herbicide, drill, 2 mowing to establish	Ac.	\$467.00	10	3%	\$14.01	\$71.30
Filter Strip (Ac.)	393	A strip of grass or other permanent vegetation used to reduce sediment, organics, nutrients, pesticides, and other contaminants.	Cool season grasses or grass and legume mix. 1.5 acre filter strip. Chem. burn down, seed, fert, and 2 post plant treatment to establish stand.	Ac.	\$206.00	10	5%	\$10.30	\$35.57
Filter Strip (Ac.)	393	A strip of grass or other permanent vegetation used to reduce sediment, organics, nutrients, pesticides, and other contaminants.	Warm Season Planting mix warm season grass mix without wildflowers 2 acres warm season blend, on farm equipment. Seed, fertilizer, herbicide burn down, drilling and 2 mowing for establishment.	Ac.	\$376.00	10	5%	\$18.80	\$64.93
Firebreak (Ft.)	394	A strip of bare land or vegetation that retards fire.	Disking to create firebreak for Prescribed burning of a grassland site. 15ft wide	Ac.	\$19.38	10	5%	\$0.97	\$3.35

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Firebreak (Ft.)	394	A strip of bare land or vegetation that retards fire.	30' wide permanent firebreak. Cool season planting.	Ac.	\$149.44	10	5%	\$7.47	\$25.80
Fish Passage (No.)	396	Modification or removal of barriers that restrict or prevent movement or migration of fish.	Modification of existing culvert ends. Add rock scour hole to fix vertical fall erosion to correct culvert for fish passage.	No.	\$3,750.00	15	5%	\$187.50	\$522.42
Fish Passage (No.)	396	Modification or removal of barriers that restrict or prevent movement or migration of fish.	Timber bridge. Does not include design, soil borings or pavement for road surface. Timber constructed bridge to replace culvert for fish passage. Get estimate from engineers.	No.	\$7,500.00	15	5%	\$375.00	\$1,044.85
Fish Passage (No.)	396	Modification or removal of barriers that restrict or prevent movement or migration of fish.	New Culvert installed to provide fish passage by positioning and sizing of to allow for fish passage. culvert during culvert replacement. Does not include road surface. Typical removal of under 36" culvert with off-site disposal of culvert, and on-site disposal of earthen materials. Installation of 48"-60" corrugated metal culvert. Get estimate from	No.	\$22,000.00	15	5%	\$1,100.00	\$3,064.89
Fish Passage (No.)	396	Modification or removal of barriers that restrict or prevent movement or migration of fish.	Removal of culvert and replace with box culvert for fish passage. Does not include road surface. Range \$30,000 to \$90,000. Get estimate from	No.	\$42,500.00	15	5%	\$2,125.00	\$5,920.82
Fish Pond Management (Ac.)	399	Managing impounded water for the production of fish or other aquatic organisms (non-commercial use).	Management of fish pond to control species population and aquatic habitat.	No.	\$510.00	1	0%	\$0.00	\$529.89
Fish Raceway or Tank (Ft. and Cu.Ft.)	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. Purpose high-density fish production of species of concern. Used for tribal payment schedule to produce fish. Resource concern Wildlife imbalance among and within populations.	Ft.	\$120.00	10	5%	\$6.00	\$20.72
Fish Raceway or Tank (Ft. and Cu.Ft.)	398	A channel or tank with a continuous flow of water constructed or used for high-density fish production.	Fiberglass or other material tank with fittings. Purpose high-density fish production of species of concern. Used for tribal payment schedule to produce fish. Resource concern Wildlife imbalance among and within populations.	Cu.Ft.	\$4.00	10	5%	\$0.20	\$0.69

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Forage Harvest Management (Ac.)	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.	Management time for measurement of forage and recordkeeping.	Ac.	\$9.00	5	0%	\$0.00	\$2.02
Forest Stand Improvement (Ac.)	666	Manipulation of species composition, stand structure, and stocking by cutting or killing selected trees and understory vegetation.	Kill unwanted trees, shrubs, and vines. Mechanical cutting, girdling, or frilling or chemical treatment. Includes marking, killing & removal of cull trees.	Ac.	\$357.68	10	5%	\$17.88	\$61.76
Forest Trails and Landings (Ac.)	655	Laying out, constructing, and using forest harvest trails and landings.	New trail to access forest for installation of other forestry practices with landing area. 16 ft wide 1500 ft long with 90x90 landing area.	Ac.	\$6,612.26	5	0%	\$0.00	\$1,481.12
Grade Stabilization Structure (No.)	410	A structure used to control the channel grade in natural or constructed watercourses.	Geotextile reinforced vegetated chute.	No.	\$1,180.00	15	5%	\$59.00	\$164.39
Grade Stabilization Structure (No.)	410	A structure used to control the channel grade in natural or constructed watercourses.	Open weir, pipe, block chute, or rock chute drop structure typical 8 foot weir or bottom width or 18" pipe with 4 foot overfall. Welded on site with pipe.	No.	\$4,588.00	15	5%	\$229.40	\$639.17
Grade Stabilization Structure (No.)	410	A structure used to control the channel grade in natural or constructed watercourses.	Open weir, pipe, block chute, or rock chute drop structure typical 25' weir, 18" pipe with over 20 foot overfall. Welded on site with pipe.	No.	\$6,090.00	15	5%	\$304.50	\$848.42
Grassed Waterway (Ac.)	412	A natural or constructed channel that is shaped or graded to required dimensions and established with suitable vegetation.	Reshape existing grassed waterway without drainage tubing. Grading, shaping, seeding and mulching. Mulch netting in center 1/3 of waterway.	Ac.	\$3,010.00	10	5%	\$150.50	\$519.76
Grassed Waterway (Ac.)	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.	\$4,010.00	10	5%	\$200.50	\$692.44
Grassed Waterway (Ac.)	412	A natural or constructed channel that is shaped or graded to required dimensions and established with suitable vegetation.	New grassed waterway 30 ft X 1450 ft with drainage tubing. Grading, shaping, seeding and mulching. Mulch netting in center 1/3 of waterway.	Ac.	\$5,658.00	10	5%	\$282.90	\$977.01
Grassed Waterway (Ac.)	412	A natural or constructed channel that is shaped or graded to required dimensions and established with suitable vegetation.	Grassed waterway with rock center. 40 foot width, rock 6" d50, 6 feet wide and 1 foot deep Grading, shaping, seeding and mulching. Mulch netting in center 1/3 of waterway.	Ac.	\$21,108.00	10	5%	\$1,055.40	\$3,644.89

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Heavy Use Area Protection (Ac.)	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.	Concrete Surface, flat work or sloped to control runoff, 20 ft wide and 100 ft long (2000 sq ft) typical 5" concrete over 4"compacted sand.	Sq.Ft.	\$3.81	10	5%	\$0.19	\$0.66
Heavy Use Area Protection (Ac.)	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.	Concrete Surface, flat work or sloped to control runoff with curbing, 20 ft wide and 100 ft long (2000 sq ft) typical 5" concrete over 4"compacted sand. Includes curbing non-reinforced up to 8" on one side (100 ft).	Sq.Ft.	\$4.11	10	5%	\$0.21	\$0.71
Heavy Use Area Protection (Ac.)	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.	Concrete Surface, flat work or sloped to control runoff with reinforced curbing, 20 ft wide and 100 ft long (2000 sq ft) typical 5" concrete over 4"compacted sand. Reinforced curb/ wall up to 2' (typical on 18") ht with footings, no roof.	Sq.Ft.	\$5.06	10	5%	\$0.25	\$0.87
Heavy Use Area Protection (Ac.)	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.	Gravel surface with geotextile base. 1,600 square feet, 9" thick, compacted in place.	Sq.Ft.	\$1.75	10	5%	\$0.09	\$0.30
Heavy Use Area Protection (Ac.)	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.	\$6.66	10	5%	\$0.33	\$1.15
Heavy Use Area Protection (Ac.)	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. Reinforced wall 1' high with footings. Standard truss roof.	Sq.Ft.	\$18.89	10	5%	\$0.94	\$3.26

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Heavy Use Area Protection (Ac.)	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.	Roof Only. 40 ft. x 50 ft. area to protect; 44 ft. x 52 ft. roof footprint (2288 sq. ft.). Standard truss roof.	Sq.Ft.	\$8.31	10	5%	\$0.42	\$1.43
Hedgerow Planting (Ft.)	422	Establishing a linear planting of shrubs or trees in, across, or around a field.	Two rows shrubs and/or trees for visual screening or living fence.	Ft.	\$0.74	15	5%	\$0.04	\$0.10
Hedgerow Planting (Ft.)	422	Establishing a linear planting of shrubs or trees in, across, or around a field.	Three rows shrubs and/or trees for wildlife or noise screening.	Ft.	\$0.87	15	5%	\$0.04	\$0.12
Hedgerow Planting (Ft.)	422	Establishing a linear planting of shrubs or trees in, across, or around a field.	Wildlife corridor, minimum of 66 feet wide, native plant species.	Ft.	\$1.82	15	5%	\$0.09	\$0.25
Herbaceous Weed Control (Ac.)	315	The removal or control of herbaceous weeds including invasive, noxious and prohibited plants.	Livestock grazing and browsing management for weed control only. Prescribed Grazing NOT implemented or planned. Control invasive and undesirable plant species with grazing and/or browsing animals with specifications per 528 Prescribed Grazing. NOT to be used with 528 on	Ac.	\$224.00	1	0%		\$232.74
Herbaceous Weed Control (Ac.)	315	The removal or control of herbaceous weeds including invasive, noxious and prohibited plants.	mechanical treatment in natural habitat site adverse conditions, tractor with brush hog and hand tools on quad runner. With spray follow-up	Ac.	\$158.41	1	0%		\$164.59
Herbaceous Wind Barriers (Ft.)	603	Herbaceous vegetation established in rows or narrow strips in the field across the prevailing wind direction.	Herbaceous vegetation established in rows or narrow strips in the field across the prevailing wind direction. Range of \$0.05 to 0.20 per ft. based on vegetation and installation.	Ft.	\$0.24	10	3%	\$0.01	\$0.04
Irrigation System, Sprinkler (No. and Ac.)	442	An irrigation system in which all necessary equipment and facilities are installed for efficiently applying water by means of nozzles operated under pressure.	Convert existing Big Gun irrigation system to Center Pivot irrigation system or replace sprinklers on big gun/center pivot.	Lin., Ft.	\$5.40	10	2%	\$0.11	\$0.77

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Irrigation System, Sprinkler (No. and Ac.)	442	An irrigation system in which all necessary equipment and facilities are installed for efficiently applying water by means of nozzles operated under pressure.	Replace sprinkler packages on existing Fixed-Solid-Set or Periodic Move sprinkler irrigation system.	Lin. Ft.	\$0.44	10	2%	\$0.01	\$0.06
Irrigation Water Management (Ac.)	449	The process of determining and controlling the volume, frequency, and application rate of irrigation water in a planned, efficient manner.	System evaluation and Management.	No.	\$1,200.00	1	0%	\$0.00	\$1,246.80
Irrigation Water Management (Ac.)	449	The process of determining and controlling the volume, frequency, and application rate of irrigation water in a planned, efficient manner.	Management of System without evaluation needed.	No.	\$500.00	1	0%	\$0.00	\$519.50
Land Reconstruction, Abandoned Mined Land (Ac.)	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.	\$14,989.53	10	0%	\$0.00	\$1,838.88
Land Reconstruction, Abandoned Mined Land (Ac.)	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.; add 1000 cu. yd. cover material to create 80 earth mounds; place appropriate soil cover and establish basic vegetation with tree clumps. 1 acre site. Minimum cover thickness of 6" over whole site.	Ac.	\$29,574.06	10	0%	\$0.00	\$3,628.09
Land Reconstruction, Abandoned Mined Land (Ac.)	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.	Establish vegetation with indigenous tree clumps, 320 trees per acre. 1 acre site.	Ac.	\$4,072.00	10	0%	\$0.00	\$499.54
Lined Waterway or Outlet (Ft.)	468	A waterway or outlet having an erosion-resistant lining of concrete, stone, synthetic turf reinforcement fabrics, or other permanent material.	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.	\$3.93	10	10%	\$0.39	\$0.88

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Lined Waterway or Outlet (Ft.)	468	A waterway or outlet having an erosion-resistant lining of concrete, stone, synthetic turf reinforcement fabrics, or other permanent material.	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.	\$2.67	10	10%	\$0.27	\$0.59
Lined Waterway or Outlet (Ft.)	468	A waterway or outlet having an erosion-resistant lining of concrete, stone, synthetic turf reinforcement fabrics, or other permanent material.	100 X 12 foot turf reinforcement lined waterway with 4" drain tubing. Seeding, mulching and netting. Seeding = 2X TRF area. Grading and shaping	Ft.	\$3.07	10	10%	\$0.31	\$0.68
Mine Shaft and Adit Closing (No.)	457	Closure of underground mine opening by filling, plugging, capping, installing barriers, gating, or fencing.	Each site is unique. Cost range is \$3,000 to \$40,000. Consider access to site, topography, size and number of openings, and construction considerations. Cost as per engineer's estimate	No.	\$18,000.00	10	0%	\$0.00	\$2,208.20
Mulching (Ac.)	484	Applying plant residues or other suitable materials not produced on the site to the soil surface.	Straw, hay, wood chip, or bark chip mulch. Small construction sites where critical area planting is not used, but ground protection is needed.	sq ft	\$0.64	1	0%	\$0.00	\$0.66
Mulching (Ac.)	484	Applying plant residues or other suitable materials not produced on the site to the soil surface.	Organic. Straw, hay, wood chip, or bark chip mulch hand spread in rows for moisture and weed control. Typical vegetable or small fruit production with material between rows or plastic mulch material on raised beds.	Ac.	\$86.66	1	0%	\$0.00	\$90.04
Mulching (Ac.)	484	Applying plant residues or other suitable materials not produced on the site to the soil surface.	Straw, hay, wood chip, or bark chip mulch hand spread in rows for moisture and weed control. Typical vegetable or small fruit production with material between rows or plastic mulch material on raised beds.	Ac.	\$82.16	1	0%	\$0.00	\$85.36
Nutrient Management (Ac.)	590	Managing the amount, source, placement, form, and timing of the application of nutrients and soil amendments.	Field Crops & forages with commercial fertilizer application. Management of the amount, source, placement, form, and timing of application of nutrients and soil amendments. Typical 20 acre field with soil testing.	Ac.	\$19.55	1	0%	\$0.00	\$20.31

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Nutrient Management (Ac.)	590	Managing the amount, source, placement, form, and timing of the application of nutrients and soil amendments.	Field Crops and Forages (including Pasture) with manure Application managing the amount, source, placement, form, and timing of the application of nutrients and soil amendments.	Ac.	\$25.55	1	0%	\$0.00	\$26.55
Nutrient Management (Ac.)	590	Managing the amount, source, placement, form, and timing of the application of nutrients and soil amendments.	Orchards, vineyard, vegetable fields, small fruit, Christmas trees, and or other special crops. 10 acre fields. Management of the amount, source, placement, form, and timing of application of nutrients and soil amendments.	Ac.	\$52.70	1	0%	\$0.00	\$54.76
Nutrient Management (Ac.)	590	Managing the amount, source, placement, form, and timing of the application of nutrients and soil amendments.	small production units up to 2179 sq ft in size. Mostly vegetable production with 6-8 crops in rotation. Typical high tunnel to cover 2160 sq ft to extend growing season.	Sq ft	\$2.10	1	0%	\$0.00	\$2.18
Nutrient Management (Ac.)	590	Managing the amount, source, placement, form, and timing of the application of nutrients and soil amendments.	small production units up to 2179 sq ft in size. Mostly vegetable production with 6-8 crops in rotation. Typical high tunnel to cover 2160 sq ft to extend growing season. High level of mgt for N using controlled release fertilizer and more intensive management of N applications.	Sq ft	\$2.84	1	0%	\$0.00	\$2.95
Nutrient Management (Ac.)	590	Managing the amount, source, placement, form, and timing of the application of nutrients and soil amendments.	Orchards, vineyard, vegetable fields, small fruit, Christmas trees, and or other special crops. 10 acre fields. Management of the amount, source, placement, form, and timing of application of nutrients and soil amendments. High level of nut management with grid or zone soil testing with variable rate applications.	Ac.	\$56.60	1	0%	\$0.00	\$58.81
Nutrient Management (Ac.)	590	Managing the amount, source, placement, form, and timing of the application of nutrients and soil amendments.	Field Crops and Forages (including Pasture) with manure Application managing the amount, source, placement, form, and timing of the application of nutrients and soil amendments. High Mgt.	Ac.	\$27.15	1	0%	\$0.00	\$28.21

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Nutrient Management (Ac.)	590	Managing the amount, source, placement, form, and timing of the application of nutrients and soil amendments.	Field Crops & forages with commercial fertilizer application. Management of the amount, source, placement, form, and timing of application of nutrients and soil amendments. Typical 20 acre field with soil testing. High Mgt.	Ac.	\$21.15	1	0%	\$0.00	\$21.97
Pasture and Hayland Planting (Ac.)	512	Establishing native or introduced forage species.	New planting or reestablishment of warm season grass, big bluestem for livestock feeding.	Ac.	\$232.75	10	5%	\$11.64	\$40.19
Pasture and Hayland Planting (Ac.)	512	Establishing native or introduced forage species.	New planting or reestablishment of cool season grass mix and clover with fertilizer and lime. Subtract \$26 per acre if lime is not needed.	Ac.	\$139.56	10	5%	\$6.98	\$24.10
Pasture and Hayland Planting (Ac.)	512	Establishing native or introduced forage species.	New planting or reestablishment of organic cool season grass mix and clover with fertilizer and lime. Subtract \$26 per acre if lime is not needed.	Ac.	\$143.66	10	5%	\$7.18	\$24.81
Pasture and Hayland Planting (Ac.)	512	Establishing native or introduced forage species.	Pasture interseeding, frost seeding with lime and fertilizer	Ac.	\$115.00	10	5%	\$5.75	\$19.86
Pasture and Hayland Planting (Ac.)	512	Establishing native or introduced forage species.	Establish switchgrass for biomass on 40 acres.	Ac.	\$167.88	10	5%	\$8.39	\$28.99
Pasture and Hayland Planting (Ac.)	512	Establishing native or introduced forage species.	Annual Crop. Pasture seeding no-till, min-till, organic with lime and fertilizer according to soil test. Typical improvement on 40 acres.	Ac.	\$78.75	10	5%	\$3.94	\$13.60
Pasture and Hayland Planting (Ac.)	512	Establishing native or introduced forage species.	Organic Annual Crop. Pasture seeding no-till, min-till, organic with lime and fertilizer according to soil test. Typical improvement on 40 acres.	Ac.	\$82.69	10	5%	\$4.13	\$14.28
Pest Management (Ac.)	595	Utilizing environmentally-sensitive prevention, avoidance, monitoring, and suppression strategies to manage weeds, insects, diseases, animals, and other organisms (including invasive and non-invasive species) that directly or indirectly cause damage or annoyance.	Forage and Field Crops. 20 acre field. Annual consultation, analysis of data, make decisions. Field monitoring and decisions on actions to control pests.	Ac.	\$51.50	1	0%	\$0.00	\$53.51

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Pest Management (Ac.)	595	Utilizing environmentally-sensitive prevention, avoidance, monitoring, and suppression strategies to manage weeds, insects, diseases, animals, and other organisms (including invasive and non-invasive species) that directly or indirectly cause damage or annoyance.	10 acre of cherries needing monitoring and pest mgt decision making from mid-April to summer harvest (3mo). Need 1 trap per 2.5 ac and replace traps every 8 weeks of field life. Or 8 per 10 ac per season.	Ac.	\$156.60	1	0%	\$0.00	\$162.71
Pest Management (Ac.)	595	Utilizing environmentally-sensitive prevention, avoidance, monitoring, and suppression strategies to manage weeds, insects, diseases, animals, and other organisms (including invasive and non-invasive species) that directly or indirectly cause damage or annoyance.	10 acre of apples needing monitoring and pest mgt decision making from mid-April to mid-Sept (5mo). Need 1 trap per 2.5 ac and replace traps every 8 weeks of field life. Or 12 per 10 ac per season.	Ac.	\$238.40	1	0%	\$0.00	\$247.70
Pest Management (Ac.)	595	Utilizing environmentally-sensitive prevention, avoidance, monitoring, and suppression strategies to manage weeds, insects, diseases, animals, and other organisms (including invasive and non-invasive species) that directly or indirectly cause damage or annoyance.	10 acres of blueberries, raspberries, other fruits and vegetable crops. Analysis of site, consultations, scouting, evaluation of weekly scouting reports for the season and decision making on pest mgt	Ac.	\$177.60	1	0%	\$0.00	\$184.53
Pest Management (Ac.)	595	Utilizing environmentally-sensitive prevention, avoidance, monitoring, and suppression strategies to manage weeds, insects, diseases, animals, and other organisms (including invasive and non-invasive species) that directly or indirectly cause damage or annoyance.	Specialty Crops (sod, Christmas trees, etc.) gathering pest information, analysis, and treatment decision-making, post treatment assessment, and recordkeeping.	Ac.	\$138.00	1	0%	\$0.00	\$143.38

Statewide Conservation Practice Typical Installation Cost Information

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Pest Management (Ac.)	595	Utilizing environmentally-sensitive prevention, avoidance, monitoring, and suppression strategies to manage weeds, insects, diseases, animals, and other organisms (including invasive and non-invasive species) that directly or indirectly cause damage or annoyance.	Abandoned orchard or vineyard removal by uprooted and burned to prevent insect and disease pest from being harbored in residual plant material.	Ac.	\$550.00	1	0%	\$0.00	\$571.45
Pipeline (Ft.)	516	Pipeline having an inside diameter of 8 inches (203 mm) or less.	Above ground pipeline for livestock water. 1" pipe at 160 psi, 3500 ft long. Typical 1 1/4" pipe at 160 psi 3000 feet	Ft.	\$2.00	20	5%	\$0.10	\$0.25
Pipeline (Ft.)	516	Pipeline having an inside diameter of 8 inches (203 mm) or less.	Buried pipeline for livestock water. 18" with trencher 3500 ft long. buried 18" deep for hoof and vehicle damage protection	Ft.	\$5.40	20	5%	\$0.27	\$0.66
Pipeline (Ft.)	516	Pipeline having an inside diameter of 8 inches (203 mm) or less.	Buried below frost line pipeline for livestock water. 4 ft with trencher 3500 ft long. buried 4' deep below frost line for freezing protection.	Ft.	\$6.75	20	5%	\$0.34	\$0.83
Pond (No.)	378	A water impoundment made by constructing a dam or an embankment, or by excavating a pit or dugout.	Excavated or embankment earthwork. Range of \$30,000 to \$45,000 per 1/2 acre pond.	Cu. Yd.	\$5.00	10	1%	\$0.05	\$0.66
Pond Sealing or Lining - Bentonite Treatment (No.)	521C	A liner for a pond or waste impoundment consisting of a compacted soil-bentonite mixture.	Bentonite pond liner installed.	No.	\$19,600.00	15	3%	\$588.00	\$2,338.54
Pond Sealing or Lining - Flexible Membrane (No.)	521A	A manufactured hydraulic barrier consisting of a functionally continuous sheet of synthetic or partially synthetic, flexible material.	Membrane pond liner installed.	No.	\$33,800.00	15	3%	\$1,014.00	\$4,032.79
Pond Sealing or Lining - Soil Dispersant (No.)	521B	A liner for a pond or waste impoundment consisting of a compacted soil-dispersant mixture.	Soil pond lining installed.	No.	\$4,750.00	15	3%	\$142.50	\$566.74

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Prescribed Burning (Ac.)	338	Apply controlled fire to predetermined area.	Grasslands, 2 drip torches, 2 backpack sprayers. 2 hand tools. Includes firebreak as per prescribed burning standard. Local fire dept. standby costs and/or permits could be more than the \$600 used in this estimate.	Ac.	\$1,141.80	5	1%	\$11.42	\$267.18
Prescribed Grazing (Ac.)	528	Managing the controlled harvest of vegetation with grazing animals.	Prescribed grazing, all livestock species. Continuous to prescribed	Ac.	\$42.50	5	0%	\$0.00	\$9.52
Prescribed Grazing (Ac.)	528	Managing the controlled harvest of vegetation with grazing animals.	Prescribed grazing, confine to graze other livestock.	Ac.	\$44.00	5	0%	\$0.00	\$9.86
Prescribed Grazing (Ac.)	528	Managing the controlled harvest of vegetation with grazing animals.	Prescribed grazing, confine to graze Dairy.	Ac.	\$140.00	5	0%	\$0.00	\$31.36
Pumping Plant (No.)	533	A pumping facility installed to transfer water for a conservation need.	To provide water supply for irrigation, recreation, livestock, or wildlife and/or maintain critical water levels in swamps, marshes, open water, or for newly constructed wetlands and ponds and/or drainage. To transfer wastewater for utilization as part of a waste management system. Price varies depending on pump size and price.	No.	\$6,800.00	10	2%	\$136.00	\$970.21
Pumping Plant (No.)	533	A pumping facility installed to transfer water for a conservation need.	Manure Pump. 10 HP diesel with 4" output, electric start. Pipeline contracted separately. Price for trash pump from southerntool.com	No.	\$3,300.00	10	2%	\$66.00	\$470.84
Recreation Trail and Walkway (Ft.)	568	A pathway for pedestrian, equestrian, bicycle, and other off-road modes of travel through or to recreation resources.	6 foot wide gravel trail/walkway.	Ft.	\$1.30	10	3%	\$0.04	\$0.20
Recreation Trail and Walkway (Ft.)	568	A pathway for pedestrian, equestrian, bicycle, and other off-road modes of travel through or to recreation resources.	6 foot wide wood chip/bark trail/walkway. 2,500 lin. Feet, includes geotextile	Ft.	\$1.53	10	3%	\$0.05	\$0.23
Recreation Trail and Walkway (Ft.)	568	A pathway for pedestrian, equestrian, bicycle, and other off-road modes of travel through or to recreation resources.	6 foot wide elevated wood walkway to span watercourses and sensitive areas such as wetlands. 200 lin. Feet	Ft.	\$3.56	10	3%	\$0.11	\$0.54

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Residue and Tillage Management, Mulch-Till (Ac.)	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 systems where the field surface is tilled prior to planting.	Mulch till. 20 ac field size. Gathering data on residue cover, analysis of data and crop rotations and keeping records of residue management.	Ac.	\$12.00	1	0%	\$0.00	\$12.47
Residue Management, No-Till and Strip Till (Ac.)	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. 20 ac field size. Gathering data on residue cover, analysis of data and crop rotations and keeping records of residue management.	Ac.	\$27.23	1	0%	\$0.00	\$28.29
Residue Management, Ridge Till (Ac.)	346	Managing the amount, orientation, and distribution of crop residue and other plant residues on the soil surface year-round, while growing crops on preformed ridges alternated with furrows protected by crop residue.	20 ac field size. Gathering data on residue cover, analysis of data and crop rotations and keeping records of residue management.	Ac.	\$20.00	1	0%	\$0.00	\$20.78
Residue Management, Seasonal (Ac.)	344	Managing the amount, orientation, and distribution of crop and other plant residues on the soil surface during part of the year, while growing crops in a clean tilled seedbed.	Seasonal. 20 ac field size. Gathering data on residue cover, analysis of data and crop rotations and keeping records of residue management.	Ac.	\$12.00	1	0%	\$0.00	\$12.47
Restoration and Management of Declining Habitats (Ac.)	643	Restoring and conserving rare or declining native vegetative communities and associated wildlife species to conserve biodiversity.	Restoration of tall grass prairie. 10 acre planting of tall grass mixes.	Ac.	\$496.12	15	5%	\$24.81	\$69.12
Restoration and Management of Declining Habitats (Ac.)	643	Restoring and conserving rare or declining native vegetative communities and associated wildlife species to conserve biodiversity.	Restoration of oak savanna.	Ac.	\$1,252.72	15	5%	\$62.64	\$174.52

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Restoration and Management of Declining Habitats (Ac.)	643	Restoring and conserving rare or declining native vegetative communities and associated wildlife species to conserve biodiversity.	Restoration of red pine and white pine forests.	Ac.	\$411.47	15	1%	\$4.11	\$40.86
Riparian Forest Buffer (Ac.)	391	An area of predominantly trees and/or shrubs located adjacent to and up-gradient from watercourses or water bodies.	hardwoods with 12' spacing and 80% with tree protectors. Shrubs. 180 ft wide 1210 ft long	Ac.	\$1,197.29	15	5%	\$59.86	\$166.80
Riparian Herbaceous Cover (Ac.)	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 transitional zone between terrestrial and aquatic habitats.	Cool season plantings.	Ac.	\$324.36	10	1%	\$3.24	\$43.04
Riparian Herbaceous Cover (Ac.)	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 transitional zone between terrestrial and aquatic habitats.	Warm season plantings.	Ac.	\$434.50	10	1%	\$4.35	\$57.65
Roof Runoff Structure (No.)	558	A facility for collecting, controlling, and disposing of runoff water from roofs.	Gutters and downspouts less than 24 sq in. of gutter cross section. If needed also use Underground Outlet (620) in addition to this practice.	Lin.Ft.	\$12.60	10	1%	\$0.13	\$1.67
Roof Runoff Structure (No.)	558	A facility for collecting, controlling, and disposing of runoff water from roofs.	Gutters and downspouts over than 24 sq in. of gutter cross section. If needed also use Underground Outlet (620) in addition to this	Lin.Ft.	\$13.05	10	1%	\$0.13	\$1.73
Roof Runoff Structure (No.)	558	A facility for collecting, controlling, and disposing of runoff water from roofs.	French drains.	Lin.Ft.	\$21.75	10	1%	\$0.22	\$2.89
Seasonal High Tunnel System for Crops	798	A seasonal polyethylene covered structure is used to cover crops to extend the growing season in an environmentally safe manner.	Seasonal movable high tunnel from supplier covers. 30x96 of vegetable crop field. Without electrical, heat, ventilation, etc. as per standard. Not a hoop house/ greenhouse.	Sq. Ft.	\$3.00	4	5%	\$0.15	\$0.97

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Sediment Basin (No.)	350	A basin constructed to collect and store debris or sediment.	Large excavated sediment basin - may have up to 1/2 excavated material used in fill. Seeding and mulching, corrugated plastic pipe outlet, assume over 500 cu yd	No.	\$6,076.00	10	3%	\$182.28	\$927.67
Sediment Basin (No.)	350	A basin constructed to collect and store debris or sediment.	Small 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.	\$3,438.00	10	3%	\$103.14	\$524.91
Sediment Basin (No.)	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.	\$2,888.00	10	3%	\$86.64	\$440.93
Sediment Basin (No.)	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	Cu. Yd.	\$6.88	10	3%	\$0.21	\$1.05
Sediment Basin (No.)	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	Cu. Yd.	\$9.63	10	3%	\$0.29	\$1.47
Shallow Water Development and Management (Ac.)	646	The inundation of land to provide habitat for fish and/or wildlife.	Shallow Water development, pushout and locate spoil on site to create 18" water. Small site where hydrology and topography facilitate shallow water for wildlife habitat and feeding.	Ac.	\$1,207.00	10	0%	\$0.00	\$148.07
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 stream.	Dairy farm with sand bedding. Typically 14 ft wide by 200 ft long concrete lane on a 0.25% slope with 2ft walls on 1side, 4 ft head wall at inlet. Includes, a concrete apron for the sand recovery area.	Sq. Ft.	\$307.66				
Spring Development (No.)	574	Utilizing springs and seeps to provide water for conservation need.	Spring development.	No.	\$3,410.00	10	0%	\$0.00	\$418.33

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Stream Crossing (No.)	578	A stabilized area or structure constructed across a stream to provide a travel-way for people, livestock, equipment, or vehicles.	Stream Crossing typical is 20 feet wide by 100 feet long	Sq. Ft.	\$5.19	10	10%	\$0.52	\$1.16
Stream Habitat Improvement and Management (Ac.)	395	Maintain, improve, or restore the physical, chemical, and biological functions of a stream.	Fish stream improvement, restoration of in-stream habitat for a functioning natural stream.	Lin.Ft.	\$32.54	10	5%	\$1.63	\$5.62
Stream Habitat Improvement and Management (Ac.)	395	Maintain, improve, or restore the physical, chemical, and biological functions of a stream.	Structural Measures. Typical is rock riprap 6" D50 with 1/2 cu yd per foot of treatment. 2 tons/cy	Lin.Ft.	\$103.62	10	5%	\$5.18	\$17.89
Streambank and Shoreline Protection (Ft.)	580	Treatment(s) used to stabilize and protect banks of streams or constructed channels, and shorelines of lakes, reservoirs, or estuaries.	Retaining Wall structure. Gabions from toe to Q5 flood level. Use 6 ft. high gabion. With geotextile. 100 lin. Feet	Ft.	\$125.85	10	10%	\$12.59	\$28.02
Streambank and Shoreline Protection (Ft.)	580	Treatment(s) used to stabilize and protect banks of streams or constructed channels, and shorelines of lakes, reservoirs, or estuaries.	Shoreline Protection. Wave and ice protection. Riprap D50 = 6 inch angular rock. With geotextile. 4H:1V shore slope. 4 feet vertical protection. 250 lin. Feet	Ft.	\$94.95	10	10%	\$9.50	\$21.14
Streambank and Shoreline Protection (Ft.)	580	Treatment(s) used to stabilize and protect banks of streams or constructed channels, and shorelines of lakes, reservoirs, or estuaries.	Stream Restoration. Natural channel design. 15-foot wide channel. Bankfull depth = 2.5 feet. 1 meander bend with rock riprap protection. With geotextile. 50-foot wide flood plain. 200 linear feet.	Ft.	\$47.70	10	10%	\$4.77	\$10.62
Stripcropping (Ac.)	585	Growing row crops, forages, small grains, or fallow in a systematic arrangement of equal width strips across a field.	Design and layout of strips and recordkeeping.	Ac.	\$26.00	5	1%	\$0.26	\$6.08
Structure for Water Control (No.)	587	A structure in a water management system that conveys water, controls the direction or rate of flow, maintains a desired water surface elevation, or measures water.	70 feet of 15-inch dia plastic pipe, Agri-drain in-line water control structure 6 foot tall, D50 = 6-inch riprap at inlet and outlet, rodent guard	No.	\$4,290.00	10	1%	\$42.90	\$569.19

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Structure for Water Control (No.)	587	A structure in a water management system that conveys water, controls the direction or rate of flow, maintains a desired water surface elevation, or measures water.	Rock Chute, Riprap D50 = 6 inch, geotextile, seeding and mulching edges, shaping, 12' X 50'	Sq. Ft.	\$7.65	10	1%	\$0.08	\$1.01
Structure for Water Control (No.)	587	A structure in a water management system that conveys water, controls the direction or rate of flow, maintains a desired water surface elevation, or measures water.	Prefabricated in-line water control structure for water table management: 10 feet of 12-inch dia CPT dual-wall pipe, Agri-drain in-line water control structure 6 foot tall	No.	\$1,120.00	10	1%	\$11.20	\$148.60
Trails and Walkways (Ft.)	575	Established lanes or travel-ways that facilitate animal movement.	1500 feet of vegetated surface 10 feet wide grading and shaping, seeding and mulching. No fence included	Ft.	\$1.67	10	5%	\$0.08	\$0.29
Trails and Walkways (Ft.)	575	Established lanes or travel-ways that facilitate animal movement.	1000 feet of vegetated surface 16 feet wide, grading and shaping, seeding and mulching. Fence not included	Ft.	\$2.50	10	5%	\$0.13	\$0.43
Trails and Walkways (Ft.)	575		750 feet of 22A gravel surface 10 feet wide, with geotextile, grading and shaping. Fence not included		\$13.10	10	5%	\$0.66	\$2.26
Trails and Walkways (Ft.)	575		600 feet of MDOT 22A gravel surface 6" thick, 16 feet wide grading and shaping, geotextile, seeding and mulching.		\$19.50	10	5%	\$0.98	\$3.37
Tree/Shrub Establishment (Ac.)	612	Establishing woody plants by planting seedlings, container/potted stock, cuttings, direct seeding, or natural regeneration.	CRP clump plantings of trees, 3-5 ft bur or black oak on the short grass 30% portion or 2 acres, which ever is the greater amount of trees. Typical estimate based on 4 trees per acre average.	Ac.	\$127.80	15	5%	\$6.39	\$17.80
Tree/Shrub Establishment (Ac.)	612	Establishing woody plants by planting seedlings, container/potted stock, cuttings, direct seeding, or natural regeneration.	Supplemental under planting. 6 ac ave site. Adding trees to bring stand up to practice std. Weed control included in installation. Add new desirable species and/or increase stand density. 200 added trees per acre.	Ac.	\$280.50	15	5%	\$14.03	\$39.08

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Tree/Shrub Establishment (Ac.)	612	Establishing woody plants by planting seedlings, container/potted stock, cuttings, direct seeding, or natural regeneration.	Direct Seeding of 1500 heavy seed (oak, hickory, walnut) per acre and 2250 light seed (maple) per acre with machine. Average: 8 foot rows with 18" between seeds.	Ac.	\$528.26	15	5%	\$26.41	\$73.59
Tree/Shrub Establishment (Ac.)	612	Establishing woody plants by planting seedlings, container/potted stock, cuttings, direct seeding, or natural regeneration.	Planting shrub and hardwood mix. Typical red oak and red pine mix. 50% each type. 545 trees per acre.	Ac.	\$595.20	15	5%	\$29.76	\$82.92
Tree/Shrub Establishment (Ac.)	612	Establishing woody plants by planting seedlings, container/potted stock, cuttings, direct seeding, or natural regeneration.	Trees/shrubs planted for wildlife purposes, with at least 50% hardwood trees. Tree protectors installed on at least 80% of the hardwood trees.	Ac.	\$1,111.10	15	5%	\$55.56	\$154.79
Tree/Shrub Site Preparation	490	Treating acres to improve site conditions for establishing a forest.	Herbicide site prep with cover crop to suppress weeds. Formerly farmed or pastureland. Burn down trip with herbicide with no till warm season grass drill to seed in Virginia Wild Rye. Tree/shrub planting will be into the rye. Rye at 8#/ac.	Ac.	\$122.23	1	0%	\$0.00	\$127.00
Tree/Shrub Site Preparation	490	Treating acres to improve site conditions for establishing a forest.	Herbicide site prep. Band spray.	Ac.	\$61.40	1	0%	\$0.00	\$63.79
Tree/Shrub Site Preparation	490	Treating acres to improve site conditions for establishing a forest.	Tillage to prepare site for tree/shrub planting. May use herbicide in some situations.	Ac.	\$39.65	1	0%	\$0.00	\$41.20
Underground Outlet (Ft.)	620	A conduit installed beneath the surface of the ground to collect surface water and convey it to a suitable outlet.	Pipe underground outlet with 6-8 inch pipe. 100 ft.	Ft.	\$5.25	20	5%	\$0.26	\$0.65
Upland Wildlife Habitat Management (Ac.)	645	Provide and manage upland habitats and connectivity within the landscape for wildlife.	Management and Labor time to manage habitat acres with facilitating or supporting practices installed for vegetation, etc.	Ac.	\$30.80	3	2%	\$0.62	\$11.69
Upland Wildlife Habitat Management (Ac.)	645	Provide and manage upland habitats and connectivity within the landscape for wildlife.	Add brush piles for habitat. On-site material from tree cuts. 5 piles per acre; analysis of site and make decisions on management of site for wildlife	Ac.	\$42.80	3	2%	\$0.86	\$16.25

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Upland Wildlife Habitat Management (Ac.)	645	Provide and manage upland habitats and connectivity within the landscape for wildlife.	Add nesting structures for habitat. ; analysis of site and make decisions on management of site for wildlife. Large bird box for wood duck, screech owl, pileated woodpecker, etc. @ 1/ac	Ac.	\$62.80	3	2%	\$1.26	\$23.84
Upland Wildlife Habitat Management (Ac.)	645	Provide and manage upland habitats and connectivity within the landscape for wildlife.	Add nesting structures for habitat.; analysis of site and make decisions on management of site for wildlife. Add small bird boxes for tree swallow, house wren, bluebird, etc. at 4 per acre.	Ac.	\$162.80	3	2%	\$3.26	\$61.81
Upland Wildlife Habitat Management (Ac.)	645	Provide and manage upland habitats and connectivity within the landscape for wildlife.	Add nesting structures for bat habitat.; analysis of site and make decisions on management of site for wildlife. Add bat boxes at 2 per acre.	Ac.	\$184.80	3	2%	\$3.70	\$70.16
Upland Wildlife Habitat Management (Ac.)	645	Provide and manage upland habitats and connectivity within the landscape for wildlife.	Evaluation of property for signs and presence of feral swine. Documentation of effort and findings. 1/week scouting for season of July to October (17	No.	\$408.00	3	2%	\$8.16	\$154.90
Upland Wildlife Habitat Management (Ac.)	645	Provide and manage upland habitats and connectivity within the landscape for wildlife.	Purchase corn, sour it and bait feral swine. 2x/wk for up to 1 mo. Assemble trap over 2 week period with baiting. Trap for feral swine can be self constructed, purchased, or received from another organization. Payment does not include cost of the trap. Trap for 1 month period. 5 gal bucket filled 3/4 way with corn, fill with water, and soak. need 2/wk for month. approx 4 weeks of corn is 30	NO.	\$239.40	3	2%	\$4.79	\$90.89
Upland Wildlife Habitat Management (Ac.)	645	Provide and manage upland habitats and connectivity within the landscape for wildlife.	Evaluation of property for signs and presence of feral swine. Documentation of effort and findings. 1/week scouting for season of July to October (17	Ac.	\$20.40	3	2%	\$0.41	\$7.75
Upland Wildlife Habitat Management (Ac.)	645	Provide and manage upland habitats and connectivity within the landscape for wildlife.	Add bee tubes for habitat.; analysis of site and make decisions on management of site for wildlife. Add 2 bundles of 20-25 per acre.	Ac.	\$54.70	3	2%	\$1.09	\$20.77
Vegetated Treatment Area (Ac.)	635	A treatment component of an agricultural waste management system consisting of a strip or area of herbaceous vegetation.	Shape and seeding. Seeded area and settling basin.	Sq. Ft.	\$1.30	10	3%	\$0.04	\$0.20

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Vegetative Barrier (Ft.)	601	Permanent strips of stiff, dense vegetation along the general contour of slopes or across concentrated flow areas.	Typical 10 feet wide.	Ft.	\$3.37	10	3%	\$0.10	\$0.51
Waste Facility Cover (No.)	367	A fabricated rigid, semi-rigid, or flexible membrane over a waste treatment or storage facility.	Flexible membrane cover for liquid manure storage. typical is rubber liner, kevlar reinforced with all necessary installation 100,000 cu ft 2:1 slope 120x120 for 14,400 sq ft surface at top	Sq.Ft.	\$2.34	15	5%	\$0.12	\$0.33
Waste Facility Cover (No.)	367	A fabricated rigid, semi-rigid, or flexible membrane over a waste treatment or storage facility.	Roof Structure for Dry Stacking Waste Storage Facilities typical post and rafter construction with no walls, 14 feet to header, 42 foot rafter. 30 x 50	Sq.Ft.	\$9.91	15	5%	\$0.50	\$1.38
Waste Storage Facility (No.)	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 structure and columns for	Cu.Ft.	\$3.64	15	5%	\$0.18	\$0.51
Waste Storage Facility (No.)	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 to be based on AWM output report, Structural Volume. Composite (double) liner plus geocomposite drain/ venting on sideslopes and bottom. Typical size is 100' x 200' x 8' deep using LLDPE flexible membrane liner under 5" concrete liner with 8oz non-woven geotextile between the liners. Gravity outlet from drainage system 400ft length to outlet. Karst area. Contract 382, Fence	Cu.Ft.	\$1.21	15	5%	\$0.06	\$0.17
Waste Storage Facility (No.)	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. Concrete liner. 250' x150'X 12' deep, without geocomposite drainage system. Typical is excavated 10' into the ground, 2 ft above ground with 1:1 push off, 100 ft long with safety cable. Contract 382, Fence separately.	Cu.Ft.	\$0.49	15	5%	\$0.02	\$0.07

Statewide Conservation Practice Typical Installation Cost Information

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Waste Storage Facility (No.)	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. Concrete liner. 250' x150' X12' deep, with geocomposite drainage system on sides, bottom and ramp. Typical is excavated 10' into the ground, 2 ft above ground with 1:1 push off, 100 ft long with safety cable. Contract 382, Fence separately.	Cu.Ft.	\$0.55	15	5%	\$0.03	\$0.08
Waste Storage Facility (No.)	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. Contract Fence separately.	Cu.Ft.	\$0.47	15	5%	\$0.02	\$0.07
Waste Storage Facility (No.)	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. Contract 382, Fence separately.	Cu.Ft.	\$0.40	15	5%	\$0.02	\$0.06
Waste Storage Facility (No.)	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. Payment based on floor area dimensions and wall height needed to Store. Includes 5"concrete over 4" compacted sand. Polluted runoff from facility will be properly addressed with appropriate practice standard or determined not to be a resource concern. Contract roof separately under (367) Waste Facility Cover if	Cu.Ft.	\$1.69	15	5%	\$0.08	\$0.24

Statewide Conservation Practice Typical Installation Cost Information

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Waste Storage Facility (No.)	313	A waste storage impoundment made by constructing an embankment and/or excavating a pit or dugout, or by fabricating a structure.	Excavated and compacted clay Lined Liquid Storage pit (no roof),. Volume based on AWM output report, Structural Volume. Typical is a 1.0 ft compacted clay liner 250' x150' x 12' deep with drainage on side slopes and bottom, excavated 10 ft into the ground and 2 ft above ground. Includes a concrete bottom, concrete ramp over 4" compacted sand and a 1:1 concrete push off, 100 ft length. Contract 382, Fence separately.	Cu Ft	\$0.52	15	5%	\$0.03	\$0.07
Waste Storage Facility (No.)	313	A waste storage impoundment made by constructing an embankment and/or excavating a pit or dugout, or by fabricating a structure.	Excavated and compacted clay Lined Liquid Storage pit (no roof),. Volume based on AWM output report, Structural Volume. Typical is a 1.0 ft compacted clay liner 250' x150' x 12' deep, excavated 10 ft into the ground	Cu Ft	\$0.45	15	5%	\$0.02	\$0.06
Waste Storage Facility (No.)	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. Typical is a Slurrystore or large concrete tank. Based on 100,000 cu.ft. storage (81' dia. x 19' high). Concrete foundation and steel walls are included. Contract Manure Transfer separately for pipe and pump.	Cu Ft	\$2.25	15	5%	\$0.11	\$0.31
Waste Transfer (No.)	634	A manure conveyance system using structures, conducts, or equipment.	Milking center wastewater pumped conveyance system. Includes reception pit/tank, pump, and pipe. CNMP required prior to construction. by cu. ft. of reception pit/tank capacity.	Cu. Ft.	\$50.19	10	5%	\$2.51	\$8.67
Waste Transfer (No.)	634	A manure conveyance system using structures, conducts, or equipment.	Milkhouse wastewater to storage facility. 1000 gallon reception tank, gravity flow with 200 ft of 4"	Cu. Ft.	\$26.28	10	5%	\$1.31	\$4.54
Waste Transfer (No.)	634	A manure conveyance system using structures, conducts, or equipment.	Gravity Manure	No.	\$18,600.00	10	5%	\$930.00	\$3,211.81
Waste Transfer (No.)	634	A manure conveyance system using structures, conducts, or equipment.	Pumped system. Reception tank, pump, and pipe for manure to storage. Typical 8x8x6 tank with pump and 100 feet of 3" PVC	No.	\$49,100.00	10	5%	\$2,455.00	\$8,478.49

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Waste Transfer (No.)	634	A manure conveyance system using structures, conducts, or equipment.	Conveyor belt system consisting of 3 conveyors. 50 ft collection conveyor to a 10 ft x 10 ft lean-to with a concrete floor and metal walls on the outside of the animal housing building to a 100 ft long vertical lift conveyor that drops to a 100 ft long plow off conveyor in the manure storage facility for stacking	No.	\$22,333.00	10	5%	\$1,116.65	\$3,856.42
Water and Sediment Control Basin (WASCOB) (No.)	638	An earth embankment or a combination ridge and channel generally constructed across the slope and minor watercourses to form a sediment trap and water detention basin.	Fill height 0-5 feet with outlet.	No.	\$2,063.00	10	5%	\$103.15	\$356.23
Water and Sediment Control Basin (WASCOB) (No.)	638	An earth embankment or a combination ridge and channel generally constructed across the slope and minor watercourses to form a sediment trap and water detention basin.	Fill height over 5 feet with outlet.	No.	\$3,630.00	10	5%	\$181.50	\$626.82
Water Well (No.)	642	A hole drilled, driven, bored, jetted, or otherwise constructed to an aquifer.	Typical is Livestock well. Shallow	No.	\$3,380.00	20	5%	\$169.00	\$415.51
Water Well (No.)	642	A hole drilled, driven, bored, jetted, or otherwise constructed to an aquifer.	Typical is Livestock well. Deep	No.	\$7,775.00	20	5%	\$388.75	\$955.79
Watering Facility (No.)	614	A device (tank, trough, or other watertight container) for providing animal access to water.	Paddock tanks for grazing system. Movable to different paddocks to provide water as designed in the grazing system. Based on animal needs. Typical is 35-50 gallon poly tank with fittings. 40 acres of grazing with 3 moveable tanks for 8-10 paddocks with permanent tank at barnyard.	No.	\$150.00	10	5%	\$7.50	\$25.90
Watering Facility (No.)	614	A device (tank, trough, or other watertight container) for providing animal access to water.	Paddock tanks for grazing system. Movable to different paddocks to provide water as designed in the grazing system. Based on animal needs. Typical is 150 gallon poly tank with fittings. 40 acres of grazing with 3 moveable tanks for 8-10 paddocks with permanent tank at barnyard.	No.	\$250.00	10	5%	\$12.50	\$43.17

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Watering Facility (No.)	614	A device (tank, trough, or other watertight container) for providing animal access to water.	Permanent placed tank. Typical at headquarters barn lot to support recycling of plate cooler water or grazing system water for animals as they go to	No.	\$700.00	10	5%	\$35.00	\$120.87
Watering Facility (No.)	614	A device (tank, trough, or other watertight container) for providing animal access to water.	On-demand drinker with concrete under drinker. Typical is drinkers for cattle in a grazing system.	No.	\$960.00	10	5%	\$48.00	\$165.77
Watering Facility (No.)	614	A device (tank, trough, or other watertight container) for providing animal access to water.	access for livestock watering without a crossing typical is 20 feet wide by 40 feet long excavation, geotextile and 1 foot stone with fence around. Access for livestock watering without a crossing.	Sq. Ft.	\$3.67	10	5%	\$0.18	\$0.63
Well Decommissioning (No.)	351	The plugging and permanent closure of a well no longer in use.	plug and close well typical is removal of pumps and top pipe and closed with bentonite slurry. Includes notification on Well-logic. Drilled or Driven Well - 100 feet deep; 2-inch diameter casing.	No.	\$837.00	10	0%	\$0.00	\$102.68
Well Decommissioning (No.)	351	The plugging and permanent closure of a well no longer in use.	Dug Well - 25 feet deep; shored with stone, timber or brick; 3-foot diameter; some foreign debris in well to be removed. Includes notification on Well-logic	No.	\$1,769.20	10	0%	\$0.00	\$217.04
Wetland Wildlife Habitat Management (Ac.)	644	Retaining, developing, or managing wetland habitat for wetland wildlife.	15 ac site. Addition of structural or vegetative measures to maintain, establish, or improve habitat for wetland dependent wildlife. Creating tree drops, building nesting platforms and nesting boxes, manipulation of vegetation with mechanical means.	Ac.	\$20.33	1	0%	\$0.00	\$21.12
Windbreak/Shelterbelt Establishment (Ft.)	380	Linear plantings of single or multiple rows of trees or shrubs established for environmental purposes.	1 rows of windbreak in species for view, wind erosion. Typical 3-5 species. Includes wildlife purposes. Hybrid poplar, pin oak, bitternut hickory, white pine, white cedar, Norway spruce.	Ft.	\$0.71	15	5%	\$0.04	\$0.10
Windbreak/Shelterbelt Establishment (Ft.)	380	Linear planting of single or multiple rows of trees or shrubs established for environmental purposes.	2 rows of windbreak in species for view, wind erosion. Typical 3-5 species. Includes wildlife purposes. Hybrid poplar, pin oak, bitternut hickory, white pine, white cedar, Norway spruce.	Ft.	\$1.11	15	5%	\$0.06	\$0.15

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Windbreak/Shelterbelt Establishment (Ft.)	380	Liner plantings of single or multiple rows of trees or shrubs established for environmental purposes.	3 rows of windbreak in species for view, wind erosion. Typical 3-5 species. Includes wildlife purposes. Hybrid poplar, pin oak, bitternut hickory, white pine, white cedar, Norway spruce.	Ft.	\$1.39	15	5%	\$0.07	\$0.19
Windbreak/Shelterbelt Establishment (Ft.)	380	Linear planting of single or multiple rows of trees or shrubs established for environmental purposes.	4 rows of windbreak in species for view, wind erosion. Typical 3-5 species. Includes wildlife purposes. Hybrid poplar, pin oak, bitternut hickory, white pine, white cedar, Norway spruce.	Ft.	\$1.79	15	5%	\$0.09	\$0.25
Windbreak/Shelterbelt Renovation (Ac.)	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.	\$5.00	15	5%	\$0.25	\$0.70