

# EQIP

## CONTRACTING GUIDANCE DOCUMENT – FY 2019 General Guidance, Offered Conservation Activity Plans (CAP's) and Conservation Practices

### General Guidance

The purpose of this document is to list the conservation activity plans (CAP's) and conservation practices along with associated scenarios eligible for the Environmental Quality Incentives Program (EQIP) in Minnesota for fiscal year 2019. It also includes guidance on the use of certain practices and scenarios.

### Conservation Practice Payment Methods:

**PR – Payment Rate:** The Payment Rate is the unit cost rate of compensation to be received by the participant. The Payment Rate for each practice or component has been established at the National level. Payment rates are based on the **average cost** to implement a practice.

**Payments based on Payment Rates do not require the participant to submit bills or receipts.** However, invoices, receipts, and other supporting documentation may be required to support that the work performed meets practice standards and specifications. Offices are to follow state policy regarding collection of actual costs to support payment rate development for future years.

EQIP funds may be combined with other funds. EQIP does not pay for the same practice on the same land as any other USDA program. The participant should consult other program rules for maximum payment and other limitations.

FI = Foregone Income. Foregone income is included in some practice scenarios that remove land from production or reduce income due to implementation of the practice.

### PROGRAM PROVISIONS

1. Conservation Practice Payments are authorized for practices:
  - a. Implemented following the contents of the NRCS Field Office Technical Guide.
  - b. Implemented following the a) general provisions and b) specific provisions for each practice included in the supplement.
  - c. **Where positive environmental benefits from the benchmark condition can be documented. Payments are not authorized for, or on, existing, in place practices.**
  - d. Starting Practices – Applicants who start a practice before the contract is approved by the NRCS causes the applicant to be **ineligible for EQIP financial assistance for that practice**. A waiver may be granted if the practice has not been started at time of application and the practice has not been started until after the waiver is granted (see EQIP manual for further guidance).
2. Payment Rates for 2019 EQIP contract is amount per unit as listed in the costlist. These rates are the amount the participant will receive upon completion of the practice, regardless of the cost of installing the practice. If other funding is received by the participant, the total financial assistance provided may not exceed 100 percent of the total practice costs.
3. **Payment is limited to the least-cost alternative which will remain stable under design conditions.**

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4. Payment is limited to installing the conservation practice to the extent necessary to meet the resource concern(s) addressed by the conservation plan. The practice must meet NRCS technical standard criteria to be eligible for payment.
5. The practice scenario selected should be the **best technical match** for what is being installed/implemented under that technical standard. Scenario selection shall not be based on the payment rate.
6. For certified Historically Underserved (HU) participants (Limited Resource Farmers, Beginning Farmers, and Socially Disadvantaged Farmers) the payment rate will be HUP rate shown in the costlist. **For participants who certify as a Historically Underserved participant, field staff MUST select the HUP component in the cost list.** Checking the Limited Resource, Beginning Farmer, Socially Disadvantaged Farmer or Veteran Farmer (along with additional requirements) in the ProTracts application will not automatically result in a higher payment rate.
7. Technical assistance (TA) through technical service providers (TSP) may be paid through EQIP contracts for FY 2019.

#### **GENERAL PROVISIONS**

1. The minimum length of a contract is defaulted in ProTracts to the last day of the month for the final practice scheduled. The expiration date must be manually changed to reflect the decision between the applicant and NRCS.
2. An approved participant may choose to obtain the technical assistance required to implement their EQIP contract from **EITHER** USDA **OR** a Technical Service Provider (TSP). If the participant chooses to have USDA perform the technical assistance, non-USDA personnel through a public agency partner or private sector consultant may provide parts of those services. If the participant chooses to hire a TSP certified by the NRCS, to perform the technical assistance, the maximum amount of USDA reimbursement for that assistance is the amount listed in the EQIP contract. All services provided by a TSP are done independently. Consultations or concurrence of USDA staff is not required. TSP costs in excess of the contract amount are the responsibility of the producer.
3. Pesticides used, as a component of any practice, will be state approved for the use involved. These pesticides will also be applied according to registered uses, label directions, and other applicable federal or state regulations.
4. Soil testing - Any practice, which includes the application of liming materials, commercial fertilizer, and/or manure shall be prescribed based on a soil test no older than four years old and from a soil testing laboratory shown on Minnesota Department of Agriculture's list of approved Soil Testing Laboratories. Application rates of lime, commercial fertilizer, and manure shall be based on University of Minnesota recommendations.
5. Liming Materials - Lime refers to Agricultural Liming Material (ALM). All liming material must meet the label information required by Minnesota Statue Section 18C.545 and include the

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following: 1) ALM type and; 2) ALM quality rating (minimum pounds of effective neutralizing power (ENP) per ton).

6. Land enrolled in other conservation programs is eligible under EQIP provided EQIP does not pay for the same practice on the same land as any other USDA program. CRP land may only be offered for enrollment during the last year of the CRP contract and no EQIP practice may be applied until after the CRP contract has ended. Other program rules may prohibit the use of EQIP funds. See also 440-V- CPM 515.52F.
7. NRCS Wetland Policy as found in the General Manual 190, Part 410 must be followed. This policy provides direction to the agency for compliance with the National Environmental Policy Act (NEPA). This policy prohibits NRCS from providing technical or financial assistance to participants that will adversely affect wetlands, unless the lost functions are fully mitigated.
8. As a requirement of eligibility, participants are required to perform upland treatment actions, according to Minnesota Conservation Planning Policy, and adequately address potential adverse impacts to conservation practices. Adverse impacts to conservation practices could include, but are not limited to, increased siltation by water and/or wind-borne soils, excessive runoff, degradation of vegetation practice components by pesticides transported in runoff and sediment, and degradation of wildlife habitat.
9. Practice Pre-requisites and facilitating practices: Some practices require the implementation of one or more other practices. For example, Fence (382), Livestock Pipeline (516), and Watering Facility (614) all require the participant to implement a Prescribed Grazing System. However, the participant is NOT required to receive a program payment for the Prescribed Grazing System. For this example, the Prescribed Grazing implementation must be documented in the participant's customer service file. **Similarly, the practice Tree/Shrub Establishment (612) requires the participant to implement and document the practice Tree/Shrub Site Preparation (490) when planting bare-root, plugs, containerized, potted, whips, cuttings, poles, stakes and/or balled & burlap stock either with or without a program payment.**
10. Participants wanting to perform practices on land they do not own, or to install practices that require permits are responsible for obtaining easements, permits, right-of-way, water rights or other permission necessary to perform and maintain the practices. Expenses incurred due to these items are not cost shared. The permission from the authority must be in writing and a copy must be provided to the NRCS field office prior to installation being made on the practice.
11. Materials – New materials must be utilized in the construction of practices, unless PRIOR approval has been granted by the State Conservation Engineer. The State Conservation Engineer has granted approval for specific used material as provided by specific practice provisions in this schedule.
12. Comprehensive Nutrient Management Plan (CNMP) Requirements. As outlined by the CPM 515 - EQIP manual, any EQIP contract that includes animal waste storage or treatment facility (storing, treating, application, or handling - *transfer* - of animal waste or organic byproducts, such as animal carcasses) on an **animal feeding operation (AFO)**, the participant must develop

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and provide a copy of an NRCS approved CNMP. Consult EQIP Comprehensive Nutrient Management Plan (CNMP) Requirements for details. Review the requirements with applicants interested in a waste management facility. All CNMP requirements apply to land under the control of the EQIP applicant.

As defined in EQIP regulations, **AFOs** congregate animals, feed, manure, dead animals, and production operations on a small land area. Feed is brought to the animals rather than the animals grazing or otherwise seeking feed in pastures, field, or on rangeland. An AFO is a lot or facility (other than an aquatic animal production facility) where both of the following conditions are met:

- Animals have been, are, or will be stabled or confined and fed or maintained for 45 days or more in any 12-month period.
- Crops, vegetation, forage growth, or postharvest residues are not sustained in the normal growing season over any portion of the lot or facility.

The following CNMP land treatment and nutrient management CNMP requirements apply when the applicants manure is applied to land not under the control of the applicant:

- a. Minimum acreage calculations for all manure generated by the EQIP applicant.
- b. State Law Land application of Manure requirements.
- c. Information on State Law Recordkeeping requirements when manure has been transferred.

In Minnesota, the CNMP shall be completed and verified and reported in PRS (or IDEA) **before** an Ag Waste application will be considered “eligible” in ProTracts for the following practices:

- Anaerobic Digester (Code 366)
- Animal Mortality Facility (Code 316)
- Roofs and Covers (Code 367)
- Waste Storage Facility (Code 313)
- Waste Transfer (Code 634)
- Waste Treatment (Code 629)
- Vegetated Treatment Area (Code 635)
- Waste Separation Facility (Code 632)

13. Producers receiving EQIP funding for one or more of the Waste Storage and Treatment practices listed in the item above or for Nutrient Management (code 590) must demonstrate adequate land base for manure applications and insure that nutrients are managed according to NRCS standards on lands where the producers’ manure will be applied, regardless of ownership\*. This ensures compliance with manure application requirements of State Chapter 7020 Rules. These rules address sensitive areas, application timing, and application rates based on either the nitrogen needs of the crop as determined by nutrient budgeting or on a P205 removal basis.

- a. CNMPs or Strategic Plans for Livestock operations should list total acres necessary to receive manure applications from all manure generated on the EQIP applicant’s operation.

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- b. If the producer does not have the necessary acres, he or she must obtain written permission from others to apply or have manure applied to their land according to NRCS requirements\*.
- c. Copies of the permissions must be provided to the NRCS field office prior to completion of CNMP and determination of eligibility for practices included under General Provision 12 or implementation of nutrient management (590).
- d. The “USDA-NRCS Agreement to Allow Manure Application” (EQIP Schedule Attachment D) should be used to obtain permissions.
- e. It is the EQIP contract holder’s responsibility to insure that manure from their operation(s) is managed according to NRCS requirements on land(s) they do not control.

\*Requirement does not apply to manure given or sold to a manure broker who sells or gives the manure to other individuals.

14. Program authority does not allow the NRCS to establish limits on the extent of practices proposed by program applicants; however, NRCS may establish maximum payment caps on individual practices. For the following practice(s):

- a. The payment cap (limit) is established **per individual/entity**:  
(325) High Tunnel System - payment cap is \$10,000
- b. The payment cap (limit) is established **per individual/entity per year**:  
(340) Cover Crop – payment cap is \$20,000  
(645) Upland Habitat Management – payment cap is \$50,000

15. For **management** practices (1 year lifespan):

a. The practice payment is a **per year** payment with a maximum of 3 separate payments (See Exception).

b. A management practice may only be reapplied on the same acres (previous contract) if the practice will address a **higher-level quality concern**.

- i. The higher-level of quality (or environmental benefit) is **not** just a change in the number of species or a change from one resource concern to another resource concern. Technical documentation is needed; such as, but not limited to, WEPS and RUSLE2.

#### **Exception:**

**Cover Crop** – Payment can be a maximum of 5 separate payments during the term of a single contract on the same acres when (340) Cover Crop is planned and applied as a component of a complete conservation system to address **resource concerns related to soil health** (such as soil erosion and soil quality degradation). It is unlikely soil health benefits will accrue by the use of cover crops as a standalone practice. This is why the application of (340) Cover Crop must be part of an overall conservation system that fully addresses the soil health concern.

- a. The 5 separate payment revision only applies to the (340) Cover Crop practice.
- b. The (340) Cover Crop practice may only be reapplied to the same acres (previous contract) if the practice will address a higher-level quality concern.
- c. All “components” of the complete conservation system must be in the same EQIP contract.

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16. Facilitating practices of a Prescribed Grazing system (i.e. fencing, pipeline, watering facility, seeding and heavy use area protection) must all be installed prior to payment of the Prescribed Grazing management practice payment. If the Prescribed Grazing practice payment is not implemented, financial assistance for all facilitating practices will be recovered according to CPM 512.71.
  
17. When a practice is included in an EQIP contract supported by a conservation practice that is not in the contract, the latter must be scheduled in an NRCS conservation plan signed by the applicant prior to contract obligation. The practice not in the EQIP contract must be scheduled and implemented within the lifespan of the EQIP contract. Failure to implement the practice that is not in the contract could result in contract termination with recovery of financial assistance and the assessment of liquidated damages – CPM 515.80.

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### **Conservation Activity Plans (CAP) Offered**

CAP 102 - COMPREHENSIVE NUTRIENT MANAGEMENT PLAN  
CAP 104 – NUTRIENT MANAGEMENT PLAN  
CAP 106 – FOREST MANAGEMENT PLAN  
CAP 108 – FEED MANAGEMENT PLAN  
CAP 110 – GRAZING MANAGEMENT PLAN  
CAP 112 – PRESCRIBED BURNING PLAN  
CAP 114 – INTEGRATED PEST MANAGEMENT PLAN  
CAP 118 – IRRIGATION WATER MANAGEMENT PLAN  
CAP 128 – AGRICULTURAL ENERGY MANAGEMENT PLAN  
CAP 130 – DRAINAGE WATER MANAGEMENT PLAN  
CAP 138 – CONSERVATION PLAN SUPPORTING ORGANIC TRANSITION  
CAP 142 – FISH AND WILDLIFE HABITAT MANAGEMENT PLAN  
CAP 146 – POLLINATOR HABITAT ENHANCEMENT PLAN

### **Conservation Practice Offered**

ACCESS CONTROL – 472  
ACCESS ROAD - 560  
ANAEROBIC DIGESTER – 366  
ANIMAL MORTALITY FACILITY – 316  
AQUACULTURE PONDS – 397  
AQUATIC ORGANISM PASSAGE – 396  
BRUSH MANAGEMENT – 314  
BUILDING ENVELOPE IMPROVEMENT - 672  
CHANNEL BED STABILIZATION – 584  
CLEARING AND SNAGGING - 326  
COMBUSTION SYSTEM IMPROVEMENT – 372  
COMPOSTING FACILITY - 317  
CONSERVATION COVER – 327  
CONSERVATION CROP ROTATION – 328  
CONSTRUCTED WETLAND - 656  
CONTOUR BUFFER STRIPS – 332  
CONTOUR FARMING – 330  
COVER CROP – 340  
CRITICAL AREA PLANTING – 342  
DENITRIFYING BIOREACTOR - 605  
DIKE - 356  
DIVERSION – 362  
DRAINAGE WATER MANAGEMENT – 554  
EARLY SUCCESSIONAL HABITAT DEVELOPMENT AND MANAGEMENT - 647  
FARM STEAD ENERGY IMPROVEMENT – 374  
FENCE – 382  
FIELD BORDER – 386  
FILTER STRIP – 393

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FIREBREAK – 394  
FORAGE AND BIOMASS PLANTING - 512  
FORAGE HARVEST MANAGEMENT – 511  
FOREST STAND IMPROVEMENT – 666  
FOREST TRAILS AND LANDINGS – 655  
GRADE STABILIZATION STRUCTURE – 410  
GRASSED WATERWAY – 412  
HEAVY USE AREA PROTECTION – 561  
HERBACEOUS WEED TREATMENT – 315  
HIGH TUNNEL SYSTEM – 325  
INTEGRATED PEST MANAGEMENT – 595  
IRRIGATION PIPELINE – 430  
IRRIGATION SYSTEM, MICROIRRIGATION - 441  
IRRIGATION WATER MANAGEMENT – 449  
KARST SINKHOLE TREATMENT – 527  
LAND SMOOTHING – 466  
LIGHTING SYSTEM IMPROVEMENT - 670  
LINED WATERWAY OR OUTLET – 468  
LIVESTOCK PIPELINE – 516  
MULCHING – 484  
NUTRIENT MANGEMENT – 590  
OBSTRUCTION REMOVAL – 500  
OPEN CHANNEL - 582  
POND – 378  
POND SEALING OR LINING, COMPACTED SOIL TREATMENT – 520  
POND SEALING OR LINING, GEOMEMBRANE OR GEOSYNTHETIC CLAY LINER– 521  
POND SEALING OR LINING, CONCRETE - 522  
PRESCRIBED BURNING – 338  
PRESCRIBED GRAZING – 528  
PUMPING PLANT – 533  
RESIDUE AND TILLAGE MANAGEMENT, NO TILL – 329  
RIPARIAN FOREST BUFFER – 391  
RIPARIAN HERBACEOUS COVER – 390  
ROOF RUNOFF STRUCTURE – 558  
ROOFS AND COVERS – 367  
SATURATED BUFFER - 604  
SEDIMENT BASIN – 350  
SPRING DEVELOPMENT – 574  
SPRINKLER SYSTEM - 442  
STORMWATER RUNOFF CONTROL - 570  
STREAM CROSSING – 578  
STREAMBANK AND SHORELINE PROTECTION – 580  
STREAM HABITAT IMPROVEMENT & MANAGEMENT – 395  
STRIPCROPPING – 585  
STRUCTURE FOR WATER CONTROL – 587



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STRUCTURES FOR WILDLIFE - 649  
SUBSURFACE DRAIN – 606  
TERRACE – 600  
TRAILS AND WALKWAYS – 575  
TREE/SHRUB ESTABLISHMENT – 612  
TREE/SHRUB PRUNING – 660  
TREE/SHRUB SITE PREPARATION – 490  
UNDERGROUND OUTLET – 620  
UPLAND WILDLIFE HABITAT MANAGEMENT – 645  
VEGETATED TREATMENT AREA – 635  
VEGETATIVE BARRIER - 601  
WASTE FACILITY CLOSURE – 360  
WASTE SEPARATION FACILITY – 632  
WASTE STORAGE FACILITY – 313  
WASTE TRANSFER – 634  
WASTE TREATMENT – 629  
WATER & SEDIMENT CONTROL BASIN – 638  
WATER WELL – 642  
WATERING FACILITY – 614  
WELL DECOMMISSIONING – 351  
WETLAND RESTORATION – 657  
WETLAND WILDLIFE HABITAT MANAGEMENT - 644  
WINDBREAK/SHELTERBELT ESTABLISHMENT – 380  
WINDBREAK/SHELTERBELT RENOVATION - 650  
WOODY RESIDUE TREATMENT - 384

# Environmental Quality Incentives Program

## 2019 EQIP Signup

Minnesota Supplement for: Conservation Activity Plan  
Practice 102 - Comprehensive Nutrient Management Plan  
Practice 104 – Nutrient Management Plan  
Practice 106 – Forest Management Plan  
Practice 108 – Feed Management Plan  
Practice 110 – Grazing Management Plan  
Practice 112 – Prescribed Burning Plan  
Practice 114 – Integrated Pest Management Plan  
Practice 118 – Irrigation Water Management Plan  
Practice 128 – Agricultural Energy Management Plan  
Practice 130 – Drainage Water Management Plan  
Practice 138 – Conservation Plan Supporting Organic Transition  
Practice 142 – Fish and Wildlife Habitat Management Plan  
Practice 146 – Pollinator Habitat Enhancement Plan

The Food Security Act of 1985, as amended, and subsequent congressional actions, authorize the Natural Resources Conservation Service (NRCS) to provide financial assistance through EQIP to support development of CAPs.

**National Bulletin 300-19-XXX** provides program and technical guidance for support and management of approved CAPs during FY 2019.

As noted in Title 440, Conservation Programs Manual (CPM), Part 512, Subpart B, Section 512.10, and Subpart E, Section 512.42, all practices financially supported through EQIP, including CAPs, must be established after development of a conservation plan approved by the agency. As noted in previous years, Technical Service Providers (TSP) are prohibited from completing Form NRCS-CPA-52, “Environmental Evaluation Worksheet” (CPA-52), and the program payment does not include time to complete this document. All agency approved conservation plans must associate the proposed CAP with an identified natural resource concern, and result in environmental benefits.

# Environmental Quality Incentives Program

## 2019 EQIP Signup

Minnesota Supplement for:  
Practice Standard CAP 102 – **Comprehensive Nutrient Management Plan (CNMP)**

### **CAP Scenario Description**

A comprehensive nutrient management plan (CNMP) is a component conservation plan that includes a combination of structural practices, management activities, and/or land management practices for an animal feeding operation (AFO) associated with crop or livestock production. The CNMP collectively ensures that the purposes of crop and livestock production and preservation of natural resources (especially air, soil and water quality as related to nutrient related impacts) are compatible.

**CAP Type:** Planning (See NB 300-19-~~XXX~~)

### **Supplemental Criteria**

1. Rank in the Conservation Activity Plan (CAP) funding pool, Mississippi River Basin Healthy Watershed Initiative (MRBI) or National Water Quality Initiative (NWQI).
2. This payment is for the coordination of the CNMP development with all other CNMP certified specialists in Manure Wastewater Handling Storage, Nutrient Management, and Land Treatment, along with the assembly, development and approval of the final CNMP product.
3. Development of the CAP 102 requires the use of the MN NRCS CNMP template that was created in August 2017.
4. The development, coordination, and assembly of the entire CNMP must be performed by a Technical Service Provider (TSP) certified in the CAP 102 CNMP category.

### **CAP 102 Scenarios**

1. CNMP Greater Than 300 AU with Land Application (Minimal Engineer Assistance)
2. HU-CNMP Greater Than 300 AU with Land Application (Minimal Engineer Assistance)
3. CNMP Greater Than 300 AU without Land Application (Minimal Engineer Assistance)
4. HU-CNMP Greater Than 300 AU without Land Application (Minimal Engineer Assistance)
5. CNMP Less Than or Equal to 300 AU with Land Application (Minimal Engineer Assistance)
6. HU-CNMP Less Than or Equal to 300 AU with Land Application (Minimal Engineer Assistance)

7. CNMP Less Than or Equal to 300 AU without Land Application (Minimal Engineer Assistance)
8. HU-CNMP Less Than or Equal to 300 AU without Land Application (Minimal Engineer Assistance)
9. Dairy Operation Greater Than or Equal to 300 AU and Less Than 700 AU with Land Application
10. HU-Dairy Operation Greater Than or Equal to 300 AU and Less Than 700 AU with Land Application
11. Dairy Operation Greater Than or Equal to 700 AU with Land Application
12. HU-Dairy Operation Greater Than or Equal to 700 AU with Land Application
13. Dairy Operation Less Than 300 AU with Land Application
14. HU-Dairy Operation Less Than 300 AU with Land Application
15. Livestock Operation Greater Than 300 AU without Land Application
16. HU-Livestock Operation Greater Than 300 AU without Land Application
17. Livestock Operation Less Than 300 AU without Land Application
18. HU-Livestock Operation Less Than 300 AU without Land Application
19. Non-Dairy Operation Greater Than or Equal to 300 AU and Less Than 700 AU with Land Application
20. HU-Non-Dairy Operation Greater Than or Equal to 300 AU and Less Than 700 AU with Land Application
21. Non-Dairy Operation Greater Than or Equal to 700 AU with Land Application
22. HU-Non-Dairy Operation Greater Than or Equal to 700 AU with Land Application
23. Non-Dairy Operation Less Than 300 AU with Land Application
24. HU-Non-Dairy Operation Less Than 300 AU with Land Application

# Environmental Quality Incentives Program

## 2019 EQIP Signup

Minnesota Supplement for:  
Practice Standard CAP 104 – Nutrient Management Plan

### **CAP Scenario Description**

Nutrient Management plans are documents of record establishing how nutrients will be managed for plant production while addressing identified resource concerns including the offsite movement of nutrients.

**CAP Type:** Practice (See NB 300-19-**XXX**)

### **Supplemental Criteria**

1. Rank in the Conservation Activity Plan (CAP) funding pool, Organic Transition funding pool, Mississippi River Basin Healthy Watershed Initiative (MRBI) funding pool and National Water Quality Initiative (NWQI) funding pool.
2. Development of the CAP 104 requires the use of the MN NRCS Nutrient Management template. The MN-ECS-015 checklist should be used as a reference.

### **CAP Scenario Name**

1. Nutrient Management CAP Less Than or Equal to 100 Acres (Not part of a CNMP)
2. HU - Nutrient Management CAP Less Than or Equal to 100 Acres (Not part of a CNMP)
3. Nutrient Management CAP 104- 101-300 Acres (Not part of a CNMP)
4. HU - Nutrient Management CAP 104- 101-300 Acres (Not part of a CNMP)
5. Nutrient Management CAP 104 Greater Than 300 Acres (Not part of a CNMP)
6. HU - Nutrient Management CAP 104 Greater Than 300 Acres (Not part of a CNMP)
7. Nutrient Management CAP 104 Less Than or Equal to 100 Acres (Element of a CNMP)
8. HU - Nutrient Management CAP 104 Less Than or Equal to 100 Acres (Element of a CNMP)
9. Nutrient Management CAP 104 - 101-300 Acres (Element of a CNMP)
10. HU - Nutrient Management CAP 104 - 101-300 Acres (Element of a CNMP)
11. Nutrient Management CAP 104 Greater Than 300 Acres (Element of a CNMP)
12. HU - Nutrient Management CAP 104 Greater Than 300 Acres (Element of a CNMP)

# Environmental Quality Incentives Program

## 2019 EQIP Signup

Minnesota Supplement for:  
Practice Standard 106 – Forest Management Plan

### **CAP Scenario Description**

A forest management plan is a site-specific plan developed for a client that addresses one or more resource concerns on nonindustrial private forestland (NIPF) where forestry-related conservation activities or practices will be planned and applied.

**CAP Type:** Planning (See NB 300-19-~~XXX~~)

### **Supplemental Criteria/Criteria for All Scenarios**

1. Rank in the Conservation Activity Plan (CAP) funding pool.

### **CAP Scenario Name**

1. FMP Less Than or Equal to 20 acres
2. HU - FMP Less Than or Equal to 20 acres
3. FMP 21 to 100 acres
4. HU - FMP 21 to 100 acres
5. FMP 101 to 250 acres
6. HU - FMP 101 to 250 acres
7. FMP 251 to 500 acres
8. HU - FMP 251 to 500 acres
9. FMP 501 to 1000 acres
10. HU - FMP 501 to 1000 acres
11. FMP Greater Than 1000 acres
12. HU - FMP Greater Than 1000 acres

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Minnesota Supplement for:  
Practice Standard 108 – Feed Management Plan

### **CAP Scenario Description**

A feed management plan is a farm-specific documented plan developed with a client who addresses manipulation and control of the quantity and quality of available nutrients, feedstuffs, and/or additives fed to livestock and poultry.

**CAP Type:** Practice (See NB 300-19-~~XXX~~)

### **Supplemental Criteria**

1. Rank in the Conservation Activity Plan (CAP) funding pool.

### **CAP Scenario Name**

1. Feed Management Plan
2. HU - Feed Management Plan

# Environmental Quality Incentives Program

## 2019 EQIP Signup

Minnesota Supplement for:  
Practice Standard 110 – Grazing Management Plan

### **CAP Scenario Description**

A grazing management plan is a site specific conservation plan developed for a client which addresses one or more resource concerns on land where grazing related activities or practices will be applied.

**CAP Type:** Practice (See NB 300-19-~~XXX~~)

### **Supplemental Criteria**

1. Rank in the Conservation Activity Plan (CAP) funding pool and Mississippi River Basin Healthy Watersheds Initiative (MRBI) funding pool.

### **CAP Scenario Name**

1. Grazing Management Plan Less Than 100 Acres
2. HU - Grazing Management Plan Less Than 100 Acres
3. Grazing Management Plan 101 to Less Than 500 Acres
4. HU - Grazing Management Plan 101 to Less Than 500 Acres
5. Grazing Management Plan 501 to Less Than 1500 Acres
6. HU - Grazing Management Plan 501 to Less Than 1500 Acres
7. Grazing Management Plan 1500 - 5000 Acres
8. HU - Grazing Management Plan 1500 - 5000 Acres
9. Grazing Management Plan Greater Than 5000 Acres
10. HU - Grazing Management Plan Greater Than 5000 Acres



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## 2019 EQIP Signup

Minnesota Supplement for:  
Practice Standard 112 – Prescribed Burning Plan

### **CAP Scenario Description**

A prescribed burning plan is a site-specific plan developed with a client that addresses one or more resource concerns on land through the use of fire.

**CAP Type:** Practice (See NB 300-19-**XXX**)

### **Supplemental Criteria**

1. Rank in the Conservation Activity Plan (CAP) funding pool.

### **CAP Scenario Name**

1. Prescribed Burning Plan Less Than or Equal to 20 Acres
2. HU - Prescribed Burning Plan Less Than or Equal to 20 Acres
3. Prescribed Burning Plan 21-100 Acres
4. HU - Prescribed Burning Plan 21-100 Acres
5. Prescribed Burning Plan 101-250 Acres
6. HU - Prescribed Burning Plan 101-250 Acres
7. Prescribed Burning Plan 251-500 Acres
8. HU - Prescribed Burning Plan 251-500 Acres
9. Prescribed Burning Plan 501-1000 Acres
10. HU - Prescribed Burning Plan 501-1000 Acres
11. Prescribed Burning Plan Greater Than 1000 Acres
12. HU - Prescribed Burning Plan Greater Than 1000 Acres

# Environmental Quality Incentives Program

## 2019 EQIP Signup

Minnesota Supplement for:  
Practice Standard CAP 114 – Integrated Pest Management Plan

### **CAP Scenario Description**

An integrated pest management (IPM) plan is an ecosystem-based strategy that is a sustainable approach to manage pests using a combination of practices and IPM techniques that are characterized as chemical applications, biological control, and habitat manipulation, and modification of cultural practices and use of resistant varieties.

**CAP Type:** Practice (See NB 300-19-~~XXX~~)

### **Supplemental Criteria**

1. Rank in the Conservation Activity Plan (CAP) funding pool and Mississippi River Basin Healthy Watershed Initiative (MRBI).
2. Development of the CAP 114 requires the use of the MN NRCS Integrated Pest Management (IPM) inventory form (MN-CPA-024) developed September 2017. The MN-ECS-016 checklist should be used as a reference.

### **CAP Scenario Name**

1. IPM Management CAP Small-Specialty Less Than 50 Acres
2. HU - IPM Management CAP Small-Specialty Less Than 50 Acres
3. IPM Management CAP Medium 51 - 250 Acres
4. HU - IPM Management CAP Medium 51 - 250 Acres
5. IPM Management CAP Large - Greater Than 250 Acres
6. HU - IPM Management CAP Large - Greater Than 250 Acres

# Environmental Quality Incentives Program

## 2019 EQIP Signup

Minnesota Supplement for:  
Practice Standard 118 – Irrigation Water Management Plan

### **CAP Scenario Description**

An irrigation water management (IWM) plan is a site-specific plan developed to control the volume, frequency, and application rate of water for efficient irrigation. Measurements of soil moisture, plant water use, and climate provide feedback to decide when to irrigate, and how much water to apply.

**CAP Type:** Practice (See NB 300-19-~~XXX~~)

### **Supplemental Criteria**

1. Rank in the Conservation Activity Plan (CAP) funding pool, Mississippi River Basin Healthy Watersheds Initiative (MRBI) and National Water Quality Initiative (NWQI).

### **CAP Scenario Name**

1. Irrigation Water Management Conservation Activity Plan CAP
2. HU - Irrigation Water Management Plan Conservation Activity Plan CAP
3. Irrigation Water Management CAP with pump test
4. HU - Irrigation Water Management Plan CAP with pump test

# Environmental Quality Incentives Program

## 2019 EQIP Signup

Minnesota Supplement for:  
Practice Standard 128 – Agricultural Energy Management Plan

### CAP Scenario Description

An agricultural energy management plan (AgEMP) is a baseline assessment for the agricultural enterprise of the energy consuming activities and components. The plan will document a year of on-farm energy consumption, and the strategy by which the producer can prioritize on-farm opportunities to increase efficiency of their energy utilization.

**CAP Type:** Planning (See NB 300-19-**XXX**)

### Supplemental Criteria

1. Rank **only** in the On-Farm Energy CAP funding pool.
2. Use resource concern – Energy, Inefficient Energy Use-Equipment and Facilities.

Select the CAP 128 payment scenario based on the **size of the largest operation** and **number of enterprises**. The largest sized operation determines the size category (small, medium or large) to select in the available CAP 128 scenarios.

### Size of Operation

- Small
  - < 300 acres of crop ground
  - < 300 Animal Units in a livestock facility
  - Up to 2 irrigation pumps
  - <20,000 sq ft of heated greenhouse, or
  - A maple syrup enterprise
- Medium
  - 301 to 2500 acres of crop ground
  - 301 to 1000 Animal Units in a livestock facility
  - 3 to 6 Irrigation Pumps, or
  - 20,001 to 40,000 sq ft heated greenhouse
- Large
  - > 2,500 acres of crop ground
  - > 1000 Animal Units in a livestock facility
  - More than 7 irrigation pumps or
  - > 40,001 sq ft of heater greenhouse

## **Enterprises**

From one to four Enterprises can be selected for each size category. An Enterprise, as defined in ASABE S612, includes the following type of operations:

- Dairy
- Swine
- Poultry
- Beef/Veal
- Field Crops
- Fruit/Vegetables
- Aquaculture
- Nursery/Greenhouse
- Maple Syrup
- Irrigation.

## **CAP Scenario Name**

1. AgEMP Small, One Enterprise
2. HU - AgEMP Small, One Enterprise
3. AgEMP Medium, One Enterprise
4. HU - AgEMP Medium, One Enterprise
5. AgEMP Large, One Enterprise
6. HU - AgEMP Large, One Enterprise
7. AgEMP Small, Two Enterprise
8. HU - AgEMP Small, Two Enterprise
9. AgEMP Medium Two Enterprises
10. HU - AgEMP Medium Two Enterprises
11. AgEMP Large, Two Enterprises
12. HU - AgEMP Large, Two Enterprises
13. AgEMP Small, Three Enterprise
14. HU - AgEMP Small, Three Enterprise
15. AgEMP Medium, Three Enterprise
16. HU - AgEMP Medium, Three Enterprise
17. AgEMP Large, Three Enterprise
18. HU - AgEMP Large, Three Enterprise
19. AgEMP Small, Four Enterprises
20. HU - AgEMP Small, Four Enterprises
21. AgEMP 128 Medium, Four Enterprise
22. HU - AgEMP 128 Medium, Four Enterprise
23. AgEMP 128 Large, Four Enterprise
24. HU - AgEMP 128 Large, Four Enterprise

# Environmental Quality Incentives Program

## 2019 EQIP Signup

Minnesota Supplement for:  
Practice Standard 130 – Drainage Water Management Plan

### **CAP Scenario Description**

A drainage water management (DWM) plan is a site-specific plan developed to control soil water table elevations and the timing of water discharges from subsurface or surface agricultural drainage systems, allowing the opportunity for crop use of the subsurface water and nutrients.

**CAP Type:** Practice (See NB 300-19-~~XXX~~)

### **Supplemental Criteria**

1. Rank in Conservation Activity Plan (CAP) funding pool, Mississippi River Basin Healthy Watersheds Initiative (MRBI) and National Water Quality Initiative (NWQI).
2. MN does not require the use of a Professional Engineer for CAP 130.

### **CAP Scenario Name**

1. DWMP – Tile Map Available
2. HU - DWMP – Tile Map Available
3. DWMP – No Tile Map Available
4. HU - DWMP – No Tile Map Available

# Environmental Quality Incentives Program

## 2019 EQIP Signup

Minnesota Supplement for:

Practice Standard 138 – Conservation Plan Supporting Organic Transition

### CAP Scenario Description

A "Conservation Plan Supporting Organic Transition" is a plan to help the farmer in transitioning from conventional farming practices to organic production by addressing the natural resource concerns on the operation.

**CAP Type:** Planning (See NB 300-19-~~XXX~~)

### Supplemental Criteria

1. Rank in the Organic Transition funding pool **only**.

### CAP Scenario Name

1. Conservation Plan Supporting Organic Transition CAP Crops **and** Livestock
2. HU - Conservation Plan Supporting Organic Transition CAP Crops **and** Livestock
3. Conservation Plan Supporting Organic Transition CAP Crops **or** Livestock
4. HU - Conservation Plan Supporting Organic Transition CAP Crops **or** Livestock.

# Environmental Quality Incentives Program

## 2019 EQIP Signup

Minnesota Supplement for:  
Practice Standard 142 – Fish and Wildlife Habitat Management Plan

### **CAP Scenario Description**

A fish and wildlife habitat plan is a site-specific plan developed with a client who is ready to plan and implement conservation activities or practices with consideration for fish and wildlife habitat and other biological resources.

**CAP Type:** Practice (See NB 300-19-~~XXX~~)

### **Supplemental Criteria**

1. Rank in the Conservation Activity Plan (CAP) funding pool.

### **CAP Scenario Name**

1. Fish & Wildlife Habitat Management CAP (1 Land Use)
2. HU - Fish & Wildlife Habitat Management CAP (1 Land Use)
3. Fish & Wildlife Habitat Management CAP (2 Land Use)
4. HU - Fish & Wildlife Habitat Management CAP (2 Land Use)
5. Fish & Wildlife Habitat Management CAP (3 Land Use)
6. HU - Fish & Wildlife Habitat Management CAP (3 Land Use)



# Environmental Quality Incentives Program

## 2019 EQIP Signup

Minnesota Supplement for:  
Practice Standard 146 – Pollinator Habitat Management Plan

### **CAP Scenario Description**

A pollinator habitat enhancement plan is a site-specific conservation plan developed for a client that addresses the improvement, restoration, enhancement, expansion of flower-rich habitat that supports native and/or managed pollinators.

**CAP Type:** Practice (See NB 300-19-~~XXX~~)

### **Supplemental Criteria**

1. Rank in the Conservation Activity Plan (CAP) funding pool.
2. No local TSP = 200 miles.

### **CAP Scenario Name**

1. Pollinator Habitat Enhancement Plan CAP
2. HU - Pollinator Habitat Enhancement Plan CAP
3. Pollinator Habitat Enhancement Plan CAP – No local TSP
4. HU - Pollinator Habitat Enhancement Plan CAP – No local TSP

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 472 – Access Control

## Supplemental Criteria

1. In the “controlled” area, proper management such as a grazing plan, haying plan or forest management plan is required.
  - a. For grazing plan, payment is only authorized when livestock are present on the land adjacent to the “controlled” portion eligible for Access Control.
  - b. For haying plan, payment is only authorized when hay acres are adjacent to the “controlled” portion eligible for Access Control.
  - c. For forest plan, payment is only authorized when forest acres are adjacent to the “controlled” portion eligible for Access Control.
2. Access Control is not a management practice. **Access control is limited to a one-time payment** and must be maintained for a lifespan of 10 years after installation.
3. Access Control is not a supplemental payment for the installation of other practices. Any compensation for the non-utilization of land associated with access control is included in the payment rate.
4. Do not contract Access Control (472) and Fence (382) for the same installation.

## Scenarios

### **Protection of a designated sensitive area threatened by environmental stressors**

Protection of a designated sensitive area that is not considered cropland, threatened by environmental stressors and contains sensitive features such as threatened or endangered species. If needed, watering system including well, pumping plant, pipeline and watering facility may be installed. These practices will need to be documented that they are necessary to meet the resource concern.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 560 – Access Road

## Supplemental Criteria

1. No special provisions

## Scenarios

### **Gravel over Base Course**

**(Tribal Only)** This scenario consists of a newly constructed road with a compacted gravel surface over a base course of graded rock in somewhat poorly drained areas. A properly constructed, well defined access road will address resource concerns related with compaction, emissions of fugitive dust, and excessive sediment in surface water. Short term air quality deterioration may result if proper dust control measures are not implemented during the practice installation. Costs include earthfill, excavation, shaping, grading, surface material, seeding and all equipment, labor and incidental materials necessary to install the practices.

### **Gravel over Geotextile**

**(Tribal Only)** This scenario consists of a newly constructed road with a compacted gravel surface over geotextile in somewhat poorly drained areas. A properly constructed, well defined access road will address resource concerns related with compaction, emissions of fugitive dust, and excessive sediment in surface water. Short term air quality deterioration may result if proper dust control measures are not implemented during the practice installation. Costs include earthfill, excavation, shaping, grading, surface material, seeding and all equipment, labor and incidental materials necessary to install the practices.

### **Raised Earth**

**(Tribal Only)** This scenario consists of a newly constructed compacted earth road in well drained areas. A properly constructed, well defined access road will address resource concerns related with compaction, emissions of fugitive dust, and excessive sediment in surface water. Short term air quality deterioration may result if proper dust control measures are not implemented during the practice installation. Costs include earthfill, excavation, shaping, grading, and all equipment, labor and incidental materials necessary to install the practice.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 366 – Anaerobic Digester

## Supplemental Criteria

1. Applications for this practice shall include a feasibility study.
2. Applications for this practice shall be reviewed by the Area Engineer.
3. See **General Provision 12** for Comprehensive Nutrient Management Plan (CNMP) requirements.
4. See **General Provision 13** for requirements related to manure application land base and/or manure applications on land not owned or controlled by the contract holder.
5. AU measurement is (each) 1000# of live weight contributing to the digester.

## Scenarios

### **Small Complete Mix less than 1000 AU**

This scenario is for complete mix systems with less than 1,000 animal units.

### **Small Plug Flow less than 1000 AU**

This scenario is for a plug flow digester with less than 1,000 animal units.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 316 – Animal Mortality Facility

## Supplemental Criteria

1. Payment is authorized for an Animal mortality facilities shall be sized based upon the producers operation.
2. Payment for all animal mortality composting systems is based on the total bin floor area of a Static Pile, Bin system.
3. A roof is required over Static Pile, Bin facilities.
4. Aprons in front of the facility shall be done using Practice Standard 561 - Heavy Use Area Protection.
5. See **General Provision 12** for Comprehensive Nutrient Management Plan (CNMP) requirements.
6. All composting systems must meet MN Board of Animal Health requirements.

## Scenarios

### **Animal Mortality Composting Facility (Total Square Feet of Bin Area)**

This scenario consists of installing one of the following systems to facilitate the composting of livestock mortalities:

- Static Pile, Bin. Two or more wood or concrete bins, open on one end, on a concrete pad operated as a static pile(s).
- In-vessel Rotary Drum. A commercially manufactured horizontal rotary drum to compost animal mortalities mixed with a carbon material. Minimum capacity shall be 1,900 lbs of mortalities per week. A secondary composting storage area is required to finish materials.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 397 – Aquaculture Pond

## **Supplemental Criteria**

1. Scenario feature measure is the surface area of the aquaculture pond measured at the top of the slope.

## **Scenarios**

### **Excavated**

Typical practice covers an excavated pond on flat ground with no harvest kettle.

### **Excavated With Harvest Kettle**

Typical practice covers an excavated pond on flat ground with a harvest kettle constructed of reinforced concrete.

### **Partial Embankment**

Typical practice covers a partially excavated pond on sloped ground, with no harvest kettle.

### **Partial Embankment with Harvest Kettle**

Typical practice covers a partially excavated pond on sloped ground, with a harvest kettle constructed of reinforced concrete.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 396 – Aquatic Organism Passage

## Supplemental Criteria

1. Contact the **Area Engineer** before planning and contracting this practice.
2. This practice is only used when the primary resource concern is **biological**, not hydrologic.
3. Revegetation work will be included under practice 342 - Critical Area Planting.
4. All permits required for installation of the structure must be obtained **prior to eligibility** for the Aquatic Organism Passage practice.

## Scenarios

### **Blockage Removal, remote access**

**(Tribal Only)** Removal of passage barriers, including small relict earthen diversions (e.g., splash dams), failing or undersized culverts, and sediment or large woody material (>10cm diameter and 2m length) from mass wasting or major flood events, or beaver dams. Instream material associated with the previously mentioned circumstances or structures prevents aquatic organism passage by the creation of channel-spanning blockages, or areas of shallow depth, high velocities, or extensive changes in water surface elevation. In addition, these features may encourage abrupt channel changes that endanger adjacent capital infrastructure or transportation corridors. Excessive streambank erosion by flows deflected around or impounded behind these features may impair water quality by introducing fine sediment out of phase with the natural hydrograph and the life history requirements of native aquatic species. Spoil will be spread immediately adjacent to the project site in compliance with state and federal requirements.

### **Blockage Removal, road access**

**(Tribal Only)** Removal of passage barriers, including small relict earthen diversions (e.g., splash dams), failing or undersized culverts, and sediment or large woody material (>10cm diameter and 2m length) from mass wasting or major flood events. Instream material associated with the previously mentioned circumstances or structures prevents aquatic organism passage by the creation of channel-spanning blockages, or areas of shallow depth, high velocities, or extensive changes in water surface elevation. In addition, these features may encourage abrupt channel changes that endanger adjacent capital infrastructure or transportation corridors. Excessive streambank erosion by flows deflected around or impounded behind these features may impair water quality by introducing fine sediment out of phase with the natural hydrograph and the life history requirements of native aquatic species.

### **Bottomless Culvert**

A multi-plate galvanized steel or aluminum culvert (arch or box) used at a road-stream crossing to provide aquatic organism passage (AOP) and promote stream ecological and geomorphic function. Bottomless culverts used for AOP are sized according to geomorphic analyses, not just an estimate of runoff and stream flow at the site from the contributing watershed. In addition,

bottomless culverts used for AOP are filled with a mixture of rock and gravel sized to emulate site stream conditions and geomorphic units in the channel.

### **CMP Culvert, Greater Than 96 inch Diameter**

A corrugated metal (galvanized steel or aluminum) pipe culvert (CMP) of any shape (round, elliptical, or squash) used at a road-stream crossing to provide aquatic organism passage (AOP) and promote stream ecological and geomorphic function. CMPs used for AOP are sized according to geomorphic analyses, not just an estimate of runoff and stream flow at the site from the contributing watershed. In addition, CMPs used for AOP are filled with a mixture of rock and gravel sized to emulate site stream conditions and geomorphic units in the channel.

### **CMP Culvert, Less Than or Equal to 96 inch Diameter**

A corrugated metal (galvanized steel or aluminum) pipe culvert (CMP) of any shape (round, elliptical, or squash) used at a road-stream crossing to provide aquatic organism passage (AOP) and promote stream ecological and geomorphic function. CMPs used for AOP are sized according to geomorphic analyses, not just an estimate of runoff and stream flow at the site from the contributing watershed. In addition, CMPs used for AOP are filled with a mixture of rock and gravel sized to emulate site stream conditions and geomorphic units in the channel.

### **Concrete Box Culvert**

A four-sided precast concrete box (square or rectangular) culvert used at a road-stream crossing to provide aquatic organism passage (AOP) and promote stream ecological and geomorphic function. Concrete box culverts used for AOP are sized according to geomorphic analyses. In addition, concrete box culverts used for AOP are filled with a mixture of rock and gravel sized to emulate site stream conditions and geomorphic units in the channel. The simulated streambed material is continuous throughout the culvert barrel, and blended with the intact streambed at the culvert inlet and outlet.

### **Earthen Dam Removal Fill Height 8 Foot or Less**

Full removal of an earthen dam with a fill height of less than 8 feet to restore aquatic organism passage, improve water quality, and promote functional river ecology and geomorphology. The removal extent is determined through consultations with the dam owner in consideration of prevailing regulations and site historical status. Resulting channel dimensions and profile are determined on a site-specific basis to reflect, to the fullest extent possible, pre-dam conditions.

### **Earthen Dam Removal Fill Height Greater than 8 Feet**

Full removal of an earthen dam with a fill height of greater than 8 feet to restore aquatic organism passage, improve water quality, and promote functional river ecology and geomorphology. The removal extent is determined through consultations with the dam owner in consideration of prevailing regulations and site historical status. Resulting channel dimensions and profile are determined on a site-specific basis to reflect, to the fullest extent possible, pre-dam conditions.



# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 314 – Brush Management

## Supplemental Criteria

1. The provisions of the Farm Bill and regulation clearly state that EQIP financial assistance cannot be used to support operation or enterprise related activities such as costs associated with planting a crop, weed control, or converting idle land to production.
2. Brush Management payment is authorized on pastureland or forest land with a management plan.
3. There is a one-time payment per field or planning unit.
4. Payment is limited to those acres on which a specific brush management action has been implemented.
5. Land enrolled under an easement for permanent cover is not eligible for this practice.

## Scenarios

### **Chemical, Aerial Applied**

Apply brush management on rangeland, forest, or pasture thru the use of broadcast aerial application of material with low cost chemical(s) to reduce or remove undesirable deciduous species (brush) in uplands and other areas not in or directly adjacent to streams, ponds, or wetlands.

### **Chemical - Ground Applied**

Apply brush management on rangeland, forest, or pasture thru the use of broadcast application of material using low cost chemical(s) to reduce or remove undesirable deciduous species (brush) in uplands and other areas not in or directly adjacent to streams, ponds, or wetlands.

### **Chemical, Individual Plant Treatment**

This Practice is for the implementation of brush management on range, pasture or native pasture using Individual Plant Treatment (IPT). The typical method of control is application of herbicides (basal or foliar location) on selected individual plants.

### **Hand Cut and Chemical, Small Shrubs, Dense Infestation**

Removal of small woody vegetation of dense infestations. The practice entails the removal of brush by the use of hand pruning & chainsaw some larger stem followed by an application of appropriate chemicals applied on stems in order to remove invasive species and improve ecological site condition. Brush density has exceeded desired levels based on ecological site potential. It has been determined that the invasive species brush is at the dense infestation rate.

### **Mechanical, Hand tools**

Using hand tools, such as axes, shovels, hoes, nippers, brush pullers, and including chainsaws to remove or cut off woody plants at/or below the root collar. Typical area is will have stands of woody and non-herbaceous species that are in the early phases of invasions.

### **Mechanical, Large Shrubs**

Removal of large woody vegetation of medium infestations on gentle sloping to moderately deep to deep soils. The practice entails the removal of brush by pushing, grubbing, masticating, chaining and then raking or piling in order to reduce fuel loading and improve ecological site condition. Brush density has exceeded desired levels based on ecological site potential. It has been determined that the brush is at the medium infestation. This scenario includes chemical treatment if necessary.

### **Mechanical, Small Shrubs**

The practice entails the removal of brush by the use of mechanical cutter, chopper or other light equipment in order to reduce fuel loading and improve ecological site condition. Brush density has exceeded desired levels based on ecological site potential. It has been determined that the brush is at the medium infestation. This scenario includes chemical treatment if necessary.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 672 – Building Envelope Improvement

## Supplemental Criteria

1. A CAP 128 Agricultural Energy Management Plan or an energy audit meeting the requirements of an ASABE S612 Type 2 audit is required **prior to eligibility** for the Building Envelope Improvement practice.
2. Plans and specifications shall be provided by the participant prior to contracting for EQIP funding for this practice. NRCS shall not be tasked with or responsible for completing designs related to this conservation practice standard.
3. Contact the **Area Engineer** before planning and contracting Building Envelope Improvement.
4. Prior approval must be obtained from the State Engineer before the use of foam or blown insulation can be allowed.
5. Receipts, records and pictures provided by professional installers and the applicant will be used as a part of the practice certification process.
6. **State Engineer** approval must be obtained prior to payment.

## Scenarios

### **Building Envelope - Attic Insulation**

This scenario consists of installing a minimum R-7 insulation in an existing attic or ceiling. Costs include materials and labor to install the insulation. Scenario feature measure is by area of attic insulation installed.

### **Building Envelope - Mechanical Screens**

Mechanical energy screen systems consist of a drive motor, support cables, controls, and shade material, which may be woven, knitted, or non-woven strips of aluminum fiber, polyethylene, nylon or other synthetic material. The screen provides a means to better control solar heat gain and heat transfer during night or cold weather conditions to reduce energy use. Screens and similar devices may also be used to divide internal areas and allow for differentiated heating, ventilation, or cooling system operation to reduce energy use. Costs include thermal blanket energy screens, drive motor, support cables, controls and shade materials along with labor needed to install the system. Scenario feature measure is based on the area of the screen.

### **Building Envelope - Wall Insulation**

A typical installation consists of installing fiberglass batts from ceiling to floor in the sidewalls and endwalls of a building. Vapor barrier and sheathing necessary to provide a physical protective barrier are also required. Costs include materials and labor to install the insulation. Scenario feature measure is by area of wall insulated.

### **Greenhouse - Insulate Unglazed Walls**

A typical scenario consists of installing cellulose or bubble type (or equivalent) insulation to reduce seasonal heat loss and heat gain. This serves to reduce the respective need for heating

and cooling equipment to operate. The greenhouse is fitted with insulation installed truss-to-truss or gutter-to-gutter and/or on non-glazed endwalls and/or sidewalls as needed. Costs include double bubble reflective insulation with aluminum foil on both sides along with labor needed to install the material. Scenario feature measure is based on the area of the insulation installed.

### **Insulated Roll-Up Door**

A typical scenario is the replacement of non-insulated rollup doors in livestock houses or greenhouses with insulated rollup doors. The increased insulation reduces seasonal heat loss and heat gain which reduces the respective need for heating and cooling equipment to operate.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 584 – Channel Bed Stabilization

## Supplemental Criteria

1. No special provisions

## Scenarios

### **Channel spanning log jams**

Stabilize the bottom and slope of a stream channel using channel spanning log jams at the base of the channel to stabilize the channel bed. Scenario feature measure is the area to be stabilized.

### **Rock structures**

Stabilize the bottom and slope of a stream channel using engineered rock structures. rock riprap or engineered products that consist primarily of rock or concrete. This includes but is not limited to gabions, rock veins, rock weirs, J hook vanes, cross vanes, or concrete blocks. Scenario feature measure is square feet of constructed channel (bankfull width x total length).

### **Roughened channel**

Roughened channels, rock ramps, or bypass channels, are constructed features that provide passage around an instream barrier or in place of a removed barrier. Roughened channels are constructed with an assortment of equipment used for excavation, placing material, and delivering and removing material. Removed materials are trucked away and disposed or recycled off-site, unless excavated native streambed material can be used in fishway construction. Scenario does not include additional measures needed in the active channel and floodplain or at an existing dam necessary to control flow associated with nature-like fishway. Scenario feature measure is square feet of constructed channel (bankfull width x total length).

### **Wood structures**

Stabilize the bottom and slope of a stream channel using engineered structures consisting primarily of wood. This includes but not limited to toe wood, log weirs, log vanes, root wads, or log step pools. Scenario feature measure is square feet of constructed channel (bankfull width x total length).

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 326 – Clearing and Snagging

## **Supplemental Criteria**

1. This practice is ONLY for the RCPP project: Driftless Area – Habitat for the Wild and Rare.
2. If this practice is being applied to any DNR designated “Trout” stream, the project manager will be the State Office Hydraulic Engineer.
3. Contact the **Area Engineer** for approval before planning and contracting this practice.

## **Scenarios**

### **Clearing and Snagging**

Removal of vegetation, logs, or other material that impedes the proper functioning on 200 to 400 linear feet of a stream channel or water course to restore flow capacity; prevent bank erosion by eddies; reduce the formation of sediment bars; and/or minimize blockages by debris. Addresses resource concern soil erosion-streambanks.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 372 – Combustion System Improvement

## Supplemental Criteria

1. A CAP 128 Agricultural Energy Management Plan or an energy audit meeting the requirements of an ASABE S612 Type 2 audit is required **prior to eligibility** for the Combustion System Improvement practice.
2. **To be eligible for payment, replacement combustion systems shall be certified to be at least 20% more energy efficient than the systems they replace.**
3. Contact the **Area Engineer** before planning and contracting Combustion System Improvement if the practice is being used to address an energy resource concern.
4. Receipts, records and pictures provided by professional installers and the applicant will be used as a part of the practice certification process.
5. **State Engineer** approval must be obtained prior to payment.

## Scenarios

### **Electric Motor in-lieu of IC Engine, 12 HP and Greater**

This scenario consists of replacing an existing internal combustion engine with a new electric motor ( $\geq 12$  HP).

### **Electric Motor in-lieu of IC Engine, less than 12 HP**

This scenario consists of replacing an existing internal combustion engine with a new electric motor ( $< 12$  HP).

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 317 – Composting Facility

## Supplemental Criteria

1. **Composting Facility (317) is not to be used for composting of animal mortality.**
3. Eligible material for composting into biologically stable organic material includes **fish** processing wastes where **fish** is processed as part of the normal agricultural operation.
4. Ineligible material for composting includes: municipal sludge, solid waste and other non-agricultural type waste.
5. Aprons in front of the facility shall be done using Practice Standard 561 - Heavy Use Area Protection.

## Scenarios

### **Bins with Concrete Floor**

**(Tribal Only)** Fish by-products are collected and stored at a composting facility until such time that they are disposed of or utilized in a proper manner, typically in accordance with a nutrient management plan. The composting facility consists of a series of concrete bins with a concrete floor. Water quality concerns and disease vectors resulting from improper waste disposal are addressed by providing a dedicated facility for storage and treatment and a compost product that can be used in multiple ways including land application for enrichment of crop ground is created.

### **Composting Drum**

**(Tribal Only)** Fish by-products are collected and stored in a compost drum until such time that they are disposed of or utilized in a proper manner, typically in accordance with a nutrient management plan. The composting facility consists of a composting drum installed on a concrete slab. Water quality concerns and disease vectors resulting from improper waste disposal are addressed by providing a dedicated facility for storage and treatment and a compost product that can be used in multiple ways including land application for enrichment of crop ground is created. This scenario is applicable when geological, soil or climate conditions prohibit the use of only partial concrete surfaces. The drum system may be a part of a waste separation system where composted solids are reused as bedding, as soil amendment, or sold off farm.



# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 327 – Conservation Cover

## Supplemental Criteria

1. The (foregone income) scenarios can be contracted where the “*practice implementation typically results in significant net income loss due to a change in land use or land taken out of production*” [CPM 512.31 B. (8)] for the 5 year lifespan of this practice. (Example, annually cropped land being retired from production by seeding to a conservation cover.)
2. Payment rate includes seedbed preparation, seeding, seed, soil amendments and weed control as appropriate.
3. For introduced grasses and legumes, fertilizer will be applied according to a soil test from the year of seeding, or from the two preceding calendar years. The rate of application of commercial fertilizer will be done according to University of Minnesota Extension Recommendations. The rate applied shall be 100% of the recommended rate per acre of each nutrient for a 2 ton yield goal for a [Grass-Legume Mixture](#).
4. Practices will be protected from mowing, grazing, and uncontrolled fire for the duration of the contract unless specifically identified in the management plan.

## Scenarios

### **Introduced Species**

This practice applies on land needing protective cover. This scenario does **not** include forgone income.

### **Introduced with Forgone Income**

This practice applies on land needing protective cover. This practice typically involves conversion from a cropping system to non-native vegetation.

### **Native Species**

This practice applies on land needing protective cover. This scenario does **not** include forgone income.

### **Native Species with Forgone Income**

This practice applies on land needing protective cover. This practice typically involves conversion from a cropping system to native vegetation.

### **Pollinator Species (including Monarch)**

Vegetation, including mix of native grasses, legume and forbs established on any land needing vegetative cover that provides habitat for pollinators, monarch butterflies and beneficial insects. Practice applicable on cropland, odd areas, corners, etc. This scenario does **not** include forgone income.

### **Pollinator Species with Forgone Income (including Monarch)**

Vegetation, including mix of native grasses, legume and forbs established on any land needing vegetative cover that provides habitat for pollinators, monarch butterflies and beneficial insects. Practice applicable on cropland, odd areas, corners, etc.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 328 – Conservation Crop Rotation

## Supplemental Criteria

1. To be eligible, a minimum of three different crop types (warm season grass, warm season broadleaf, cool season grass, or cool season broadleaf) will be required. Examples of crop types are given in Table 1 of the Conservation Crop Rotation (328) practice standard.
2. Payment is not authorized for any Conservation Crop Rotation (328) and Forage and Biomass Planting (512) on the same acreage.
3. Participants must be able to demonstrate that the applied for acres have a prolonged history of continuous annual crop. **Participants should provide the last five years of their rotation specific to the EQIP application acres.**

## Scenarios

### **Basic Rotation Organic and Non-Organic**

Implement a conservation crop rotation for organic and non-organic producers primarily to increase crop diversity, break pest cycles, and improve soil quality. Additional resource benefits may include: reduce soil erosion, manage the balance of plant nutrients, and improve water use efficiency.

### **Irrigated to Dryland Rotation Organic and Non-Organic**

Implement a conservation management system to convert from an irrigated cropping system to dryland farming. In addition to improving water use efficiency in the cropping rotation, the resource benefits may include: reduce soil erosion, increase soil health, reduce water quality degradation, and improve soil moisture efficiency.

### **Specialty Crops Organic and Non-Organic**

Implement a conservation crop rotation for organic and non-organic specialty crops such as fruits and vegetables primarily to increase crop diversity, break pest cycles, and improve soil quality. Additional resource benefits may include: reduce soil erosion, manage the balance of plant nutrients, and improve water use efficiency.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 656 – Constructed Wetland

## Supplemental Criteria

1. Contact the **Area Engineer** before planning and contracting Constructed Wetland.
2. **State Engineer** approval must be obtained prior to payment.

## Scenarios

### **Medium, 0.1 to 0.5 ac (and larger)**

This practice scenario includes the basic earthwork and native and/or organic wetland vegetation needed to create a constructed wetland to treat contaminated agricultural runoff.

### **Small less than 0.1 Ac, Vertical Cells**

This practice scenario includes the basic earthwork and native and/or organic wetland vegetation needed to create a constructed wetland to treat contaminated agricultural runoff. A typical system consists of three cells that are lined, backfilled with pea gravel, and seeded. A perforated pipe near the bottom of the first cell is used to collect water from the first cell which is then pumped to the top of the second cell where it is treated and then pumped to the third cell. The effluent is pumped to a drain field, VTA, or waste storage facility.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 332 – Contour Buffer Strips

## Supplemental Criteria

1. The “High Value Cropland” scenarios are for **vegetable** production only.
2. The (foregone income) scenarios can be contracted where the “*practice implementation typically results in significant net income loss due to a change in land use or land taken out of production*” [CPM 512.31 B. (8)]. (Example, annually cropped land being retired from production by seeding to a contour buffer strip.)
3. Payment includes seedbed preparation, seed, seeding, soil amendments and weed control as appropriate. Payment is for establishment and management of the contour buffer strip area devoted to perennial cover that is taken out of production.
4. End rows shall be established as Field Borders (386) or will have soil erosion rates at “T” or less.
5. Payment is not authorized for Stripcropping (585), on acres where Contour Buffer Strips (332) are authorized and planned.
6. Contour Farming (330) and Contour Buffer Strips (332) cannot be contracted on the same acres.
7. Buffer strip may be harvested after August 1<sup>st</sup>.

## Scenarios

### **Introduced Species, Foregone Income (Organic and Non-Organic)**

Narrow strips of permanent, herbaceous vegetative cover established around the hill slope and alternated down the slope with wider cropped strips in between that are farmed on the contour. Scenario is for introduced species.

### **Introduced – High Value Cropland**

Narrow strips of permanent, herbaceous vegetative cover established around the hill slope and alternated down the slope with wider cropped strips in between that are farmed on the contour. Scenario is for introduced species.

### **Native Species, Foregone Income (Organic and Non-organic)**

Narrow strips of permanent, herbaceous vegetative cover established around the hill slope and alternated down the slope with wider cropped strips in between that are farmed on the contour. Scenario is for native species.

### **Native, Foregone Income – High Value Cropland**

Narrow strips of permanent, herbaceous vegetative cover established around the hill slope and alternated down the slope with wider cropped strips in between that are farmed on the contour. Scenario is for native species.

### **Wildlife/Pollinator, Foregone Income (Organic and Non-Organic)**

Narrow strips of permanent, herbaceous vegetative cover established around the hill slope and alternated down the slope with wider cropped strips in between that are farmed on the contour. Scenario is for wildlife and pollinator species.

### **Wildlife/Pollinator – High Value Cropland**

Narrow strips of permanent, herbaceous vegetative cover established around the hill slope and alternated down the slope with wider cropped strips in between that are farmed on the contour. Scenario is for wildlife and pollinator species.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 330 - Contour Farming

## **Supplemental Criteria**

1. A one-time payment is limited to those acres on which the contour farming practice has been implemented.
2. All land preparation, planting and cultivation will be done following a specified contour grade.
3. End rows shall be established as Field Borders (386) or will have soil erosion rates at "T" or less.

## **Scenarios**

### **Contour Farming**

This scenario meets the criteria, planning and specifications of the NRCS Contour Farming Standard.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 340 – Cover Crop

## Supplemental Criteria

1. **There is a maximum payment cap of \$20,000 for this practice.** Consult **General Provision 14** for additional details.
2. The scenario “**Cover Crop – Basic Organic**” **requires** the use of **certified organic seed only**. After contract obligation, a contract modification to substitute this scenario with any other cover crop scenario is **not** allowed. If organic seed is not available, the cover crop practice must be rescheduled per policy – CPM 512.55.
3. Cover crop seeding will be completed based on an approved cover crop seeding **and** management plan.
4. An annual payment is authorized on the same acres, not to exceed 3 payments.  
**Exception:** Payment for (340) Cover Crop can be a maximum of 5 separate payments during the term of a single contract on the same acres when (340) Cover Crop is planned and applied as a component of a complete conservation system to address resource concerns related to soil health (such as soil erosion and soil quality degradation). It is unlikely soil health benefits will accrue by the use of cover crops as a standalone practice. This is why the application of (340) Cover Crop must be part of an overall conservation system that fully addresses the soil health concern.
  - a. The 5 separate payment revision only applies to the (340) Cover Crop practice.
  - b. The (340) Cover Crop practice may only be reapplied to the same acres (previous contract) if the practice will address a higher-level quality concern.
    - i. **The higher-level of quality (or environmental benefit) is not just a change in the number of species or a change from one resource concern to another resource concern. Technical documentation is needed; such as WEPS and RUSLE2 showing: rotations with no cover crops, rotations with cover crop (1<sup>st</sup> time) and rotations with higher-level of quality cover crops (2<sup>nd</sup> time). Each field should also reflect when in the rotation the cover crops have been added. This impacts soil loss calculations.** Consult your Area Resource Conservationist (ARC) for assistance.
  - c. All “components” of the complete conservation system must be in the same EQIP contract. Agency has no authority to enforce implementation of a conservation plan.
5. Cover crops can be certified for payment when the cover crop has been verified it was planted. **Exception:** For the scenario “**Cover Crop – Adaptive Management**”, prior to payment, data results from the replicated plots must be sent to Area Office according to the guidance outlined in the technical note. Consult your Area Resource Conservationist (ARC) for assistance.
6. Cover crops can be used for *supplemental* forage by grazing or mechanical harvest as long as sufficient biomass is left for resource protection. Cover crops planted for the purpose of *supplemental* forage must be considered a secondary purpose. Cover crops do not entirely address inadequate feed and forage resource concerns. Consult your Area Grazing Specialist and the Cover Crop job sheet for more information.
7. **Cover crops will remain in the field over winter.**

8. These payment scenarios will not be allowed to be used as a nurse crop.
9. The basic and multi species scenarios can be used as temporary cover for wind erosion.
10. The cover crop scenarios **cannot** be used as temporary cover for pre-construction cover or for post-construction cover.
11. Manure can be applied on cover crops and incorporation is allowed. Follow Best Management Practices (BMP) for your area. Any soil disturbance for nutrient (including Commercial Fertilizer) or manure application must meet the residue management no-till/strip till (329) standard.

## **Scenarios**

### **Cover Crop - Adaptive Management**

The practice scenario is for the implementation of cover crops in small replicated plots to allow the producer to learn how to manage cover crops on their operation. Scenario includes implementing replicated strip trials on a field plot to evaluate, identify and implement a particular cover crop management strategy (e.g., cover crop vs. no cover crop, multiple species vs., single species, evaluate different termination methods or timings, using a legume vs. no legume for nitrogen credits). This will be done following the guidance in the NRCS National Agronomy Technical Note 10 - Adaptive Management. Data results received from the replicated plots will be sent to the Area Office and State Office according to the guidance outlined in the technical note.

### **Cover Crop - Basic (Organic and Non-organic)**

Single Species will be planted as a cover crop, and will be followed by a row crop that will utilize the residue as mulch.

### **Cover Crop - Basic Organic**

This scenario **REQUIRES** use of Certified Organic Seed only. Typically a cover crop will be planted immediately after harvest of an organically grown crop, and will be followed by an organically grown crop that will utilize the residue as a mulch. The cover crop could be terminated using a mechanical kill method (mowing, rolling, undercutting, etc.), prior to planting the subsequent crop.

### **Cover Crop - Multiple Species (Organic and Non-Organic)**

Multiple Species (2 or more) mixture will be planted as a cover crop, and will be followed by a row crop that will utilize the residue as mulch.

### **Cover Crop – No Termination Needed, Basic and organic/non-organic**

The cover crop chosen will be species that will effectively winter kill which will avoid the labor and expense involved in mechanically or chemically terminating the crop.



# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 342 – Critical Area Planting

## Supplemental Criteria

1. Critical Area Planting (342) must be completed following an approved establishment and management plan. Payment includes site preparation, seed, seeding, soil amendments (fertilizer and lime) and weed control as appropriate.
2. Native and Introduced seeding - moderate grading payment includes earthwork, grading, shaping, etc. as needed when the grading is not part of a structural practice.
3. Native and Introduced seeding - moderate grading is not to be used on the same acres as Streambank and Shoreline Protection, Bank Shaping.
4. **Do not contract (342) separately for the following practices: 412, 600 and 638.** These practices already have seeding covered in their practice payment scenarios.

## Scenarios

### **Grass Plugs**

Dune and Lakeshore stabilization of critical areas with planting of beach grass plugs. Used to stabilize sandy sites prone to wind and water erosion.

### **Hydroseeding**

Costs include hydroseeding seed onto sloped sites. Establishment of permanent vegetation on a site that is void or nearly void of vegetation due to a natural occurrence or a newly constructed conservation practice.

### **Native or Introduced Vegetation - Moderate Grading (Organic and Non-Organic)**

Costs include a dozer for grading and shaping of small gullies, slope stabilization, and channel banks, seedbed preparation with typical tillage implements, native and/or introduced seed, companion crop, and fertilizer and lime with application. This scenario would typically be used for Critical Area Planting (CAP) waterways.

### **Native or Introduced Vegetation - Normal Tillage (Organic and Non-Organic)**

Establishment of permanent vegetation on a site that is void or nearly void of vegetation due to natural occurrence, human disturbance, or a newly constructed conservation practice. This scenario is for conventional and organic systems.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 605 – Denitrifying Bioreactor

## Supplemental Criteria

1. Contact the **Area Engineer** before planning and contracting Denitrifying Bioreactor.
2. Contact the **State Engineer** for certification approval of this practice before payment.
3. Payment is based on cubic yards of carbon source (for example, wood chips) and includes; carbon source, excavation, internal piping, water control structures, geotextile, and site restoration.

## Scenarios

### **Bioreactor with Soil Cover**

This scenario is for a bioreactor with a topsoil cover. The bioreactor has geotextile fabric lining the trench and between the wood chips and the soil cover. Costs include excavation of the trench, installation of the media, geotextile, control structures, and piping necessary for bypass and distribution lines. The soil excavated from the pit is spoiled onto the nearby field. Management and maintenance of the bioreactor (including chip replenishment), as well as monitoring and reporting to demonstrate the performance of the practice are not included in this scenario.

### **Bioreactor without Soil Cover**

This scenario is for a bioreactor without a topsoil cover. The bioreactor has geotextile fabric lining the trench and the top of the media is exposed. Costs include excavation of the trench, installation of the media, geotextile, control structures, and piping necessary for bypass and distribution lines. The soil excavated from the pit is spoiled onto the nearby field. Management and maintenance of the bioreactor (including chip replenishment), as well as monitoring and reporting to demonstrate the performance of the practice are not included in this scenario.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 356 – Dike

## **Supplemental Criteria**

1. No special provisions

## **Scenarios**

### **Dike**

Water level is controlled by a stable earthen structure installed with compacted fill material. The scenario includes component for stripping and stockpiling base of dike. Scenario feature measure is cubic yards of compacted earthfill in embankment above natural ground.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 362 – Diversion

## Supplemental Criteria

1. No special provisions

## Scenarios

### **Earthen**

An earthen channel constructed across long slopes with a supporting ridge on the lower side. Payment does not include costs for vegetation.

### **Reinforced Concrete Channel, Flat Slab (or shaped)**

A reinforced concrete channel constructed across a slope that is used to divert runoff. A typical channel is 15 feet wide and 1 foot deep.

### **Reinforced Concrete Curb with footer**

A reinforced concrete curb constructed across the slope to divert runoff. "A curb is typically 1 foot high, 6 inches thick with a 2 foot wide footing.

### **Reinforced Concrete Curb, Doweled into Slab**

A reinforced concrete curb constructed across the slope to divert runoff. The curb is typically concrete that is 1 foot high 6 inches thick formed on top of and doweled into an existing concrete slab.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 554 – Drainage Water Management

## **Supplemental Criteria**

1. This practice is eligible only for the management of structures identified in a Drainage Water Management Plan prior to certifying the initial payment for this practice.
2. Payment is authorized for management of eligible structures not to exceed 3 separate payments during the term of a contract.

## **Scenarios**

### **Drainage Water Management**

The field adjustment of water control structures according to the drainage water management plan. The participant is required to maintain a log of the date and adjustment information. Scenario feature measure is by impacted area controlled by the structure.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:

Practice Standard 647 – Early Successional Habitat Development and Management

## Supplemental Criteria

1. The scenario “Woody Vegetation Removal – Mechanical” is ONLY for the **RCPP** project: Driftless Area – Habitat for the Wild and Rare.
2. Use Prescribed Burning (338) as a facilitating practice if necessary for practice application.
3. Plans will be developed by a wildlife biologist, TSP or natural resource professional and approved by the NRCS District Conservationist.

## Scenarios

### **Disking**

This practice addresses inadequate wildlife habitat for species requiring early successional habitat. This scenario provides early successional habitat by setting back succession and manipulating species composition by disking vegetation and creating bare ground. Where the seedbank is inadequate for natural regeneration and seeding is required, use conservation practice 327 Conservation Cover.

### **Edge Feathering (Cutback Borders)**

Edge feathering involves cutting over story trees within a 30-50' zone along the edge of forestland using hand tools such as chainsaws. The goal is to create a transitional zone between later successional stages like mature forest and very early successional stages like open fields. The forest over story is removed allowing more sunlight deeper into the forest edge to benefit early successional target wildlife. Leave trees or shrubs of special wildlife benefit, such as dogwoods, viburnums, serviceberry, etc. Retain cut slash and debris within the cutback area to provide additional wildlife cover. Herbicides may be used to control regeneration of undesirable species as needed. Resource concerns within this zone include: Inadequate structure and composition and habitat degradation. Felling trees with chainsaws should occur from October through April to minimize disturbance to Northern Long-eared bat.

### **Mowing**

This scenario addresses inadequate habitat for wildlife where setting back succession by mowing encroaching woody species up to 3” diameter with a bush hog or similar rotary mower. This practice will improve habitat for the target species such as American woodcock and sharp-tailed grouse. Mowing can be used to increase structural diversity by creating areas of shorter vegetation preferred by some species or certain life stages of species.

### **Regeneration of Mature Aspen Stands**

Regeneration of mature aspen stands through mechanical removal of aged alder and/or other successional tree/shrub species in strips to create and maintain early successional plant communities within a forested matrix. One strip is mowed every five years resulting in a 20 year rotation within the management unit. Create significantly improved habitat for target species, particularly ruffed

grouse and golden winged warbler. Also benefits many neo-tropical migrants and other species of wildlife that require early successional habitats.

### **Regeneration of Mature Alder Stands**

Regeneration of mature alder stands through mechanical removal of aged alder and/or other successional tree/shrub species in strips to create and maintain early successional plant communities within a forested matrix. One strip is mowed every five years resulting in a 20 year rotation within the management unit. Create significantly improved habitat for target species, particularly American woodcock and golden winged warbler. Also benefits many neo-tropical migrants and other species of wildlife that require early successional habitats.

### **Woody Vegetation Removal - Mechanical**

*(RCPP only.)* This scenario addresses removal of large woody vegetation of medium infestations on gentle sloping to moderately deep to deep soils. The practice entails the removal of brush by pushing, grubbing, masticating, chaining and then raking or piling in order to reduce fuel loading and improve ecological site condition. Brush density has exceeded desired levels based on ecological site potential. It has been determined that the brush is at the medium infestation.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 374 – Farmstead Energy Improvement

## Supplemental Criteria

1. A CAP 128 Agricultural Energy Management Plan or an energy audit meeting the requirements of an ASABE S612 Type 2 audit is required **prior to eligibility** for the Farmstead Energy Improvement practice.
2. Plans and specifications shall be provided by the participant prior to contracting for EQIP funding for this practice. NRCS shall not be tasked with or responsible for completing designs related to this conservation practice standard.
3. Contact the **Area Engineer** before planning and contracting Farmstead Energy Improvement.
4. Receipts, records and pictures provided by professional installers and the applicant will be used as a part of the practice certification process.
5. **State Engineer** approval must be obtained prior to payment.

## Scenarios

### **Automatic Controller System**

This scenario consists of an automatic control system where an on-farm energy audit has determined that energy use can be reduced through use of an automatic controller to help regulate the energy consumption of an existing system. Some components typically installed include wiring, temperature and soil moisture sensors, data loggers, logic controllers, wi-fi communication equipment, software, switches, and relay. A typical installation consists of the equipment recommended in the energy audit to meet the energy savings listed in the audit and labor from a licensed electrician to install and program the equipment. Scenario feature measure is per each automatic

### **Enhanced Preheater**

The unit sits over the evaporator pan and uses steam from the evaporator pan to pre-heat the sap while at the same time injecting air into the sap to promote evaporation. Evaporation rates are increased by 65-75%, based on vendor analysis, leading to 40-43% energy savings. With increased evaporation, it takes less time to boil the sap down, thus saving significant energy (oil & wood fuel) used in the process, as well as labor. Typical scenario is for maple syrup preheating, but the scenario is potentially applicable to preheating for other processes or products as well.

### **Evaporator Wood-Fired, Air Injected**

This practice is for the replacement of an inefficient evaporator with a new high efficiency evaporator with appurtenances. A high efficiency evaporator is designed to increase BTU output from the fuel source and provide a larger flue pan surface area to increase evaporation, thus reducing energy use. Wood-fired evaporator with air injection or forced draft includes stainless steel sides and bottom, blowers and stainless steel syrup and flue pans. A 3' x 12' high efficiency



wood-fired evaporator with air injection or forced draft is common for moderately-sized maple operations.

### **Evaporator Wood-Fired, Gasifier**

This practice is for the replacement of an inefficient evaporator with a new high efficiency evaporator with appurtenances. A high efficiency evaporator is designed to increase BTU output from the fuel source and provide a larger flue pan surface area to increase evaporation, thus reducing energy use. A wood-fired gasifier evaporator includes stainless steel sides and bottom, blowers, and stainless steel syrup and flue pans. A 3' x 12 wood-fired gasifier evaporator is common for moderately-sized maple operations.

### **Heating - Attic Heat Recovery vents**

This scenario consists of installing actuated inlets or automatic latching gravity inlets that draw warmer, drier air from the attic to assist with moisture and heat control when ventilation fans are being operated in poultry houses and swine barns. Attic vents or inlets allow dry warm air from the attic to circulate throughout the building. By using pre-warmed air from the attic less energy is needed for heating. Other systems to transfer heat, as detailed in ASABE S612-compliant energy audit may also be used. A typical installation consists of attic air inlets with all required appurtenances and labor to install the equipment. The scenario feature measure is per each heat recovery vent installed.

### **Heating - Radiant Systems**

This scenario consists of replacing "pancake" Brood Heaters in a poultry house with Radiant Tube Heaters, or similar higher efficiency heaters. Pancake style brooders are typically mounted at a low installation height and primarily warm the air, and as the warmed air naturally rises it loses effectiveness for poultry on the ground. They provide a one-to-two foot perimeter at desired temperatures around each brooder and as a result a large number of brooders are required to cover a significant percent of floor space. Radiant heating systems can include radiant brooders and quad radiant systems as evidenced by the energy audit. Radiant tube heaters primarily warm objects within a direct line of sight (similar to the sun or an open fire). Air temperature is of relatively little importance for a radiant heating system to be effective. As a result, radiant systems are typically installed 5 feet or more above the floor level. This height extends the distribution of the radiant heat over a larger area than is possible with pancake style heaters, resulting in a roughly 16 foot diameter radiant heat zone heats which is much larger than that of a conventional pancake brooder. A typical installation will require materials and labor to remove the existing heating system, re-plumb gas lines, cables and wench system to retrofit new radiant tube heaters, and miscellaneous items to complete the installation. The scenario feature measure is per each heater installed.

### **Heating - Root Zone Heating**

This scenario consists of replacing forced air heating in a greenhouse with root zone level Radiant Tube heating, bench heating, or similar types of systems. Replacement will require the materials and labor to, re-plumb gas lines, and piping for new radiant tube heaters, and miscellaneous items to complete the installation. Alternate acceptable radiant heating systems can include radiant bench heating and quad radiant systems as evidenced by the energy audit.

### **Heating (Building)**

This scenario consists of replacing existing low efficiency heaters with new high efficiency heaters. These replacement systems can be fueled by natural gas, propane, or fuel oil. Applications may be

air heating/building environment and hydronic (boiler) heating for agricultural operations, including in floor heating, under bench, or root zone heating. A typical installation consists of a natural gas, propane or fuel oil unit heater or boiler and venting materials with all required appurtenances and labor to install the equipment.

### **Low Energy Livestock Waterers**

This scenario consists of replacing existing less efficient livestock waterers with a low energy livestock waterers, such as a geothermal tube waterer, on a one-to-one basis. A typical installation consists of the livestock waterer and labor to install the equipment. Scenario feature measure is per each livestock waterer installed.

### **Motor Upgrade equal to 1 HP (or less than 1HP)**

This scenario consists of replacing an existing electric motor used to drive a ventilation fan, irrigation pumps, vacuum pump, or similar equipment involved with agricultural production with a new, NEMA Premium motor on a one-to-one basis. The size of the new motor is less than or equal to 1 horsepower. A typical installation consists of a premium NEMA approved electric motor with all required appurtenances and labor from a licensed electrician to install and program the equipment. Scenario feature is per each motor installed.

### **Motor Upgrade greater than 1 and less than 10 HP**

This scenario consists of replacing an existing electric motor used to drive a ventilation fan, irrigation pumps, vacuum pump, or similar equipment involved with agricultural production with a new, NEMA Premium motor on a one-to-one basis. The size of the new motor is greater than 1 horsepower but less than 10 horsepower. A typical installation consists of a premium NEMA approved electric motor with all required appurtenances and labor from a licensed electrician to install and program the equipment. Scenario feature measure is based on HP size of replacement motor.

### **Motor Upgrade 10 – 100 HP**

This scenario consists of replacing an existing electric motor used to drive a ventilation fan, irrigation pumps, vacuum pump, or similar equipment involved with agricultural production with a new, NEMA Premium motor on a one-to-one basis. The size of the new motor is greater than 10 horsepower. A typical installation consists of a premium NEMA approved electric motor with all required appurtenances and labor from a licensed electrician to install and program the equipment. Scenario feature measure is based on HP size of replacement motor.

### **Plate Cooler**

This scenario consists of the installation of a high-efficiency milk cooling system. The new milk cooling equipment will pre-cool the milk and reduce overall power requirements (kW) compared to the existing milk cooling system (where most of the cooling is typically accomplished in the bulk tank) as evidenced in an energy audit. A typical installation consists of an all stainless steel dual pass plate cooler **with 30 plates or more**. Scenario feature measure is per each plate cooler installed.

### **Plate Cooler - Small**

This scenario consists of the installation of a high-efficiency milk cooling system. The new milk cooling equipment will pre-cool the milk and reduce overall power requirements (kW) compared to the existing milk cooling system (where most of the cooling is typically accomplished in the bulk

tank) as evidenced in an energy audit. A typical installation consists of an all stainless steel dual pass plate cooler **with less than 30 plates**. Scenario feature measure is per each plate cooler installed.

### **Scroll Compressor**

This scenario consists of the replacement of a less efficient compressor with a scroll compressor. A comparably sized scroll compressor provides refrigeration capacity at a higher efficiency than a reciprocating compressor. Newer scroll compressor systems typically reduce electricity use by 15 to 25 percent compared to reciprocating compressors. Costs include the compressor and labor from a licensed electrician to install. Scenario feature measure is based on HP size of scroll compressor installed.

### **Variable Speed Drive 15 HP or less**

This scenario consists of installing a variable speed drive (VSD) and appurtenances, such as hook-ups, control panels, wiring, control blocks, filters, switches, pads, etc. to an electric motor used to drive a ventilation fan, vacuum pump, milk pump or similar equipment involved with agricultural production. A typical installation consists of a variable speed drive and labor from a licensed electrician to install and program the equipment. Scenario feature measure is based on the HP size of motor the variable speed drive is installed on.

### **Variable Speed Drive Over 15 HP**

This scenario consists of installing a variable speed drive (VSD) and appurtenances, such as hook-ups, control panels, wiring, control blocks, filters, switches, pads, etc. to an electric motor or series of motors with a total HP over 15 HP. The VSD is typically used to drive ventilation fans, irrigation pumps, or similar equipment involved with agricultural production. A typical installation consists of a variable speed drive and labor from a licensed electrician to install and program the equipment. Scenario feature measure is based on the HP size of motor(s) the variable speed drive is installed on.

### **Ventilation - Replacement of Conventional Exhaust Fan with High Efficiency Exhaust Fan**

This scenario consists of the replacement of a conventional or less energy efficient exhaust fan with a high efficiency exhaust fan on a one for one basis. A typical application for exhaust fans would be in a tunnel or cross ventilation system for a livestock building. The fans being installed should be models previously tested by BESS Lab or the Air Movement and Control Association. Scenario feature measure is per each fan installed.

### **Ventilation - Replacement of Horizontal Air Flow Fan with Efficient HAF Fan**

This scenario consists of the replacement of a conventional or less energy efficient horizontal air flow fan (HAF) with a more efficient HAF fan on a one for one basis. A typical system includes a series of fans that are installed to create a horizontal air circulation pattern to promote efficient heat and moisture distribution. The fans being installed should be models previously tested by BESS Lab or the Air Movement and Control Association. Costs include the new fan and labor from a licensed electrician to install. Scenario feature measure is per each fan installed.

## **Ventilation - Replacement of Less Efficient Circulation Fan with High Volume Low Speed Fan**

This scenario consists of the replacement of a conventional or less energy efficient circulation fan with a high volume, low speed, large diameter fan on a one for one basis. HVLS fans are typically used to provide highly efficient air circulation in large buildings such as livestock facilities. The fans being installed should be models previously tested by BESS Lab or the Air Movement and Control Association. Costs include the new fan and labor from a licensed electrician to install. Scenario feature measure is per each fan installed.

## **Washer – Extractor (Laundry)**

This scenario consists of replacing existing low efficiency laundry equipment with a new high efficiency washer-extractor on a one-to-one basis. A typical installation consists of a high efficiency washer-extractor at a dairy facility and labor to install the equipment. Scenario feature measure is per each water washer-extractor installed.

## **Water Heating - Compressor Heat Recovery**

This scenario consists of the addition of a compressor heat recovery unit to an existing refrigeration system in order to capture heat extracted from milk during the refrigeration process. This heat is used to preheat water, reducing the amount of additional energy that needs to be supplied by a hot water heater. A typical installation consists of a high efficiency compressor heat recovery unit and labor to install the equipment to an existing refrigeration system. Scenario feature measure is per each compressor heat recovery unit installed.

## **Water Heating - High Efficiency or Tankless Water Heater**

This scenario consists of replacing existing low efficiency hot water heaters with a new high efficiency water heater or a tankless water heater on a one-to-one basis. Tankless water heaters should be direct vented and fitted with a high temperature spin down filter. High efficiency or tankless hot water heaters can be fueled by natural gas or propane. A typical installation consists of a high efficiency water heater and labor to install the equipment. Scenario feature measure is per each water heater installed.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 382 – Fence

## Supplemental Criteria

1. Payment for **perimeter fence** is authorized ONLY:
  - a. On expired or expiring CRP (will expire 9/30/2018) to establish a grazing operation. The fence may not be installed until the CRP contract has expired.
  - b. On land to protect, restore or enhance riparian areas or wetlands where the current condition shows environmental damage caused by livestock.
  - c. On land where the fence is an integral part of a conservation management system to facilitate a change in production systems.
    - A perimeter fence may be used on cropland when the change in production system will result in the cropland being **planted annually** to forages or cover crops **AND grazed annually** in accordance with the prescribed grazing plan.
2. Payment is authorized for barbed wire, hi-tensile, single wire electric, and woven wire fences only when installed **in conjunction with a Prescribed Grazing plan**.
3. See **General Provision #16**.
4. Payment includes all appurtenances, including energizers on electric fences, gates, materials and labor.
5. Confinement fence is only authorized when required to downsize a feedlot to meet pollution abatement objectives.

## Scenarios

### **Chain Link**

A chain link barrier (fence) implemented on an NRCS constructed **aquaculture ponds**, according to engineering design, to exclude human access and exclude predators.

### **Electric, High Tensile**

Electric - Installation of fence will allow for implementation of a grazing management that allows for an adequate rest and recovery period, protection of sensitive area, improved water quality, reduction of noxious and invasive weeds. This scenario can be used for interior and exterior fencing.

### **Feed or Feeding Area Enclosure (Confinement)**

Installation of fence reduces resource concerns associated with livestock feeding operations and/or wildlife access to prevent conflicts between humans and livestock or wildlife species.

### **High Tensile Electric One Strand**

Electric - Installation of fence will allow for implementation of a grazing management that allows for an adequate rest and recovery period, protection of sensitive area, improved water

quality, reduction of noxious and invasive weeds. Single wire fence is primarily used for interior subdivision fences in grazing systems for beef and dairy cattle.

### **Multi Strand Barbed or Smooth Wire, Difficult terrain**

Barbed, Smooth or Woven Wire – Difficult Installation. Installation of fence in difficult situations will allow for implementation of grazing management that allows for an adequate rest and recovery period, protection of sensitive area, improved water quality, reduction of noxious and invasive weeds.

### **Multi Strand Barbed/Smooth Wire**

Multi-strand, Barbed or Smooth Wire - Installation of fence will allow for implementation of grazing management that allows for an adequate rest and recovery period, protection of sensitive area, improved water quality, reduction of noxious and invasive weeds.

### **Safety**

A barrier (fence) implemented on an NRCS constructed waste storage system according to engineering design to exclude human access. Permanently installed fence built to (1) keep humans away from waste ponds & lagoons from heavy livestock pressure. Heavy grade fence materials and close post spacing required. Unless approved by the NRCS engineer, all Safety Fences shall meet one of the NRCS Minnesota MN-ENG-610 standard drawings.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 386 – Field Border

## Supplemental Criteria

1. The (foregone income) scenarios can be contracted where the “*practice implementation typically results in significant net income loss due to a change in land use or land taken out of production*” [CPM 512.31 B. (8)] for the 10 year lifespan of this practice. (Example, annually cropped land being retired from production by seeding to a field border.)
2. Payment includes seedbed preparation, seed, seeding, soil amendments and weed control as appropriate.
3. If harvested, must be delayed until after August 1 nesting season.

## Scenarios

### **Field Border, Introduced Species, Forgone Income**

A strip of introduced species vegetation established at the edge or around the perimeter of a field.

### **Field Border, Native Species, Forgone Income**

A strip of native species vegetation established at the edge or around the perimeter of a field.

### **Field Border, Pollinator, Forgone Income**

A strip of pollinator friendly vegetation established at the edge or around the perimeter of a field. Pollinator friendly herbaceous species will be used for this scenario.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 393 – Filter Strip

## Supplemental Criteria

1. The (foregone income) scenarios can be contracted where the “*practice implementation typically results in significant net income loss due to a change in land use or land taken out of production*” [CPM 512.31 B. (8)] for the 10 year lifespan of this practice. (Example, annually cropped land being retired from production by seeding to a filter strip.)
2. The filter strip can be harvested once per year to promote stand density after the August 1 nesting season.
3. Filter strips used for the treatment of feedlot runoff are under practice standard Vegetated Treatment Area (635).
4. Payment includes seedbed preparation, seed, seeding, soil amendments and weed control as appropriate based on an approved seeding plan.

## Scenarios

### **Filter Strip, Introduced species, Forgone Income**

A strip or area of herbaceous vegetation (Introduced Species) situated between cropland, grazing land or disturbed land and sensitive areas.

### **Filter Strip, Native species, Forgone Income**

A strip or area of herbaceous vegetation (Native Species) situated between cropland, grazing land or disturbed land and sensitive areas.



# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 394 – Firebreak

## Supplemental Criteria

1. No special provisions

## Scenarios

### **Constructed, Medium Equipment, flat to medium slopes**

Use of medium equipment such as a brush hog or small tractors/dozers to mow, blade, disk, plow, etc. bare-soil firebreaks on slopes less than 15%. Generally, water control devices such as water bars are limited to 10 or less per 1,000 feet when properly planned and installed using the same equipment. Resource concerns include Wildfire hazards from excessive biomass accumulation, Undesirable plant productivity and health, inadequate plant structure and composition, and Habitat degradation.

### **Vegetated Permanent Firebreak**

Establishing a strip of permanent vegetation that will serve as a green firebreak. Scenario includes clearing the site, preparing the seedbed, seeding (typically cool season grasses and/or legumes), and applying needed soil amendments. Clearing will be achieved with the use of a bush hog or similar equipment. Seedbed preparation and vegetation establishment will be accomplished with farm equipment. Soil amendments will be applied according to local FOTG guidance. This scenario does not include follow-up maintenance operations such as weed control, mowing, etc.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 512 – Forage and Biomass Planting

## Supplemental Criteria

1. Payments are limited to land being converted from annual crop production to pasture or hayland, to improve existing pasture or for biomass plantings.
2. Payment includes seedbed preparation, seed, seeding, soil amendments and weed control as appropriate.
3. Payment is not authorized for planting hay in crop rotation.
4. Payment is not authorized for converting lands with greater than 10% woody vegetation into pasture or hayland.
5. Payment is not authorized for both Forage and Biomass Planting (512) and Conservation Crop Rotation (328) on the same acreage.
6. Consult General Provision 4 & 5 regarding soil testing and liming.

## Scenarios

### **Cool Season**

Establish or reseed adapted perennial introduced cool season grasses and legumes to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial introduced cool season grasses for pasture, hayland, and wildlife openings. This practice may be utilized for regular production. This scenario assumes fertilizer, seed, equipment and labor for seed bed prep, tillage, seeding, and spreading.

### **Interseed**

Establishment of legumes for the purpose of increasing plant diversity, soil quality and fertility, and plant health and enhancing the quality of forage. This scenario assumes fertilizer, seed, equipment and labor for no-till inter-seeding, spreading lime and nutrients.

### **Organic Cool Season**

Establish or reseed adapted perennial introduced organic cool season grasses and legumes to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial introduced cool season grasses for pasture, hayland, and wildlife openings. This practice may be utilized for organic or regular production. This scenario assumes fertilizer, seed, equipment and labor for seed bed prep, tillage, seeding, and spreading.

### **Warm Season, 2 or more species**

Establish or reseed with 2 or more adapted perennial native warm season grasses to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial native warm season grasses for pasture, hayland, and wildlife openings. This practice may be

utilized for organic or regular production. This scenario assumes fertilizer, seed, equipment and labor for seed bed prep, tillage, seeding, and spreading.

### **Warm Season, 2 or more species without lime and fertilizer**

Establish or reseed with two or more adapted perennial native warm season grasses to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial native warm season grasses for pasture, hayland, and wildlife openings. This practice may be utilized for organic or regular production. This scenario assumes fertility and pH are not needed. Seed, equipment and labor for seed bed prep, tillage, seeding, and spreading are included.

### **Warm Season, one species (for Biomass Plantings only)**

Establish or reseed adapted perennial native grasses to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of native grasses for pasture, hayland, and wildlife openings. This practice may be utilized for organic or regular production. This scenario assumes fertilizer, seed, equipment and labor for seed bed prep, tillage, seeding, and spreading.

### **Warm Season, one species without lime and fertilizer (for Biomass Planting only)**

Establish or reseed adapted perennial native grasses to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of native grasses for pasture, hayland, and wildlife openings. This practice may be utilized for organic or regular production. This scenario assumes fertility and pH are not needed. Seed, equipment and labor for seed bed prep, tillage, seeding, and spreading are included.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 511 – Forage Harvest Management

## Supplemental Criteria

1. Delayed Mowing for Ground Nesting Birds is available after young have fledged, **on or after August 1**, the field will be harvested for dry forages.
  - a. **No early spring harvest allowed.**
  - b. Acres of un-harvested hay land must have a **minimum width of 100'**.
  - c. The same area of un-harvested hay land can be used for a maximum of 3 consecutive years.
  - d. **100% of contracted acres must be delayed mowed.**

## Scenarios

### **Delayed Mowing for ground nesting birds, Forgone Income**

In perennial forage crops, the delaying the harvest of the first cutting to promote the reproduction of ground nesting birds. Delaying the harvest of the first cutting will benefit ground nesting birds. The delayed harvest results in a decrease in overall forage quality. The selected fields should be large enough to promote ground nesting birds. After young have fledged, the field will be harvested for dry forages.

### **Forage Crop Harvest Management**

Improved cultural practices and recordkeeping result in better forage quantity and quality for better livestock production performance.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 666 – Forest Stand Improvement

## Supplemental Criteria

1. All improvements will be accomplished according to a detailed plan.
2. Payment for release or thinning is **not authorized on stands less than 10 years old** that were established with USDA program payments. Exception would be for the Release for Planted Oak and Mixed Harwood Seedling Regeneration Scenario.
3. Tree/Shrub Site Preparation (490) will not be used to establish the seedlings when using the Release for Planted Oak and Mixed Harwood Seedling Regeneration scenario.
4. **NRCS will not provide technical assistance for marking.** Assistance must be provided by a professional forester.
5. **The provisions of the Farm Bill and regulation clearly state that EQIP financial assistance cannot be used to support operation or enterprise related activities such as costs associated with planting a crop or weed control.**
  - a. **If herbaceous species are present refer to Herbaceous Weed Treatment (315) for treatment methods.**
  - b. **Refer to Brush Management (314) when the intent is to control only woody weed species.**
6. Only one scenario can be contracted on the same acres for the lifespan of the practice.

## Scenarios

### **Competition Control, Mechanical, Heavy Equipment**

Using equipment such as a dozer, masticator or mulcher to control vegetation that is competing with desirable trees species or to reduce the stocking level of a stand of desirable trees. Oak savannah restoration is included. The trees to be retained will be marked or otherwise designated by a forester.

### **Competition Control, Mechanical, Light Equipment**

Using light equipment such as a tractor with brush hog or hand tools to control vegetation that is competing with desirable trees. For example releasing desirable trees from grass or aspen competition.

### **Marking Only, Even Aged Stand, Commercial Harvest**

The marking of a conifer plantation (row thinning) by a professional forester to improve the health, productivity and vigor of the stand, and improve wildlife habitat.

### **Marking Only, Uneven Aged Stand, Commercial Harvest**

The marking of a stand of hardwoods by a professional forester to improve the health, productivity and vigor of the stand, and to improve wildlife habitat.

### **Pre-commercial Thinning, Hand Tools**

The implementation of the practice involves adjusting the stocking of the young, non-merchantable forest stands. The operation is supervised by a consultant forester and is carried out using hand tools, such as chain saws.

### **Release for Planted Oak and Mixed Hardwood Seedling Regeneration**

A combination of mechanical hand and chemical treatments used to release 1-year old oak and mixed hardwood planted seedlings from unharvested overstory following a final harvest. The final harvest is not eligible for a program payment. 1 year old planted seedlings of oak and mixed hardwoods are suppressed by trees left after a final harvest and are being smothered by invigorated woody brush that has over taken the newly open site. The seedlings were planted without (490) site preparation in a mature forest that was then commercially harvested one year after planting.

### **Thinning for Wildlife and Forest Health**

A combination of mechanical hand and chemical treatments used to open the canopy of a stand to improve the wildlife habitat and tree health.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 655 – Forest Trails and Landings

## **Supplemental Criteria**

1. Use on existing logging or skid trails only where a treatable resource concern exists and has been documented.
2. This practice can be applied only if active forest management is also taking place.

## **Scenarios**

### **Grading and Shaping with Vegetative Establishment**

Rehabilitation of existing forest access trails and landings on a medium slope by addressing rutting, erosion, and sedimentation. Typically the trails are a single, existing interior trail and/or a landing on sloping terrain requiring sustained erosion control measures applied with heavy equipment such as dozers, graders, backhoes, and/or excavators. This scenario includes seedbed preparation, seeding to perennial grasses/forbs. Other practices such as Stream Crossing (578), and Critical Area Planting (342), Access Road (560) and Structure for Water Control (587) can be adjacent/appurtenant but not part of the practice scenario. Treatments are for long-term reduction of erosion and sedimentation, creating fire management access and to move trails off unstable slopes.

# Environmental Quality Incentives Program

## 2019 - Minnesota Supplement for: Practice Standard 410 – Grade Stabilization Structure

### Supplemental Criteria

1. Embankment Dam Rehabilitation practice is to be used when an existing embankment structure is reconstructed to restore the original function.
2. Underground Outlet (620) may be used as an associated practice only to extend the principal spillway pipe past the typical outlet.

### Scenarios

#### **Aluminum, Steel or concrete toe wall**

A Straight, semicircular, or Box Drop structure composed of metal or reinforced concrete. Typical scenario is an aluminum toe wall structure.

#### **Concrete Block or Rock Chute**

A chute structure constructed of a rock riprap, precast concrete block or cable concrete. The design of concrete block chutes shall meet the requirements of NRCS NEH634 Technical Supplement 14L, *Use of Articulating Concrete Block Revetment Systems for Stream Restoration and Stabilization Projects*. The design of rock chutes shall follow the principles in ASAE Paper 02008, *An Excel Program to Design Rock Chutes for Grade Stabilization*. Scenario feature measure is the chute channel area including inlet and outlet sections.

#### **Culvert Outlet Protection MN TR3**

A rock outlet structure constructed using riprap below a culvert outlet designed according to MN TR3.

#### **Drop Inlet to Culvert**

A Box Drop structure composed of reinforced concrete used to stabilize the grade just upstream of a culvert.

#### **Embankment Dam - Drainage Area 0 to 5 Acres**

An earthen embankment dam with a drainage area of less than 5 acres. Scenario assumes a small, non-lined plunge pool at the pipe outlet.

#### **Embankment Dam - Drainage Area 5.1 to 10 Acres**

An earthen embankment dam with a drainage area of 5.1 to 10 acres. Scenario assumes a small, non-lined plunge pool at the pipe outlet.

#### **Embankment Dam - Drainage Area 10.1 to 20 Acres**

An earthen embankment dam with a drainage area of 10.1 to 20 acres. Scenario assumes a small, non-lined plunge pool at the pipe outlet.

#### **Embankment Dam - Drainage Area 20.1 to 40 Acres**

An earthen embankment dam with a drainage area of 20.1 to 40 acres. Scenario assumes a small, non-lined plunge pool at the pipe outlet.



### **Embankment Dam - Drainage Area 40.1 to 70 Acres**

An earthen embankment dam with a drainage area of 40.1 to 70 acres. Scenario assumes a small, non-lined plunge pool at the pipe outlet.

### **Embankment Dam - Drainage Area 70.1 to 100 Acres**

An earthen embankment dam with a drainage area of 70.1 to 100 acres. Scenario assumes a small, non-lined plunge pool at the pipe outlet.

### **Embankment Dam - Drainage Area 100.1 to 200 Acres**

An earthen embankment dam with a drainage area of 100.1 to 200 acres. Scenario assumes a small, non-lined plunge pool at the pipe outlet.

### **Embankment Dam - Drainage Area Greater than 200 Acres**

An earthen embankment dam with a drainage area > 200 acre. Scenario assumes a small, non-lined plunge pool at the pipe outlet.

### **Embankment Dam Rehab - Drainage Area 0 to 20 Acres**

A previously built earthen embankment dam with a drainage area of less than 20 acres. Previously installed structure has had pipe or embankment failure and is in need of pipe replacement. Scenario assumes a small, non-lined plunge pool at the pipe outlet.

### **Embankment Dam Rehab - Drainage Area 20.1 to 70 Acres**

A previously built earthen embankment dam with a drainage area of 20.1 to 70 acres. Previously installed structure has had pipe or embankment failure and is in need of pipe replacement. Scenario assumes a small, non-lined plunge pool at the pipe outlet.

### **Embankment Dam Rehab - Drainage Area 70.1 to 200 Acre**

A previously built earthen embankment dam with a drainage area of 70.1 to 200 acres. Previously installed structure has had pipe or embankment failure and is in need of pipe replacement. Scenario assumes a small, non-lined plunge pool at the pipe outlet.

### **Embankment Dam Rehab - Drainage Area greater than 200 Acres**

A previously built earthen embankment dam with a drainage area of more than 200 acres. Previously installed structure has had pipe or embankment failure and is in need of pipe replacement. Scenario assumes a small, non-lined plunge pool at the pipe outlet.

### **Fabric Reinforced Vegetated Chute**

A chute structure constructed of a fabric reinforced vegetated channel. Scenario feature measure is the chute channel area including inlet and outlet sections.

### **Plunge pool, Design Note 6**

A rock outlet structure constructed using riprap below a culvert outlet designed according to Design note 6.

### **Side Inlet Structure**

An open-weir or pipe structure used to lower surface water from field elevations or lateral channels into deeper open channels.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 412 – Grassed Waterway

## **Supplemental Criteria**

1. Payment is for earthwork, seeding and fabric or stone checks. Mulching or Turf Reinforcement if required are included as separate components.
2. Fabric checks must meet the criteria found in the Grassed Waterway standard.

## **Scenarios**

### **Grassed Waterway with checks less than 200 ac drainage area**

Costs include excavation and associated work to construct the overall shape and grade of the waterway, remove and respread 6 inches of topsoil, and install checks.

### **Grassed Waterway with checks between 200 and 600 ac drainage area**

Costs include excavation and associated work to construct the overall shape and grade of the waterway, remove and respread 6 inches of topsoil, and install checks.

### **Grassed Waterway with checks greater than 600 ac drainage area**

Costs include excavation and associated work to construct the overall shape and grade of the waterway, remove and respread 6 inches of topsoil, and install checks.

### **Waterway DA less than 200 acres**

Costs include excavation and associated work to construct the overall shape and grade of the waterway and to remove and respread 6 inches of topsoil.

### **Waterway DA between 200 and 600 acres**

Costs include excavation and associated work to construct the overall shape and grade of the waterway and to remove and respread 6 inches of topsoil. .

### **Waterway DA greater than 600 acre**

Costs include excavation and associated work to construct the overall shape and grade of the waterway and to remove and respread 6 inches of topsoil. .

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 561 – Heavy Use Area Protection

## Supplemental Criteria

1. This practice does not include surfacing for Stream Crossings (578) or Trails and Walkways (575).

## Scenarios

### **Asphalt Pavement**

An asphalt (bituminous) surfacing on a gravel base over sand and gravel. Feature measure is the area of bituminous pavement.

### **Concrete Flatwork, 5 inches thick, Small (less than 500 ft<sup>2</sup>)**

Concrete surfacing of sensitive area over sand and gravel. Feature measure is the area of concrete surface.

### **Concrete Flatwork, 5 inches thick, 1 foot tall R/C Wall**

Concrete flatwork (plain or reinforced) w/1' reinforced concrete wall over sand and gravel. Feature measure is the footprint of the concrete area.

### **Concrete Flatwork, 5 inches thick, 2 foot tall R/C Wall**

Concrete flatwork (plain or reinforced) w/2' reinforced concrete wall over sand and gravel. Feature measure is the footprint of the concrete area.

### **Concrete Flatwork, 5 inches thick, no wall (greater than 500 ft<sup>2</sup>)**

Concrete surfacing of sensitive area over sand and gravel. Feature measure is the area of concrete surface.

### **Geogrid**

This scenario consists of a newly constructed gravel heavy use area protection with a compacted surface over geogrid over non-woven geotextile in poorly drained areas. Typical installation includes site preparation with shaping of the site with a small dozer with on-site disposal of material. Soil Erosion and Water Quality Degradation resource concerns area addressed. Costs include earthfill, excavation, shaping, grading, geotextile, geogrid, surface material and all equipment, labor and incidental materials necessary to install the practice.

### **Lake Access (boat ramps)**

**(Tribal Only)** This scenario consists of the stabilization of entry points to bodies of water that are frequently and intensively used by people or vehicles by surfacing with stone and precast concrete to provide a stable, non-eroding surface. Soil Erosion and Water Quality Degradation resource concerns are addressed.

**Liquid Tight Reinforced Concrete Flatwork**

Reinforced concrete flatwork with water stops, over sand and gravel. Feature measure is the footprint of the concrete area.

**Rock/Gravel on Geotextile, (greater than 500 ft<sup>2</sup>)**

Rock/gravel surfacing on a soft foundation. Feature measure is the area of rock and or gravel.

**Rock/Gravel on Geotextile, Small (less than 500 ft<sup>2</sup>)**

Rock/gravel surfacing on a soft foundation. Feature measure is the area of rock and or gravel.

**Rock/Gravel Surfacing Without Geotextile (Includes Hoof Contact Gravel & Rock)**

Rock/gravel surfacing on a firm foundation. Feature measure is the area of rock and or gravel.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 315 – Herbaceous Weed Treatment

## Supplemental Criteria

- 1) The provisions of the Farm Bill and regulation clearly state that EQIP financial assistance cannot be used to support operation or enterprise related activities such as costs associated with planting a crop or weed control.
- 2) Payment is authorized on **NON-CROPLAND UPLAND**.
  - a) A **one-time payment** is limited to those acres on which a specific plant management action has been implemented. Eligible lands include private agricultural lands that are not cropland and non-industrial private forestland (excluding rights of way).
  - b) Land enrolled under an easement for permanent cover is not eligible for this practice.
  - c) A detailed plan will be developed and implemented to receive the payment. The plan will specify the actions that must be completed each year to earn that year's payment.

## Scenarios

### **Chemical, Spot** (includes all chemical control—Ground, Spot, Aerial)

Land unit on which weed control would be beneficial in order to set back the plant community succession, improve the ecological condition, and improve forage conditions for domestic livestock or wildlife. The practice entails the eradication of vegetation by use of weed treatment, either initial or retreatment using hand-carried equipment (such as a backpack and hand-sprayer) to apply chemicals, in order to eliminate noxious weeds, promote forage productivity, and improve ecological condition.

### **Control of Aquatic Invasive, Hand Pulling**

**(Tribal Only)** Removal of aquatic species infestations in aquatic and wetland environments. The practice entails the hand removal of herbaceous weeds. The purpose of the practice is to improve ecological site condition, in particular to make conditions more favorable to the re-establishment of Wild Rice. Weeds have exceeded desired levels based on ecological site potential.

### **Control of Aquatic Invasive, Mechanical**

**(Tribal Only)** Removal of aquatic species infestations in aquatic and wetland environments. The practice entails the removal of herbaceous weeds by a boat mounted machine that cuts and removes the material. The purpose of the practice is to improve ecological site condition, in particular to make conditions more favorable to the re-establishment of Wild Rice. Weeds have exceeded desired levels based on ecological site potential.

**Mechanical** (all mechanical control including hand pulling)

Removal of herbaceous weeds of light infestations on gentle sloping to moderately deep to deep soils. The practice entails the removal of herbaceous weeds by the use of mower, brush hog, disc or other light equipment in order to reduce fuel loading and improve ecological site condition. Weeds have exceeded desired levels based on ecological site potential.

**Mechanical and chemical** (includes hand pulling)

Removal of herbaceous weeds of light infestations on gentle sloping to moderately deep to deep soils. The practice entails the removal of herbaceous weeds by the use of mower, brush hog, disc or other light equipment in order to reduce fuel loading and improve ecological site condition, then applying herbicide to control re-growth of target weeds. Weeds have exceeded desired levels based on ecological site potential.

**Split method and Event series**

The practice entails the control of herbaceous vegetation by treating it up to three times during the treatment period in order to improve ecological site condition. The herbs can be treated with the same method or by a combination of methods. **Vegetation needs to be treated at least twice (in one year)** in order to fully control it. Generally, herbicide volumes are reduced as the last treatment will kill resprouting stems or those which survived the first treatment or newly sprouted seedlings. Density has exceeded desired levels based on ecological site potential.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 325 – High Tunnel System

## Supplemental Criteria

1. **There is a maximum payment cap of \$10,000 for this practice.** Consult General Provision 14 for additional details.
2. To be eligible for payment, the entire structure must be constructed including the installation of the plastic covering. Planning considerations should be made to avoid construction late (or after) the growing season.
3. The practice must be sited on cropland.
4. Crops grown within the tunnel must be planted directly into the natural soil profile – raised beds of natural soil can be used but the use of tables, benches, growing racks, portable pots or hydroponics is not eligible.
5. Electrical, heating and/or mechanical ventilation systems are allowed, but are not part of the least cost alternative and must be installed at the expense of the participant. Likewise, any additional structural costs required to support such systems are not included in the payment rate.
6. Participants must purchase, plan, design, and construct the tunnel structure in accordance with the commercial manufacturer’s recommendations.
7. As a minimum, the structure must make use of 6-mil greenhouse-grade UV resistant polyethylene cover.
8. These are intended to be “seasonal” structures which are not designed to sustain a snow load. The participant will be responsible to decide if the plastic will be removed at the end of the growing season.
9. **High tunnels must be maintained for a minimum of five years. Participants are responsible to repair and/or replace any materials damaged by wind, snow and other weather conditions for the entire five year period.**

## Scenarios

### **Contiguous US Snow**

A manufactured frame covered with 4-year 6-mil plastic. Structure must be installed to manufacturer's specifications.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 595 – Integrated Pest Management

## Supplemental Criteria

1. **A baseline (inventory) pest management plan (meeting current CAP 114 criteria) must be completed by someone with appropriate Job Approval Authority (JAA) or TSP certification prior to eligibility for the 595 pest management practice.**

*The 1st option* for the producer is that they would complete a baseline pest management plan, *without EQIP financial assistance*, prior to the eligibility for the 595 pest management practice.

*A 2nd option* for the producer is to have a **TSP** complete a **CAP 114 Pest Management Plan**, in a separate EQIP contract, prior to eligibility for the 595 pest management practice.
2. Integrated Pest Management on **CROPLAND** is authorized not to exceed 3 payments.
3. If this practice addresses a higher-level of quality (or environmental benefit) and is *technically* documented in a NRCS approved pest plan, it may be implemented again on the same land unit.
4. To receive the payment, Integrated Pest Management must be fully implemented on all acres scheduled for payment. Consult [Program Requirements](#) located under MN NRCS website, Technical Resources, Pest Management, Standard and Policies, Program Requirements. Review these requirements with applicants interested in Integrated Pest Management (595).
5. NRCS will not provide technical assistance for Integrated Pest Management (595).
6. Integrated Pest Management (IPM) for Orchards. Orchards are defined as apples including other pome and/or stone fruit. See [Program Requirements for Orchards](#) located under MN NRCS website, Technical Resources, Pest Management, Standard and Policies, Program Requirements. Review these requirements with applicants interested in Integrated Pest Management (595) for Orchard.
7. **Basic IPM for Orchards** includes development and implementation of annual 595 Integrated Pest Management Plans; scouting and monitoring; use of economic thresholds; equipment calibration and recordkeeping.
8. **Advanced IPM for Orchards** includes all Basic requirements plus use of pheromone disruptors, inoculum reduction practices and other biologically based or cultural pest controls. Use pesticides having a low or very low human hazard rating as determined by the NRCS Windows Pesticide Screening Tool (WIN-PST). Or install mitigation practices for pesticides having intermediate or higher site specific risks as identified by WIN-PST.
9. **IPM for Orchards** requires the use of a consultant that is trained and experienced in Orchard Pest Management. Additionally, the consultant must be certified by one of the following: Certified Crop Advisor (CCA) in Minnesota or surrounding states; Certified Professional Agronomist (CPAg); National Association of Independent Crop Consultants (NAICC); or NRCS Technical Service Provider certified in Pest Management (595)
10. Consult [MN Agronomy Technical Note No 5](#) for applying NRCS Practice Standard 595 and other NRCS conservation practices to prevent and/or mitigate pest management risks to natural resources.



## **Scenarios**

### **Advanced IPM Orchard, All RCs**

A comprehensive IPM plan with LGU-approved pest prevention, avoidance and monitoring techniques and pest thresholds (where available) is applied in Large Scale Orchard/Specialty Crops to address all identified resource concerns with either risk prevention (e.g. planned pesticides have low, very low, or no risk to identified resource concerns) or risk mitigation (e.g. planned pesticides have appropriate mitigation planned from MN Agronomy Technical Note No. 5 for “Intermediate”, “High” or “Extra High” WIN-PST Final Hazard Ratings).

### **Basic IPM Field Crops, 1 RC**

#### **Basic IPM Field Crops, greater than 1 RC**

A basic IPM plan with LGU-approved pest monitoring techniques and pest thresholds (where available) is applied in Large Scale Field/Forage Crops to address multiple identified resource concerns (e.g. Water Quality Degradation—Pesticides in Surface Water and Degraded Plant Condition—Excessive Plant Pest Pressure) with either risk prevention (e.g. planned pesticides have low, very low, or no risks to the identified resource concerns) or risk mitigation (e.g. planned pesticides have appropriate mitigation planned from MN Agronomy Technical Note No. 5 for “Intermediate”, “High” or “Extra High” WIN-PST Final Hazard Ratings).

### **Basic IPM Fruit/Veg, 1 RC**

#### **Basic IPM Fruit/Veg, greater than 1 RC**

A basic IPM plan with LGU-approved pest monitoring techniques and pest thresholds (where available) is applied in Large Scale Small Fruit/Vegetable Crops to address multiple identified resource concerns (e.g. Water Quality Degradation—Pesticides in Surface Water and Degraded Plant Condition—Excessive Plant Pest Pressure) with either risk prevention (e.g. planned pesticides have low, very low, or no risk to identified resource concerns) or risk mitigation (e.g. planned pesticides have appropriate mitigation planned from MN Agronomy Technical Note No. 5 for “Intermediate”, “High” or “Extra High” WIN-PST Final Hazard Ratings).

### **Basic IPM Orchard, 1 RC**

#### **Basic IPM Orchard, greater than 1 RC**

A basic IPM plan with LGU-approved pest monitoring techniques and pest thresholds (where available) is applied in Large Scale Orchard/Specialty Crops to address multiple identified resource concerns (e.g. Water Quality Degradation—Pesticides in Surface Water and Degraded Plant Condition—Excessive Plant Pest Pressure) with either risk prevention (e.g. planned pesticides have low, very low, or no risks to identified resource concerns) or risk mitigation (e.g. planned pesticides have appropriate mitigation planned from MN Agronomy Technical Note No. 5 for “Intermediate”, “High” or “Extra High” WIN-PST Final Hazard Ratings).

### **IPM Small Farms, 1 RC**

#### **IPM Small Farms, greater than 1 RC**

A basic IPM plan with LGU-approved pest monitoring techniques and pest thresholds (where available) is applied in Small Farm/Diversified Systems (e.g. CSA, organic, etc.) to address one identified resource concern (e.g. Water Quality - Impacts to Human Drinking Water) with either risk prevention (e.g. planned pesticides have no risk to the identified resource concern) or risk mitigation (e.g. planned pesticides have appropriate mitigation planned from Agronomy Technical Note 5 for “Intermediate”, “High” or “Extra High” WIN-PST Final Hazard Ratings). This scenario attempts to capture the higher cost/acre of planning and implementing IPM techniques on smaller acreages with very diverse cropping systems.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 430 – Irrigation Pipeline

## Supplemental Criteria

1. No special provisions

## Scenarios

### **Deep Buried HDPE or PVC Pipe, 5 to 6 feet deep, to service microirrigation system**

Buried installation of HDPE or PVC pipeline, 5 to 6 feet deep (below deep frost line). HDPE (IPS & Tubing) is manufactured in sizes (nominal diameter) from ½-inch to 24-inch; typical practice sizes range from 1-inch to 2-inch; and typical scenario size is 1.25-inch. Construct 200 feet of 1.25 inch, (SDR- 11.0, PE4708), HDPE Pipeline with appurtenances, installed 5 to 6 feet below the ground surface to prevent the pipeline from freezing. The scenario unit is weight of pipe. 1.25-inch, 160 psi (SDR-11.0, PE4708), HDPE pipe weighs 0.305 lb/ft. Appurtenances include: fittings, air vents, pressure relief valves, anchors, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 15% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements.

### **HDPE (Iron Pipe Size & Tubing), Diameter 10 inches and greater, Underground installation**

HDPE pipeline with appurtenances, installed below ground with a minimum 2 feet of ground cover. Appurtenances may include: fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material. Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements.

### **HDPE (Iron Pipe Size & Tubing), Diameter 8 inches and less, Underground installation**

HDPE pipeline with appurtenances, installed below ground with a minimum 2 feet of ground cover. Appurtenances may include: fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material. Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements.

### **PVC (Iron Pipe Size (IPS) or Plastic Irrigation Pipe (PIP)), Diameter 8 inches and less, Underground installation**

PVC pipeline with appurtenances, installed below ground with a minimum of 2 feet of ground cover. The typical scenario includes Class 125 (SDR 32.5) PVC pipe. Appurtenances may include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material. Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 441 – Irrigation System, Micro irrigation

## Supplemental Criteria

1. Land to be irrigated must have an irrigation history for at least two of the last five years.
2. Payment is authorized only when Irrigation Water Management (449) is included in the contract.

## Scenarios

### **Subsurface Drip Irrigation (SDI)**

A subsurface drip irrigation system (SDI) with a lateral spacing between 37-59 inches. This buried drip irrigation system utilizes a thinwall dripperline or tape with inline emitters at a uniform spacing for the system laterals. The dripperline or tape is normally installed by being plowed in approx 10-14 inches deep with a chisel shank type plow equipped with tape reels. This type of drip irrigation system utilizes a buried supply manifold with automated zone control valves and a buried flush manifold with manual flush valves. This permanent micro-irrigation system includes an automated filter station, flow meter, backflow prevention device, automated control box or timer, the thinwall dripperline or tape for laterals, both a supply and a flushing manifold and numerous types of water control valves. This is an all-inclusive system starting with the filter station including all required system components out to the flush valves. The water supply line from the water source to the filter station is an irrigation pipeline (430) and is not included as part of this system

### **Surface Drip Irrigation, Hoop House**

Drip irrigation system for a seasonal high tunnel to replace a less efficient irrigation system such as a garden-hose based sprinkler irrigation system. Scenario feature measure is area irrigated.

### **Surface Tape**

A micro-irrigation system using drip tape or similar type micro-irrigation material placed on the soil surface for vegetables or field crops. This system typically includes a filter system, PE manifolds fittings, drip tape, etc. Does not include Pump, power source, or water source. Surface placed drip tape will not meet the (441) practice life and will normally need replacement every year. After first installation drip tape will be replaced as operation and maintenance issue as required for proper operation of the system. Scenario feature measure is area irrigated.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 449 – Irrigation Water Management

## Supplemental Criteria

1. A payment is authorized on eligible acres, not to exceed 3 payments. Consult “**Irrigation Water Management Requirements for EQIP Contracts**” (EQIP **Schedule Attachment D**) for additional requirements and review these requirements with applicants interested in irrigation water management.
2. Acres must have been irrigated for at least 2 of the past 5 years.
3. Phased-in implementation will result in all scheduled acres receiving full implementation of the practice by the end of the contract period.

## Scenarios

### **Advanced IWM, greater than 30 acres**

A high intensity irrigation water management system for producers using a checkbook method with advanced methods of determining irrigation water applied, and estimating crop evapotranspiration, monitoring field soil moisture, or monitoring crop temperature stress. Typical methods include flow measurement, daily record keeping, and use of real-time evapotranspiration estimates (such as those provided dedicated weather stations) and/or soil moisture sensors with automated data logging to monitor field soil moisture content and/or crop temperature. For this scenario, soil moisture is determined by automated soil moisture monitoring stations equipped with telemetry data. Irrigation amounts are recorded from a flow meter near the pump. Telemetry data is automatically sent to a computer with irrigation software. Irrigator also receives real time data via mobile phone applications. Some data such as total water applied may be entered into computer software manually. Scenario feature measure is irrigated area managed.

### **Advanced IWM, less than or equal to 30 acres**

A high intensity irrigation water management system for producers using a checkbook method with advanced methods of determining irrigation water applied, and estimating crop evapotranspiration, monitoring field soil moisture, or monitoring crop temperature stress. Typical methods include flow measurement, daily record keeping, and use of real-time evapotranspiration estimates (such as those provided dedicated weather stations) and/or soil moisture sensors with automated data logging to monitor field soil moisture content and/or crop temperature. For this scenario, soil moisture is determined by automated soil moisture monitoring stations equipped with telemetry data. Irrigation amounts are recorded from control settings and system runtime. Telemetry data is automatically sent to a computer with irrigation software. Irrigator also receives real time data via mobile phone applications. Some data such as total water applied may be entered into computer software manually. Scenario feature measure is irrigated area managed.

### **Basic IWM, greater than 30 acres**

A low intensity irrigation water management system for producers using a checkbook method (crop grown, soil moisture conditions prior to irrigation, dates of irrigation start and stop, depths of irrigation applied, duration of irrigations, and amount of rainfall). For a typical scenario, soil moisture is determined by the feel method, depth of irrigation based on rain gauge data or irrigation system runtime information, records are kept on paper copies, and calculations are made by hand. Scenario feature measure is irrigated area managed.

### **Basic IWM, less than or equal to 30 acres**

A low intensity irrigation water management system for producers using a checkbook method (crop grown, soil moisture conditions prior to irrigation, dates of irrigation start and stop, depths of irrigation applied, duration of irrigations, and amount of rainfall). For a typical scenario, soil moisture is determined by the feel method, irrigation depths are based on rain gauge data, records are kept on paper copies, and calculations are made by hand. Scenario feature measure is irrigated area managed.

### **Intermediate IWM, greater than 30 acres**

A medium intensity irrigation water management system for producers using a checkbook method (crop grown, soil moisture conditions prior to irrigation, dates of irrigation start and stop, depths of irrigation applied, duration of irrigations, and amount of rainfall). For a typical scenario, soil moisture is determined by in-field moisture sensors with manual downloads. Irrigation depths are recorded from a rain gauge or pumping records. Records are input manually into an irrigation scheduling computer program. Scenario feature measure is irrigated area managed.

### **Intermediate IWM, less than or equal to 30 acres**

A medium intensity irrigation water management system for producers using a checkbook method (crop grown, soil moisture conditions prior to irrigation, dates of irrigation start and stop, depths of irrigation applied, duration of irrigations, and amount of rainfall). For a typical scenario, soil moisture is determined by in-field moisture sensors with manual downloads. Irrigation depths are recorded from a rain gauge or pumping records. Records are input manually into an irrigation scheduling computer program. Scenario feature measure is irrigated area managed.

### **IWM for seasonal high tunnels or small scale specialty crops**

Implementation of an irrigation water management plan for seasonal high tunnels or specialty crops. The operation consists of either a seasonal high tunnel with microirrigation or an outdoor specialty crop field with a surface drip irrigation system. Producers typically use a checkbook method (crop grown, soil moisture conditions prior to irrigation, dates of irrigation start and stop, depths of irrigation applied, duration of irrigations, and amount of rainfall).

### **Soil Moisture Sensors with Data Recorder with Telemetry YR1**

This practice includes the installation of electrical soil moisture sensors such as capacitance or resistance sensors that are monitored to determine soil moisture. The installation includes the purchase of soil moisture sensors, installation equipment (probe or auger), and a data logger with telemetry to log and transmit continuous soil moisture data that can be accessed with a personal computer and associated graphing software. Scenario also includes labor associated with using soil moisture sensors and loggers during the first year. Typical Scenario involves installation of

resistance sensor blocks in a 120 acre field of sprinkler irrigated cropland. Producer periodically monitors soil moisture sensors during the growing season.

### **Soil Moisture Sensors with Data Recorder\_YR1**

This practice is a supporting practice for first year advanced IWM contracts. It is not a stand-alone practice. This practice includes the installation of electrical soil moisture sensors such as capacitance or resistance sensors that are monitored to determine soil moisture. The installation includes the purchase of soil moisture sensors, installation equipment (probe or auger), and a data logger to log continuous soil moisture data that can be downloaded to a personal computer and associated graphing software. Scenario also includes labor associated with using soil moisture sensors and loggers during the first year. Typical scenario involves installation of resistance sensor blocks in a 120 acre field of sprinkler irrigated cropland. Producer periodically monitors soil moisture sensors during the growing season. **The payment unit is based on the number of measuring sites.**

### **Soil Moisture Sensors\_YR1**

This practice is a supporting practice for first year intermediate or advanced IWM contracts. It is not a stand-alone practice. This practice includes the installation of soil moisture sensors such as tensiometers, gyp blocks, capacitance sensors etc, that are installed and read to determine point in time soil moisture by depth. Scenario also includes labor associated with using soil moisture meters during the first year. The installation includes the purchase of soil moisture meters and sensors, installation equipment, and labor to install and read sensors or meter. Typical Scenario involves installation of resistance sensor blocks in a 80 acre field of irrigated cropland. Producer periodically monitors soil moisture sensors during the growing season. Meters used to read sensors may be portable. **The payment unit is based on the number of measuring sites.**

## **ATTACHMENT D - IRRIGATION WATER MANAGEMENT REQUIREMENTS FOR EQIP CONTRACTS**

- **Participants with EQIP contracts containing irrigation water management must fully implement items 1-9 the last year of the contract.**
- Implementation can be phased in over 2 years for multi-year contracts. The participant shall effectively manage the available irrigation water supply to:
  - Provide soil moisture conditions for the desired crop response
  - Minimize soil erosion, loss of plant nutrients and undesirable water loss
  - Protect water quality.
- Certify that planned irrigation water management operations have been completed to receive payment.

### **1st year of scheduled irrigation water management**

1. Perform a uniformity check on irrigation pivots under contract to determine water application efficiency.
2. Install 2 rain gauges for each irrigated field (one under the pivot and one outside the influence of the pivot).
3. Determine available water holding capacity and infiltration rate of the planning soil type(s) in field(s) to be irrigated.
4. Review and select an irrigation scheduling method to document irrigation water needs. Scheduling methods could include Irrigation Check-Book, WISDOM or SCS Scheduler 3.0 computer programs, and other scheduling techniques.
5. Apply irrigation water so as not to cause excessive runoff or soil erosion.

### **Subsequent years of scheduled irrigation water management**

Follow Provision 5 from above.

6. Correct significant application uniformity concerns.
7. During the growing season keep field specific daily records of rainfall and the quantity of irrigation water being applied (use flow meters or an alternative method).
8. Record and monitor crop growth and development, and daily evapotranspiration and crop water use.
9. Determine irrigation timing and application rates using the chosen irrigation scheduling system and information gathered above. Application timing and rates:
  - a. Will not exceed the ability of the soil to store water in the root zone
  - b. Will meet the moisture requirements for the crop for optimum production.
10. Decisions on rates and timing will be based on the scheduling system at least 90% of the time.

March 2004

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 527 – Karst Sinkhole Treatment

## Supplemental Criteria

1. No special provisions.

## Scenarios

### **Complex site, high failure consequence**

This scenario consists of treating a complex site which can have the potential to impact high value structures such as waste storage facilities or large (PL566) dams with severe failure consequences. The site could consist of multiple openings to fractured bedrock. The bottom dimension of the excavated area being treated are typically 60 feet in diameter with a 20 foot depth.

### **Minor site complexity, low failure consequence**

This scenario consists of treating site with minor complexity which is typically located in upland areas and does not experience concentrated flow entering the sinkhole. Failure of the treatment would have minor detrimental effects. The bottom dimension of the excavated area being treated are typically 35 feet in diameter with an 8 foot depth.

### **Moderate site complexity, (significant failure consequence)**

This scenario consists of treating a moderately complex site which involves at least a moderate drainage area (e.g. located in a waterway or pool area of an impoundment structure). Failure of the treatment would have significant detrimental effects. The bottom dimension of the excavated area being treated are typically 45 feet in diameter with a 15 foot depth.



# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 466 – Land Smoothing

## **Supplemental Criteria**

1. Limited to controlled drainage or tile water treatment systems.

## **Scenarios**

### **Minor Shaping**

Removing irregularities on the land surface of cropland by use of heavy equipment.

# Environmental Quality Incentives Program

## 2019 - Minnesota Supplement for: Practice Standard 670 – Lighting System Improvement

### Supplemental Criteria

1. A CAP 128 Agricultural Energy Management Plan, or an energy audit meeting the requirements of an ASABE S612 Type 2 audit is required **prior to eligibility** for the Lighting System Improvement practice.
2. Plans and specifications shall be provided by the participant prior to contracting for EQIP funding for this practice. NRCS shall not be tasked with or responsible for completing designs related to this conservation practice standard.
3. Contact the **Area Engineer** before planning and contracting Lighting System Improvement.
4. Receipts, records and pictures provided by professional installers and the applicant will be used as a part of the practice certification process. **State Engineer** approval must be obtained prior to payment.
5. Appropriate disposal of existing lamps, ballasts and other materials is required.

### Scenarios

#### **Dairy Free Stall Barn, High Bay Lighting, Fixtures Replacement**

To install high bay lighting system to replace existing less efficient lighting fixtures. Associated materials for installation of replacement fixtures are included. Appropriate disposal of existing lamps, ballasts and other materials is required. The area proposed to be illuminated is the unit of measure for payment.

#### **Lighting - Replace Existing Lighting Fixture with Flood Lighting**

To install high intensity flood lighting system to replace existing less efficient lighting fixtures. Associated materials for installation of replacement fixtures are included.

#### **Lighting - Replace Existing Lighting Fixture with General or Low Bay Lighting**

To install more energy efficient general or low bay lighting fixtures to replace existing less efficient lighting fixtures used to provide ambient lighting levels in indoor work areas. General or low bay lighting is typically used when ceilings are 20 feet or less in height and utilize a diffuser that is mounted to the bottom of the fixture that serves to spread light over a large area. Some examples of general or low bay lighting fixtures include wall mounted LED wall pack fixtures or low intensity flood or ceiling mounted fixtures. Associated materials for installation of replacement fixtures are included.

#### **Poultry House Lighting**

To install dimmable LEDs to replace less efficient lighting fixtures. Associated materials for installation of replacement fixtures are included. In high humidity environments or areas subject to wash down, gasketed or weatherproof housings are required to prevent corrosion and premature failure. Appropriate disposal of existing lamps, ballasts and other materials is required. The area proposed to be illuminated is the unit of measure for payment.

## **Swine Facility Lighting**

To install dimmable LEDs to replace less efficient lighting fixtures. Associated materials for installation of replacement fixtures are included. The areas where more efficient lighting is being installed include a mixture of gestation, nursery, farrowing and finishing facilities. Typical fixtures are 25 watt LED dimmable, grow-out bulb; industrial grade; suitably protected from dirt accumulation. In high humidity environments or areas subject to wash down, gasketed or weather proof housings are required to prevent corrosion and premature failure. Appropriate disposal of existing lamps, ballasts and other materials is required. The area proposed to be illuminated is the unit of measure for payment.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 468 – Lined Waterway or Outlet

## Supplemental Criteria

1. Payment is for excavation and lining of the lined waterway.

## Scenarios

### **Concrete**

A shaped waterway lined with concrete, usually installed in locations where rock or other lining materials are not readily available. Scenario feature measure is concrete lined area, top width x length of concrete.

### **Rock Lined - D50 less than or equal to 6"**

A shaped waterway lined with riprap which has a D50 of less than or equal to 6". Scenario feature measure is rock lined area, top width x length of rock.

### **Rock Lined - D50 greater than 6"**

A shaped waterway lined with riprap which has a D50 of greater than 6". Scenario feature measure is rock lined area, top width x length of rock.

### **Turf Reinforced Matting**

A shaped waterway lined with Turf Reinforced Matting (TRM) including vegetation establishment. Scenario feature measure is waterway area (top width x length of TRM lined waterway)

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 516 – Livestock Pipeline

## Supplemental Criteria

1. Payment is authorized when required as a component of a Prescribed Grazing System or aquaculture pond.
2. Payment is not authorized when the pipeline will be used for any part of a human domestic water supply.

## Scenarios

### **Deeply Buried HDPE or PVC Pipe (Year Round Use), 5 to 6 feet deep**

This scenario consists of an HDPE or PVC pipeline buried 5 to 6 feet (**below the deep frost line**) and appurtenances that is intended for year-round use. The pipeline is buried 5 to 6 feet below the ground surface with a trenching machine or backhoe to prevent the pipeline from freezing. Appurtenances may include couplings, fittings, anchors, thrust blocks, gate valves, air release valves and drain valves.

### **Directional Boring (Year Round Use)**

HDPE pipeline installed 5 to 6 feet (**below the deep frost line**) by boring through road bed or under streams to meet the year round needs of domestic animals. Typical trencher or plowing installation is not possible due to site disturbance or environmental concerns. This item includes installation, all materials, appurtenances, and labor required to construct and install the pipeline. Appurtenances may include: couplings, fittings, expansion joints, anchors, thrust blocks, gate valves, air release valves, drain valve, and pressure relief valve, and are included in the cost of pipe material. Revegetation is not included.

### **Pipe for Filling Aquaculture Ponds**

This scenario consists of a PE pipeline buried 3 to 5 ft deep (**below frost line**) and appurtenances that is used to supply water to an aquaculture pond for filling, maintaining and cleaning the facility. Appurtenances may include couplings, fittings, anchors, thrust blocks, gate valves, air release valves and drain valves.

### **Shallow Buried HDPE or PVC Pipe**

This scenario consists of a shallow buried installation of HDPE or PVC pipeline and appurtenances and is intended for seasonal use only. The pipeline is buried 6 to 8 inches below the ground surface for protection from equipment or livestock and distributes water to the planned portion of the grazing system. All water is blown out of the pipeline before freezing temperatures occur. Appurtenances may include couplings, fittings, anchors, thrust blocks, gate valves, air release valves and drain valves.

### **Surface HDPE or PVC Pipe (only use HDPE)**

This scenario consists of an on-ground surface installation of HDPE pipeline and appurtenances and is intended for seasonal use only. The pipeline is typically laid on the ground surface next to a fence line for protection and distributes water to the planned portion of the grazing system. All water is blown out of the pipeline before freezing temperatures occur. Appurtenances may include couplings, fittings, anchors, thrust blocks, gate valves, air release valves and drain valves.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 484 – Mulching

## Supplemental Criteria

1. Mulching will be accomplished according to a detailed seeding and mulching plan.
2. Payment is authorized for either erosion control blanket or hay mulch (not both) on same area.

## Scenarios

### **Erosion Control Blanket**

Installation of erosion control blanket on critical areas with steep slopes, grassed waterways or diversions. Blanket is typically made of coconut coir, wood fiber, straw and is typically covered on both sides with polypropylene netting. Used to help control erosion and establish vegetative cover.

### **Natural Material - Full Coverage**

Mulch provides full coverage to help facilitate the establishment of vegetative cover. Typically used with critical area planting. Natural Material scenarios involve application of straw mulch or other state approved natural material (such as wood chips, compost, or hay) to reduce erosion.

### **Natural Material - Partial Coverage**

Mulch used to provide partial coverage (either in-row or between rows) to conserve soil moisture. Natural Material scenarios involve application of straw mulch or other state approved natural material (such as wood chips, compost, or hay) to reduce erosion.

### **Tree and Shrub Mats or Mulch**

This scenario is for weed barrier fabric installed with new tree and shrub plantings. Tree and Shrub scenarios entail weed barrier fabric or other suitable natural or synthetic mulch installed with a new tree and shrub planting.

### **Tree and Shrub Rolls**

This scenario is for weed barrier fabric installed as a roll for new tree and shrub plantings. Tree and Shrub scenarios entail weed barrier fabric or other suitable natural or synthetic mulch installed with a new tree and shrub planting.

# Environmental Quality Incentives Program

## 2019 - Minnesota Supplement for: Practice Standard 590 – Nutrient Management

### Supplemental Criteria

1. A baseline (inventory) nutrient management plan (meeting current CAP 102 or 104 criteria) must be ***completed*** by someone with appropriate Job Approval Authority (JAA) or TSP certification **prior to eligibility for the 590 nutrient management practice.**

*The 1<sup>st</sup> option* for the producer is that they would complete a baseline nutrient management plan, *without EQIP financial assistance*, prior to the eligibility for the 590 nutrient management practice.

*A 2<sup>nd</sup> option* for the producer is to have a **TSP** complete a **CAP 104 Nutrient Management Plan**, in a separate EQIP contract, prior to eligibility for the 590 nutrient management practice.

*A 3<sup>rd</sup> option* for the producer is to have a **TSP** complete a **CAP 102 Comprehensive Nutrient Management Plan**, in a separate EQIP contract, prior to eligibility for the 590 nutrient management practice.
2. A payment for Nutrient Management is authorized on **CROPLAND** acres not to exceed 3 payments.
3. Prior to payment for the scenario “**Adaptive NM**”, data results from the replicated plots must be sent to Area Office according to the guidance outlined in the technical note. Consult your Area Resource Conservationist (ARC) for assistance.
4. In order to be eligible for the “***Basic Precision NM***” scenario, the producer must **not** currently be practicing nutrient management on cropland through use of precision agriculture equipment.
5. If this practice addresses a **higher-level of quality** (or environmental benefit) and is *technically* documented in a NRCS approved nutrient plan, it may be implemented again on the same land unit.
6. Producers are eligible for Adaptive Nutrient Management along with a Basic or Small Farm scenario provided it is implemented on different acres.
7. Use of an advisor as a nutrient specialist is recommended (private sector TSP or SWCD, TSA, or NRCS with Nutrient Management Specialist Certification). TechReg lists Technical Service Providers (TSP) that are certified in Nutrient Management or CAP 104 category.
8. The following core practices are **encouraged**:
  - Irrigation Water Management (449) on irrigated land.
  - Drainage Water Management (554) on drained land where feasible.
    - Field slope must be  $\leq 0.5\%$  **and**
    - Existing subsurface tile lines must be on the approximate contour.
  - If core practices have already been applied, they will be documented in the plan and required to be continued.

9. Sheet, rill, and wind erosion must **always** be controlled to below 5 tons per acre per year and below T where possible.
10. Erosion due to concentrated flow must be controlled/stabilized.
11. Consult Program Requirements located under MN NRCS website, Technical Resources, Nutrient Management, Standard and Policies, Program Requirements. **Review these requirements with participants interested in Nutrient Management (590).** All Nutrient Management Systems will meet the current 590 Nutrient Management standard.
12. Nutrient Management with Manure payments apply to acres that had manure applied to them in the crop year immediately prior to the 1<sup>st</sup> contract year or which will receive manure at least once during the payment cycle.
  - Payments may be made during the EQIP contract period on acres not receiving manure provided those acres normally receive manure applications but have been scheduled for no manure applications due to environmental concern in a long range strategic plan (e.g. CAP 102 or CAP 104 plan, or equivalent nutrient management plan).
13. Consult General Provision 13 for requirements related to ensuring that adequate acres are available for manure application and/or manure application requirements on land not owned or controlled by the EQIP contract holder.

## **Scenarios**

### **Adaptive NM**

The practice scenario is for the implementation of nutrient management on a small plot. Scenario includes implementing replicated strip trials on a field plot to evaluate, identify and implement various nutrient use efficiency improvement methods for timing, rate, method of application, or source of nutrients. Producers will install the replicated strips in their fields and work with universities, government agencies, and consultants to evaluate the strips. This will be done following the NRCS National Agronomy Technical Note 7 - Adaptive Nutrient Management Process.

### **Basic NM (Non-Organic/Organic)**

This scenario describes the implementation of a **basic** nutrient management system on cropland or hayland where only commercial fertilizers are applied (no manure application). Implementation will result in the right rate, right source, right place (method of placement), and right timing of nutrient application. Payment for implementation is to defray the costs of soil testing, analysis of the soil test, consultant services that provide nutrient recommendations based on University of Minnesota (UM) recommendations and nutrient budgeting, along with recordkeeping.

### **Basic NM with Manure and/or Compost (Non-organic/Organic)**

This scenario is the same as the preceding Basic Nutrient Management system where manure or compost is applied in addition to commercial fertilizers. Manure application will be based on the results of risk assessments. Manure tests, analysis of the manure test, and proper implementation are also part of the payment for this scenario.

### **Basic Precision NM (Non-organic/Organic)**

This scenario takes a conventional cropping system where either no nutrient management or only a basic level of nutrient management is being practiced and improves it to address air quality (reduce emissions



for N fertilizer) and/or minimize agricultural nonpoint source pollution of surface and groundwater. The planned NM system will meet the current Nutrient Management (590) CPS general and additional criteria. Precision nutrient management system includes such items as split applications, variable rate applications, nitrification or urease inhibitors, additional nutrient tests including CSNT (corn stalk nitrate test), and PPSN (pre-plant soil nitrate test), chlorophyll meters, and/or spectral analysis may be used to further refine nutrient applications. Payment for implementation is to defray the costs of grid or zone soil testing, additional testing and analysis, equipment, implementation of the Nutrient Management Plan (NMP) and recordkeeping.

### **Small Farm NM (Non-Organic/Organic)**

This scenario describes the implementation of a nutrient management system on small, diversified farms including CSA's (community supported agriculture), truck farms, market gardens, etc., where multiple crops are grown on small acreages. This scenario attempts to capture the higher cost/acre of nutrient management planning and implementation on smaller production areas (usually between 0.25-10 acres) with a large number of crops, often times with multiple harvests per year that require intense and diversified nutrient management. Payment for implementation of this scenario is to defray the costs of soil testing, manure and/or compost analysis, and consultant services that provide nutrient management recommendations based on University of Minnesota (UM) recommendations and nutrient budgeting, along with recordkeeping.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 500 – Obstruction Removal

## Supplemental Criteria

1. Eligible when woody vegetation, debris or other unwanted material must be cleared in order to construct an enduring conservation engineering practice. This is not intended for the removal of obstructions from aquatic environments. **This practice may not be used as a stand-alone practice.**
2. This practice is not eligible for use with Fence.
3. Obstruction Removal shall not be used for the closure of waste impoundments.
4. Removal and Disposal of Structures Offsite payment is for removal of debris where required by regulations.
5. Measurement of the concrete to be removed shall be to the dimensions of the in place concrete.

## Scenarios

### **Removal and Disposal of Brush and Trees < 6 inch Diameter**

Remove and dispose of brush and trees when the average diameter in the stand is less than 6 inches by demolition, excavation or other means required for removal. Scenario feature measure is land area cleared.

### **Removal and Disposal of Brush and Trees > 6 inch Diameter**

Remove and dispose of brush and trees when the average diameter in the stand is greater than 6 inches by demolition, excavation or other means required for removal. Scenario feature measure is land area cleared.

### **Removal and Disposal of Brush and Trees, Mixed Stand**

The distribution of brush and tree sizes in a stand are highly variable, making it difficult to determine an average size. Remove and disposal of brush and trees by demolition, excavation or other means required for removal. Dispose of all brush and trees so that it does not impede subsequent work or cause onsite or offsite damage. Dispose of all brush and trees by wood chipping and or land distribution, burial at an approved location or burning. If burning is used, adhere to all state and local regulations and implement appropriate smoke management to protect public health and safety. Remove and dispose of brush and trees in order to apply conservation practices or facilitate the planned land use. Brush and tree removal will address the resource concerns of the prevention or hindrance to the installation of conservation practices or present a hazard to their use and enjoyment.

### **Removal and Disposal of Concrete Slab**

Remove and dispose of concrete slabs by saw cutting, demolition, excavation or other means required for removal. Measurement is to the nearest square foot of land area cleared.

### **Removal and Disposal of Structures Offsite**

Remove and dispose of steel, concrete or wooden structures by demolition, excavation or other means required for removal. Dispose of all steel and or concrete structures by removal to a landfill or other approved offsite location.

### **Removal and Disposal of Structures Onsite**

Remove and dispose of steel, concrete or wooden structures by demolition, excavation or other means required for removal. Dispose of all steel and or concrete structures so that it does not impede subsequent work or cause onsite or offsite damage by burying the materials at an approved location on site.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 582 – Open channel

## **Supplemental Criteria**

1. No special provisions

## **Scenarios**

### **Two Stage Ditch**

The practice is used for the restoration of a natural or artificial channel to improve nutrient (phosphorus and nitrate) reduction and ecological function by creating a floodplain bench. An earthen floodplain bench is excavated above the low channel flow to create a floodplain flow area and to stabilize the bottom and side slopes. Nutrients are reduced in the water through bench saturation. Installation conditions are normal which means the location is easily accessible from a main road, soils are without large rock or difficult clay to excavate, and/or other aspects are average compared to excavation work in the area.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 378 – Pond

## Supplemental Criteria

1. All Federal, state and local laws pertaining to wetlands must be followed and needed permits obtained **prior to construction**. See **General Provision 7**.

## Scenarios

### **Embankment Pond with Vegetated Spillway**

An embankment pond with a vegetated auxiliary spillway but w/o a pipe conduit. Payment rate assumes, but does not require, riprap at the outlet of the vegetated spillway. Scenario feature measure is the volume of earthfill placed in the structure, including the embankment area including freeboard if needed, cutoff trench backfill, berms or any other needed appurtenances.

### **Embankment with Pipe**

An embankment pond with a principle spillway conduit and earthen auxiliary spillway. An earthen spillway may also be constructed if needed. Scenario feature measure is the volume of earthfill placed in the structure, including the embankment area including freeboard if needed, cutoff trench backfill, pipe trench backfill, berms or any other needed appurtenances.

### **Excavated Pond without Pipe**

An excavated pond w/o an outlet conduit impounding less than 3 feet against the embankment or spoil. Payment rate assumes, but does not require, rock riprap used to armor the outlet or the portion of the embankment that is designed to overtop during high flows. Scenario feature measure is the volume excavated, including the pool area, spillway or any other needed appurtenances.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 520 – Pond Sealing or Lining, Compacted Soil Treatment

## Supplemental Criteria

1. No special provisions

## Scenarios

### **Soil Liner, Material Haul less than 1 mile**

This scenario consists of the construction of a compacted soil liner where material used to construct the liner needs to be hauled to the site from a distance of 100 feet to 1 mile. Scenario feature measure is cubic yards of compacted soil liner.

### **Soil Liner, Material Haul less than 1 mile with testing**

This scenario consists of the construction of a compacted soil liner where material used to construct the liner needs to be hauled to the site from a distance of 100 feet to 1 mile and required testing is performed. Scenario feature measure is cubic yards of compacted soil liner.

### **Soil Liner, Material haul greater than 1 mile**

This scenario consists of the construction of a compacted soil liner where material used to construct the liner needs to be hauled to the site from a distance of greater than 1 mile. Scenario feature measure is cubic yards of compacted soil liner.

### **Soil Liner, Material haul greater than 1 mile with testing**

This scenario consists of the construction of a compacted soil where material used to construct the liner needs to be hauled to the site from a distance of greater than 1 mile and required testing is performed. Scenario feature measure is cubic yards of compacted soil liner.

### **Soil Liner, on-site material**

This scenario consists of the construction of a compacted soil liner where material used to construct the liner is available on site. Scenario feature measure is cubic yards of compacted soil liner.

### **Soil Liner, on-site material with Testing**

This scenario consists of the construction of a compacted soil liner. Where material used to construct the liner is available on site and required testing is performed. Scenario feature measure is cubic yards of compacted soil liner.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 522 – Pond Sealing or Lining, Concrete

## Supplemental Criteria

1. No special provisions

## Scenarios

### **Liquid Tight Reinforced Concrete, Flatwork**

A reinforced concrete surface provides an environmentally safe area for storing manure and other agricultural waste by-products. This facility provides the landowner a means to contain waste or redirection polluted runoff until it can be utilized in a proper manner. The unit of payment is based on the area of reinforced concrete in square feet.

### **Reinforced Concrete Liner**

A reinforced concrete lined waste storage impoundment with waterstops constructed to store wastes such as manure, wastewater and contaminated runoff as part of an agricultural waste management system. Concrete liner is used where clay material is not available or enhanced resource protection is needed. Vehicular and equipment access is addressed in Heavy Use Area Protection (561). The unit of payment is based on the design storage volume of the waste storage structure in cubic feet.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 521 – Pond Sealing or Lining, Geomembrane or Geosynthetic Clay Liner

## Supplemental Criteria

1. No special provisions

## Scenarios

### **Flexible Membrane - intimate contact**

This scenario consists of the installation of an uncovered flexible geosynthetic membrane liner without geotextile underneath the liner so that direct contact with subgrade soils can be provided. Scenario feature measure is the area of installed liner materials (measured along the slope length and including anchorages).

### **Flexible Membrane - medium weight liner (30-45mil)**

This scenario consists of the installation of an uncovered medium weight (30 – 45 mil thickness) flexible geosynthetic membrane without geotextile underneath the liner so that direct contact with subgrade soils can be provided. Scenario feature measure is the area of installed liner materials (measured along the slope length and including anchorages).

### **Flexible Membrane - with geotextile**

This scenario consists of the installation of an uncovered flexible geosynthetic membrane liner with geotextile under the liner. Scenario feature measure is the area of installed liner materials (measured along the slope length and including anchorages).

### **Flexible Membrane with geotextile and liner venting**

This scenario consists of the installation of an uncovered flexible geosynthetic membrane liner with geotextile under the liner and a venting system consisting of, but not limited to, a geonet placed under the entire liner with PVC pipe vents. Scenario feature measure is the area of installed liner materials (measured along the slope length and including anchorages).

### **GCL Liner**

This scenario consists of the installation of a geosynthetic clay liner. Practice implementation includes, but is not limited to, a one foot thick soil cover for liner protection. Scenario feature measure is the area of installed liner materials (measured along the slope length and including anchorages).



# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 338 – Prescribed Burning

## Supplemental Criteria

1. A detailed burn plan describing the practice objective, species to control and species to be benefited, timing, weather conditions and management guidelines will be developed.
2. Technical assistance will be provided by a technically qualified specialist.
3. All laws and regulations pertaining to burning will be followed.
4. **The conservation plan must document that the landowner has been notified in writing that they are subject to all liability due to damages caused by fire.**
5. It is the landowner's responsibility to obtain all permits and to notify surrounding landowners that may be affected.
6. Site Preparation burns require vegetation establishment practices to be implemented. Natural regeneration is a vegetation establishment practice.
7. Herbaceous sites: Firebreaks identified as needed in the burn plan are included in the prescribed burn cost.
8. Wooded sites: Firebreaks identified as needed in the burn plan shall be scheduled under CPS (394) Firebreak. Refer to (394) Firebreak practice standard and payment scenarios.

## Scenarios

### **Level Terrain, Volatile or woody fuels**

Prescribed burn will be implemented to control undesirable species, improve wildlife habitat, improve plant productivity and/or quality, facilitate grazing distribution and maintain ecological processes. This scenario applies under the following conditions: where the terrain of the majority of the area to be burned <15% slopes with herbaceous and low volatile woody fuel with high volatile woody fuels less than 4ft tall.

### **Level to Moderate Terrain, Herbaceous Fuel Non-volatile**

This scenario applies under the following conditions: where the terrain of the majority of the area to be burned <20% slopes with herbaceous and/or low volatile woody fuel with no high volatile fuels.

### **Site Preparation**

Treating areas to encourage natural seeding or to permit herbaceous seeding or reforestation by planting or direct seeding. Burning is utilized to eliminate existing competition and debris, reduce forest fuel and to prepare the site for planting, seeding or natural regeneration. Burning a cutover site helps prepare the site for replanting. Burn should expose a portion of bare soil for planting. Objectives of a site preparation burn may dictate timing and burn intensity.

### **Steep Terrain, Herbaceous Fuel**

This scenario applies to the following conditions: where the terrain of the majority of the area to be burned >20% slopes with herbaceous and/or low volatile woody fuel with no high volatile fuels.

### **Steep Terrain, Volatile or Woody fuels**

This scenario applies under the following conditions: where the terrain of the majority of the area to be burned >15% slopes with herbaceous and low volatile woody fuel with high volatile woody fuels greater than 4ft tall, but fire is still a ground fire carried by fine fuel.

### **Tribal Special Purpose**

**(Tribal Only)** Applying a prescribed burn according to designed burn plan and NRCS Prescribed Burning (338) standard and specifications. A blueberry management burn can consume debris or leaf litter under controlled conditions that otherwise could burn uncontrollably and devastatingly. Prior to burning unit may need to be treated to reduce slash height and quantities. Burn should be cool enough to not cause mortality to residual stand but also must reduce litter and debris.

### **Understory Burn**

An Understory burn can consume debris or leaf litter under controlled conditions that otherwise could burn uncontrollably and devastatingly. Prior to burning unit may need to be treated to reduce slash height and quantities. Burn should be cool enough to not cause mortality to residual stand but also must reduce litter and debris.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 528 – Prescribed Grazing

## Supplemental Criteria

1. **Consult General Provision 16 for Prescribed Grazing payment information.**
2. A payment is authorized on eligible acres, not to exceed 3 payments.
3. A detailed prescribed grazing plan is required.
4. Prescribed Grazing is only eligible for permanent pasture/grassland (not hayland or cropland that is intermittently grazed without a plan). **Exception:** Payment for cropland may occur when the change in production system will result in the cropland being **planted annually** to forages or cover crops **AND** the cropland acres must be **grazed annually** in accordance with the prescribed grazing plan.
5. Woodlands not currently pastured are NOT eligible for Prescribed Grazing.
6. Wetland types 3-8 are NOT eligible for Prescribed Grazing. Acreages of these wetlands within pastures shall not be included in the payment acres.
7. Participants are eligible for the Prescribed Grazing payment as a standalone practice or in combination with other conservation practices used in the management of livestock such as Forage and Biomass Planting, Fence, and other similar practices. However, they are not eligible for payments for Nutrient Management and Pest Management on the same acres as Prescribed Grazing.

## Scenarios

### **Biological Control Grazing, brush or herbaceous weed control**

Management of woody non-herbaceous plant species through the use of goats that are closely herded to concentrate grazing on targeted shrubs. Typical area is moderate rolling to gentle sloping, moderately deep to deep soils that have dense stands of woody non-herbaceous species that exceed the desirable ecological site condition. This scenario is an alternative for organic producers.

### **Deferred Grazing, Foregone Income**

Defer the pasture for 90 days and up to a growing season to manage for invasive weeds when necessary, to improve the health of the plants and/or provide nesting habitat for wildlife species. As a result of deferment, both forage quality and quantity will be reduced. These losses will be partially mitigated by this scenario. Keep records of dates out and monitor to determine when desired objectives of deferment are met.

### **Pasture Standard**

Design and implementation of a grazing system that will enhance pasture condition and ecosystem function as well as optimize efficiency and economic return through monitoring (ex: trend, composition, production, etc...) and record keeping.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 533 – Pumping Plant

## Supplemental Criteria

- 1) Payment is for **permanently placed pumps** and pumping equipment.
- 2) For grazing, a payment for Solar Pumps require a Prescribed Grazing system to be performed by the participant. Portable pumps such as solar pumps are eligible when there is no other feasible alternative for pumping water to livestock.
- 3) **Water systems for human use are not eligible.**

## Scenarios

### **313 Subsurface Drain Pump with sump chamber**

A pumping plant including sump to transfer groundwater from a waste storage pond perimeter drain. Scenario feature measure is the pump power requirement.

### **Electric-Powered Pump between 10 and 40 HP**

An electric-powered pump without sump, 10 HP or greater and less than or equal to 40 HP. Scenario feature measure is pump power requirement.

### **Electric-Powered Pump between 3 and (less than) 10 HP**

An electric-powered pump without sump, greater than 3 HP and less than 10 HP. Scenario feature measure is pump power requirement.

### **Electric-Powered Pump greater than 40 HP**

An electric-powered pump without sump greater than 40 HP. Scenario feature measure is pump power requirement.

### **Electric-Powered Pump less than or equal to 3 HP with Pressure Tank**

An electric-powered pump without sump. Scenario feature measure is pump power requirement.

### **Internal Combustion-Powered Pump greater than 75 HP**

This scenario supports replacement of a pump without a sump in an existing irrigation system. Scenario could also be used for a pump for silage leachate, barnyard runoff, and milk house waste (as part of a waste transfer system). Scenario feature measure is pump power requirement.

### **Internal Combustion-Powered Pump less than or equal to 75 HP**

This scenario supports replacement of a pump without a sump in an existing irrigation system. Scenario could also be used for a pump for silage leachate, barnyard runoff, and milk house waste (as part of a waste transfer system). Scenario feature measure is pump power requirement.

### **Milkhouse or Silage waste Pump**

A pumping plant to transfer liquid waste that may contain limited solids, including but not limited to milking center waste and silage leachate. Scenario feature measure is pump power requirement.

### **Photovoltaic-Powered Pump**

The typical scenario assumes installation of a submersible solar-powered pump in a well or a live stream. The installation includes the pump, wiring, drop pipe, solar panels, mounts, inverter, and all appurtenances.

each and includes costs for each pump house installed.

### **Pump, Manure, Hollow Piston**

This scenario involves a hollow piston pump to transfer semi-solid, solid and sand-laden manure.

### **Pump, Manure, Solid Piston**

This scenario involves a solid vertical piston pump to transfer semi-solid/ liquid or sand-laden manure.

### **Silage Leachate and Runoff Pump Controller**

Pump Controls are needed to enable a pump to collect all silage leachate and a portion of first flush runoff to a storage or treatment facility.

### **Tailwater Recovery – Diesel pump and sump**

A pumping plant with sump used to recover runoff with excess nutrients for treatment or reuse. Scenario feature measure is pump power requirement.

### **Tailwater Recovery, Electric**

A pumping plant with sump used to recover runoff with excess nutrients for treatment or reuse. Scenario feature measure is pump power requirement.

### **Tractor Power Take Off (PTO) Manure Pump**

This scenario involves a PTO driven pump to transfer semi-solid/ liquid manure to treatment or storage.

### **Variable Frequency Drive**

This is an installation of electrical and electronic components designed to vary the frequency of the voltage to an electric motor and thus the ability to vary the speed of the motor to match the pressure and flow requirements for a center pivot irrigation system. Scenario feature measure is pump power requirement.

### **Wastewater pump and controller system**

A pumping plant including sump to transfer wastewater.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 329 – Residue and Tillage Management - No Till

## Supplemental Criteria

1. This practice requires increased SCI and decreased STIR. Required tillage, degree of soil disturbance and residue to be maintained after planting will be specified in the conservation plan and supported with a RUSLE2 printout or NRCS most current erosion tool documenting before and after soil erosion rates.
2. Prior to payment for the scenario “**No-Till Adaptive Management**”, data results from the replicated plots must be sent to Area Office according to the guidance outlined in the technical note. Consult your Area Resource Conservationist (ARC) for assistance.
3. An annual payment is authorized on eligible acres, not to exceed 3 payments.
4. Only land where the participant or operation has not previously implemented or contracted this practice will be eligible.

## Scenarios

### **No-Till Adaptive Management**

The practice scenario is for the implementation of no till, strip till in small replicated plots to allow the producer to learn how to manage no till, strip till on their operation. Scenario includes implementing replicated strip trials on a field plot to evaluate, identify and implement a particular no till, strip till management strategy (e.g., no till vs conventional till, drill vs planter, strip till vs no till, residue row cleaners vs no row cleaners, etc.) This will be done following the NRCS National Agronomy Technical Note 10 - Adaptive Management.

### **No-Till, Strip-Till**

This practice typically involves conversion from a clean-tilled (conventional tilled) system to no-till or strip-till (conservation tilled) system on cropland. The scenario will be used for both conventional and organic farming systems.

### **No-Till, Strip-Till with Herbicide and No Cover Crop**

This practice typically involves conversion from a clean-tilled (conventional tilled) system to no-till or strip-till system on cropland. System is applicable in both irrigated and non-irrigated fields organic and non-organic operations. Herbicide treatment is to burndown weeds in the residue prior to planting the crop. This treatment is only when a cover crop is not present. WIN-PST will be run for this scenario. Herbicides to be used should follow Agronomy Technical Note Number 5 guidelines.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 391 – Riparian Forest Buffer

## Supplemental Criteria

1. Payment rate for Riparian Forest Buffer includes trees, planting, animal deterrent devices (tree shelters) and establishment weed control.
2. Payment will not be made until shelters (tubes or bud caps), **if required**, are in place the year of planting.
3. Consult **General Provision 9** for site preparation information when using planted stock.
4. For tree seedbed preparation for natural regeneration see Tree/Shrub Site Preparation (490).

## Scenarios

### **Bare-root, hand planted**

This scenario is used to establish a riparian buffer of trees and/or shrubs into a suitably prepared site to restore riparian plant communities. Use this scenario when the planting plan calls for the majority of trees/shrubs to consist of bare-root shrubs, evergreen, and deciduous trees.

### **Bare-root, machine planted**

This scenario is used to establish a riparian buffer of trees and/or shrubs into a suitably prepared site to restore riparian plant communities. Use this scenario when the planting plan calls for the majority of trees/shrubs to consist of bare-root shrubs, evergreen, and deciduous trees.

### **Cuttings**

This scenario is used to establish a riparian buffer of trees and/or shrubs into a suitably prepared site to restore riparian plant communities. Use this scenario when the planting plan calls for the majority of planted trees/shrubs to consist of tree and/or shrub poles and live stakes (whips).

### **Seeding**

Establish a buffer of trees and/or shrubs to restore riparian plant communities and associated benefits. The planting will consist of trees or shrubs planted through direct seeding.

### **Small Container, Hand Planted**

Establish a buffer of trees and/or shrubs to restore riparian plant communities, provide shade and reduce water temperatures to improve riparian and aquatic habitats, create large woody debris, reduce sediment, organic materials, excessive nutrients and on-farm chemicals in surface and shallow ground water flow, reduce pesticide drift onto water bodies or courses, and increase carbon storage. The planting will consist of hand planted small containerized shrubs, evergreen, and deciduous trees. Tree shelters will be placed on all seedlings.

### **Small Container, Machine Planted**

Establish a buffer of trees and/or shrubs to restore riparian plant communities, provide shade and reduce water temperatures to improve riparian and aquatic habitats, create large woody debris, reduce sediment, organic materials, excessive nutrients and on-farm chemicals in surface and shallow ground water flow, reduce pesticide drift onto water bodies or courses, and increase carbon storage. The planting will consist of machine planted small containerized shrubs, evergreen, and deciduous trees. Tree shelters will be placed on all plant materials.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 390 – Riparian Herbaceous Cover

## **Supplemental Criteria**

1. The (foregone income) scenarios can be contracted where the “*practice implementation typically results in significant net income loss due to a change in land use or land taken out of production*” [CPM 512.31 B. (8)] for the 5 year lifespan of this practice.  
(Example, annually cropped land being retired from production by seeding to an riparian herbaceous cover.)

## **Scenarios**

### **Native Species with foregone income**

This scenario addresses inadequate herbaceous plant community function or diversity within the specific transitional zone between terrestrial and aquatic habitats in rangeland, pasture, cropland, and forest where natural seeding methods and/or management is unlikely to improve the plant community within a reasonable time period. The typical setting for this scenario is usually a narrow strip between the aquatic and terrestrial habitats subject to intermittent flooding and saturated soils where the existing plant community has been disturbed, destroyed, or the species diversity is unable to provide proper function and/or adequate habitat. Where the establishment of a diverse riparian herbaceous plant community is desired, an adapted mix of native grasses, legumes, and/or forbs tolerant to the site conditions will be planted by seeding methods necessary to accomplish the intended purpose(s).

### **Native Species, Pollinator Planting, Forgone Income**

This scenario addresses inadequate herbaceous plant community function or diversity within the specific transitional zone between terrestrial and aquatic habitats in rangeland, pasture, cropland, and forest where natural seeding methods and/or management is unlikely to improve the plant community within a reasonable time period. The typical setting for this scenario is usually a narrow strip between the aquatic and terrestrial habitats subject to intermittent flooding and saturated soils where the existing plant community has been disturbed, destroyed, or the species diversity is unable to provide proper function and/or adequate habitat. Where the establishment of a diverse riparian herbaceous plant community is desired, an adapted mix of pollinator friendly native grasses, legumes, and/or forbs tolerant to the site conditions will be planted by seeding methods necessary to accomplish the intended purpose(s).



# Environmental Quality Incentives Program

## 2019 - Minnesota Supplement for: Practice Standard 558 – Roof Runoff Structure

### Supplemental Criteria

1. Roof Runoff Structure (558) is allowed as a standalone practice for feedlots when used for clean water diversion.

### Scenarios

#### **Concrete Curb**

A roof runoff structure, consisting of a concrete curb or parabolic channel used to keep clean roof runoff uncontaminated. Scenario feature measure is the linear length of roof to be curbed.

#### **Existing fascia, Medium 7 to 9 inch gutter, normal hangers**

A roof runoff structure, consisting of gutter(s), and downspout(s). Scenario feature measure is the linear length of roof gutter.

#### **Existing fascia, Small 4 to 6 inch gutter, Heavy duty hangers**

A roof runoff structure, consisting of gutter(s), and downspout(s). This scenario includes heavy duty hangers and wrap-around straps for snow supports. Scenario feature measure is the linear length of roof gutter.

#### **Existing fascia, Small 4 to 6 inch gutter, normal hangers**

A roof runoff structure, consisting of gutter(s), and downspout(s). Scenario feature measure is the linear length of roof gutter.

#### **Medium 7 to 9 inch gutter, Heavy hangers**

A roof runoff structure, consisting of gutter(s), and downspout(s). This scenario includes heavy duty hangers and wrap-around straps for snow supports. Scenario feature measure is the linear length of roof gutter.

#### **New fascia, Small 4 to 6 inch gutter, Heavy duty hangers**

A roof runoff structure, consisting of a new fascia board, gutter(s), and downspout(s). This scenario includes heavy duty hangers and wrap-around straps for snow supports. Scenario feature measure is the linear length of roof gutter.

#### **Trench Drain**

A roof runoff structure, consisting of a trench filled with rock, with a polyethylene, corrugated, perforated drain tile installed in trench bottom. Scenario feature measure is the linear length of roof to be drained.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 367 – Roofs and Covers

## Supplemental Criteria

1. Consult **General Provision 12** for Comprehensive Nutrient Management Plan (CNMP) requirements.
2. Consult **General Provision 13** for requirements related to manure application land base and/or manure applications on land not owned or controlled by the EQIP contract holder.
3. Payment is authorized only when one of the following conditions are met:
  - a. The roof is constructed following a NRCS Minnesota standard drawing.
  - b. The roof structure design and construction is approved by a licensed professional engineer.
  - c. The roof structure design is approved by a licensed professional engineer and the construction is performed by a crew representing the roof's manufacturer who certifies the installation. The manufacturer shall provide a 10-year labor and material warranty on the roof structure.
4. Scenarios with Specialist Labor shall not receive federal funding for the design of the structure.

## Scenarios

### **Bin Roof**

A timber framed, metal roofed, roof structure with posts mounted on top of the concrete walls, or integral with timber walls of an Animal Mortality Compost Static Pile, Bin facility. The scenario feature measure is based on the total surface area of the roof, including eaves.

### **Flexible Membrane Cover**

A fabricated rigid, semi-rigid, or flexible membrane over a waste storage or treatment facility. The membrane will cover the entire surface of a waste storage or treatment facility (e.g. waste treatment lagoon or anaerobic digester). Cover will exclude precipitation and/or capture biogas for controlled release for flaring or anaerobic digestion. The scenario feature is based on the area of the membrane.

### **Hoop frame and flexible Roof**

A flexible membrane or fabric-like roof placed on a steel truss hoop-like supports and supporting foundation. The scenario feature measure is based on the footprint area of the building.

### **Roof Structure, 30 Ft to 60 Ft Wide , High Snow Load (All Widths)**

A roof structure with a timber or steel "sheet" roof and supporting foundation. **The costs for this scenario include specialist labor for the design of the structure.** The scenario feature measure is based on the outside wall dimensions.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 604 – Saturated Buffer

## **Supplemental Criteria**

1. Contact the **Area Engineer** before planning and contracting Saturated Buffer.

## **Scenarios**

### **Saturated Buffer**

Water discharging from a subsurface drainage system is dispersed along a vegetated buffer strip (often a riparian buffer). The water from the subsurface drainage system is diverted to an underground perforated pipe, typically 400 feet in length that is installed along a vegetated buffer strip. The vegetated buffer is typically located at the edge of the cropped field at least 30 feet from the receiving stream. The flow moves underground from the distribution tile through the buffer area where nutrients can be removed before the water reaches the stream by bacterial action and other natural processes. Measurement for payment is based on the length of the dispersal conduit. Costs include the water control structure and distribution pipe.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 350 – Sediment Basin

## Supplemental Criteria

1. No special provisions

## Scenarios

### **Embankment earthen basin with pipe**

A low hazard class embankment earthen sediment basin in an existing drainage way on a farm for purpose of trapping sediment. An earthen embankment will be constructed with a principal spillway conduit and earthen auxiliary spillway, as designed. The scenario feature measure is based on the embankment volume.

### **Excavated Volume**

An excavated sediment basin in an existing drainage way on a farm for purpose of trapping sediment. The scenario feature measure is based on the excavated volume.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 574 – Spring Development

## Supplemental Criteria

1. All Federal, State, and Local laws and regulations pertaining to wetlands must be followed and needed permits obtained prior to construction. **See General Provisions 7 and 10.**

## Scenarios

### **Spring Development, Collection Structure Only**

The scenario includes excavating and exposing the water source at the spring/seep (typically on a hillside) and installing a water collection structure. The system typically runs all year long in most zones. Payment includes excavation and labor to expose the spring, concrete for collection box, lid and gravel backfill.

### **Spring Development, Horizontal Pipe with Collection Box**

This scenario includes excavating and exposing the water source at the spring/seep (typically on a hillside) and installing a horizontal water collection system and a water storage structure. The collection system is commonly composed of perforated drainage pipe placed in an excavated collection trench that runs across the slope into the collection box. Water is collected in a spring box for temporary storage, which typically consists of a large diameter CMP. The system typically runs all year long in most zones.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 442 – Sprinkler System

## Supplemental Criteria

1. Must have an existing irrigation system in place to be considered for the scenario listed below.
2. Payment is authorized for low pressure conversions on existing center pivot systems used at least 2 of the last 5 years.
3. Payment is authorized only when Irrigation Water Management (449) is included in the contract.
4. For low pressure conversion payment components are installed sprinkler packages, pressure regulators, pressure gauges, and drop tubes. Costs are limited to those necessary for a single conversion package. Multiple components to facilitate a crop rotation are not eligible for payment.
5. Equipment suppliers are responsible for providing documentation to show that the system meets NRCS Standard 442.
6. Reduction of pressure in the irrigation system is encouraged for energy savings but not required. The regulators at each nozzle must reduce pressures to levels required in the standard.

## Scenario

### **Fertigation Retrofit, 80 gph Pump (adjustable from 15 to 110 gph)**

Integrating fertigation application technology onto a center pivot system for efficient placement of chemicals along the length of the system. Typically the pumping capacity of the center pivot system is between 800 gpm to 1200 gpm of water.

### **Fertigation Retrofit, 30 gph Pump (adjustable from 5 to 50 gph)**

Integrating fertigation application technology onto a center pivot system for efficient placement of chemicals along the length of the system. Typically the pumping capacity of the center pivot system is between 300 gpm to 800 gpm of water.

### **Renovation of Existing Sprinkler System**

The scenario involves changing nozzles on center pivot irrigation systems to low-pressure systems to improve efficiency of water use and reduce energy use. Scenario feature measure is Length of Lateral Retrofitted.

### **VRI System – Speed**

Integrating variable application technology onto a center pivot system for precision zone placement of water along the length of the system for water savings. A variable application over the field based either 1) EM mapping and a grid system, 2) previous year(s) harvest yield maps or 3) soil properties, or combination of each. This scenario is to renovate a previous irrigation system with GPS for field location and new control panel to update existing panel, for a speed

control VRI system for more effective utilization of water. Scenario requires that existing irrigation system meets Conservation Practice Standard 442 for uniformity and efficiency, if not, then system renozzling required.

### **VRI System - Zone**

Integrating variable application technology onto a center pivot system for precision zone placement of water along the length of the system for water savings. A variable application over the field based either 1) EM mapping and a grid system, 2) previous year(s) harvest yield maps or 3) soil properties, or combination of each. This scenario is to renovate a previously irrigation system with proper modular components and pressure regulating devices, with GPS for field location and new control panel to update existing panel, along with other needed components to install a VRI system for more effective utilization of water.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 570 – Stormwater Runoff Control

## **Supplemental Criteria**

1. No special provisions

## **Scenarios**

### **Erosion Control Measure**

This scenario involves installation of erosion control practice on the construction site as part of a conservation engineering system. The erosion control will address the resource concerns related with excessive sediment in surface waters as well as protection of existing inlets and structures. Typical erosion control measures include silt fences, straw bales and wattles.



# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 578 – Stream Crossing

## Supplemental Criteria

1. All Federal, State, and Local wetland laws and regulations must be followed and needed permits obtained prior to construction. **See General Provisions 7 and 10.**
2. Use Structure for Water Control (587) instead for ditch cross culverts and other intermittent flow structures.

## Scenarios

### **Bridge, Manufactured, Foundation Modification**

**(Tribal Only)** A channel-spanning structure constructed from a manufactured concrete or steel bridge structure that has been certified by a PE that carries a road or railway across a river or stream. Bridge design is completed to conform to loading requirements and site conditions. The bridge deck is designed to rest on abutments placed on the adjacent floodplain. Projects located in alluvial, estuarine, or tidally influenced areas, where soils are considered "soft" with low bearing capacity and high potential for settlement or consolidation. These projects typically require a large quantity of over-excavation to remove unsuitable soils, backfill with engineered fill material, and manual compaction to support a new structure for fish passage. Bridge components are delivered to the site and assembled by a combination of equipment and manual labor. They are installed with an assortment of equipment used for excavation, placing material, delivering and removing material, and lifting bridge components from delivery trucks onto the constructed bridge support elements. Other actions include construction staking and signage, soil erosion and pollution control, removal and disposal of the old culvert (if applicable), and topsoil conservation for site reclamation. Channel diversion or dewatering is required since an existing blockage will be removed for bridge construction. Disturbed areas are revegetated with a mix of site-adapted species. Scenario does not include additional measures needed to address channel incision, bank stability, and other factors associated with the presence of the bridge crossing.

### **Culvert installation, greater than 25" Diameter, Single culvert**

This scenario consists of installing a new culvert to allow a stream to flow under a roadway without stream flow being impeded and to provide a stable base for equipment, people or animals to cross. Work includes dewatering, site preparation and removing any old crossing, acquiring and installing culvert pipe with gravel bedding and fill (compacted), and building headwalls. If a different travel surface is needed, refer to another appropriate standard for the surfacing. The scenario payment unit is based on the length of the culvert placed.

### **Culvert installation, greater than 25" Diameter, Double culverts**

This scenario consists of installing a new double barrel culvert to allow a stream to flow under a roadway without stream flow being impeded and to provide a stable base for equipment, people or animals to cross. Work includes dewatering, site preparation and removing any old crossing, acquiring and installing culvert pipe with gravel bedding and fill (compacted), and building

headwalls. If a different travel surface is needed, refer to another appropriate standard for the surfacing. The scenario payment unit is based on the length of one of the culvert placed.

### **Culvert installation, less than 25" Diameter, Single culvert**

This scenario consists of installing a new culvert to allow a stream to flow under a roadway without stream flow being impeded and to provide a stable base for equipment, people or animals to cross. Work includes dewatering, site preparation and removing any old crossing, acquiring and installing culvert pipe with gravel bedding and fill (compacted), and building headwalls. If a different travel surface is needed, refer to another appropriate standard for the surfacing. The scenario payment unit is based on the length of the culvert placed.

### **Culvert installation, less than 25" Diameter, Double culverts**

This scenario consists of installing a new double barrel culvert to allow a stream to flow under a roadway without stream flow being impeded and to provide a stable base for equipment, people or animals to cross. Work includes dewatering, site preparation and removing any old crossing, acquiring and installing culvert pipe with gravel bedding and fill (compacted), and building headwalls. If a different travel surface is needed, refer to another appropriate standard for the surfacing. The scenario payment unit is based on the length of one of the culvert placed.

### **Rock Surfaced Stream Crossing**

This scenario consists of stabilizing the bottom and slope of a stream channel using rock. The scenario includes site preparation, dewatering, acquiring and installing gravel or geotextile with rock riprap on channel bottom and approaches. The final travel surface shall be the rock, but if a different travel surface is needed, refer to another appropriate standard for the surfacing. After this practice is installed, the stream flow is not impeded and a stable base exists for equipment, people and/or animals to cross. The scenario payment unit is based on the area of rock surfacing placed.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:

Practice Standard 395 – Stream Habitat Improvement and Management

## Supplemental Criteria

1. All Federal, state and local wetland laws and regulations must be followed and needed permits obtained prior to construction. **See General Provision 7.**
2. Planning, design and installation requires close coordination between NRCS engineering, ecological sciences and MN DNR fish habitat biologist.

## Scenarios

### **Fish Barrier**

This scenario describes the implementation of a stream habitat improvement and management project where practices are focused on the stream channel. Implementation will result in protecting native aquatic fauna in the reach from competition or harassment from non-native fish. This action may also increase food availability for fish and other stream species located above the constructed barrier.

### **Instream rock placement, Each**

This scenario describes the implementation of a stream habitat improvement and management project that places individual boulders or boulder clusters, or rock structures in or adjacent to the stream channel as habitat components. Implementation will result in the improvement of instream habitat complexity, hiding and resting cover, spawning habitat, and/or increased food availability for fish and other stream species.

### **Instream rock placement, Feet**

This scenario describes the implementation of a stream habitat improvement and management project that places individual boulders or boulder clusters, or rock structures in or adjacent to the stream channel as habitat components. Implementation will result in the improvement of instream habitat complexity, hiding and resting cover, spawning habitat, and/or increased food availability for fish and other stream species.

### **Instream wood placement**

This scenario involves placement of large wood (logs, root wads, log structures) into a stream channel in order to improve aquatic habitat that currently does not meet quality criteria for stream species habitat. Implementation will result in the improvement of instream habitat complexity, hiding and resting cover, and/or increased food availability for fish and other stream species.

### **Instream wood placement, average density**

This scenario involves placement of large wood (logs, root wads, log structures) into a stream channel in order to improve aquatic habitat that currently does not meet quality criteria for stream species habitat. Implementation will result in the improvement of instream habitat

complexity, hiding and resting cover, and/or increased food availability for fish and other stream species.

### **Instream wood placement, high density**

This scenario involves placement of large wood (logs, root wads, log structures) into a stream channel in order to improve aquatic habitat that currently does not meet quality criteria for stream species habitat. Implementation will result in the improvement of instream habitat complexity, hiding and resting cover, and/or increased food availability for fish and other stream species.

### **Lunker Structure**

This scenario describes the implementation of a stream habitat improvement and management project that places individual lunker structures in the stream channel as habitat components. Implementation will result in the improvement of instream habitat complexity, hiding and resting cover, spawning habitat, and/or increased food availability for fish and other stream species.

### **Rock and wood structures**

This scenario describes the implementation of a stream habitat improvement and management project where practices are focused on instream habitat improvement with a combination of rock AND wood structures as described above.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 580 – Streambank and Shoreline Protection

## Supplemental Criteria

1. If this practice is being applied to any DNR designated “Trout” stream, the project manager will be the State Office Hydraulic Engineer.

## Scenarios

### **Bioengineered**

This scenario includes installing streambank protection measures consisting of a bioengineered technique comprised of non-structural measures such as earth revetments and benches with vegetative measures to stabilize and protect the streambank against scour and erosion. Soil bioengineering is a system of living plant materials used as structural components. Adapted types of woody vegetation (shrubs and trees) are initially installed in specified configurations that offer immediate soil protection and reinforcement. In addition, soil bioengineering systems create resistance to sliding or shear displacement in a streambank as they develop roots or fibrous inclusions. Under certain conditions, soil bioengineering installations work well in conjunction with structures to provide more permanent protection and healthy function, enhance aesthetics, and create a more environmentally acceptable product. Soil bioengineering systems normally use unrooted plant parts in the form of cut branches and rooted plants. For streambanks, living systems include brush mattresses, live stakes, joint plantings, vegetated geogrids, branchpacking, and live fascines. A typical installation includes shaping the bank and establishing vegetation which can include seed, live stakes, rootwads and other biological revetments. The payment quantity for this scenario is based on the linear foot length of streambank or shoreline protected.

### **Riprap bank protection, access with construction mats**

Protection of streambanks using structural measures such as riprap, concrete block, gabions, etc. to stabilize and protect banks of streams or excavated channels against scour and erosion. The purpose of this practice is to maintain, improve, or restore physical, chemical, and biological functions of a stream to provide diverse aquatic communities to improve habitat for desired aquatic species. Payment cost include shaping bank (2(H):1(V) slope for 500 linear feet) and rock rip rap. The rock will be 2' thick and 8' high. The bank above the riprap will be graded to a stable slope, seeded and mulched.

### **Riprap in remote area, long access to site, long haul from quarry**

This scenario includes installing streambank protection at a site where the rock source is typically greater than 50 miles from job site. The installation uses structural measures such as riprap, concrete block, gabions, etc. to stabilize and protect banks of streams or excavated channels against scour and erosion. Payment cost include shaping the bank, installing geotextile, and placing rock rip rap armoring. The bank above the riprap will be graded to a stable slope and revegetated. The payment quantity for this scenario is based on the linear foot length of streambank or shoreline protected.

### **Riprap on bank 4 ft to 9 ft high measure from bank top to toe of slope**

This scenario includes installing streambank protection measures on a bank that is between 4 feet and 9 feet in height, as measured from the top of the bank to the toe of the slope. Structural measures such as riprap, concrete block, gabions, etc. are used to stabilize and protect banks of streams or excavated channels against scour and erosion. The bank above the riprap will be graded to a stable slope and revegetated. Payment costs include shaping the adjacent banks and installing rock rip rap armoring. The payment quantity for this scenario is based on the linear foot length of streambank or shoreline protected.

### **Riprap on bank less than 4 ft high measure from bank top to toe of slope**

This scenario includes installing streambank protection measures on a bank, less than 4 feet in height, as measured from the top of the bank to the toe of the slope. Structural measures such as riprap, concrete block, gabions, etc. are used to stabilize and protect banks of streams or excavated channels against scour and erosion. The bank above the riprap will be graded to a stable slope and revegetated. Payment costs include shaping the adjacent banks and installing rock rip rap armoring. The payment quantity for this scenario is based on the linear foot length of streambank or shoreline protected.

### **Rock Riprap MN-TR3**

This scenario includes streambank protection using structural measures such as riprap following Minnesota TR-3, "Loose Riprap Protection" to stabilize and protect banks of streams or excavated channels against scour and erosion. The rock toe will be per Method B of MN TR-3, Figure 2-6. Payment costs include shaping the bank and placing rock riprap. The bank above the concrete blocks will be graded to a stable slope. The payment quantity for this scenario is based on the square foot area of riprap protection.

### **Stream Barb**

This scenario uses stream barbs to protect the banks of streams or excavated channels against scour and erosion. A typical installation includes shaping the bank around the barb to a stable slope and placing the rock riprap stream barb. The payment quantity for this scenario is based on the volume of rock riprap placed.

### **Structural Toewood w/Vegetation**

Protection of streambanks using toewood (large wood members with root wads) as a structural measure in conjunction with bioengineering techniques involving vegetative measures to stabilize and protect the streambank against scour and erosion. Payment cost include protection by use of large wood members with root wads, willow cuttings and revetments, bankfull bench construction, bank shaping, riparian-corridor revegetation, geotextile, and rock riprap to establish grade/fill void spaces.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 585 – Stripcropping

## **Supplemental Criteria**

1. A one-time payment is limited to those acres on which the stripcropping practice has been implemented.
2. End rows shall be established as Field Borders (386) or will have soil erosion rates less than “T”.
3. Payment is not allowed on both Stripcropping (585) and Contour Farming (330) on the same acres.

## **Scenarios**

### **Stripcropping - wind and water erosion**

This scenario describes the implementation of a stripcropping system that is designed specifically for the control of water and wind erosion for minimizing the transport of sediments or other water borne or airborne contaminants originating from cropland. Implementation will result in alternating strips of erosion susceptible crops with erosion resistant crops that are oriented as close to perpendicular to water flows or critical wind erosion direction as possible.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 587 – Structure for Water Control

## Supplemental Criteria

1. A Drainage Water Management Plan is required prior to eligibility for the drainage water management structure for water control scenario.
2. Drainage Water Management Structure scenario is eligible on new tile installations or where an existing drainage system is in place and is modified for Drainage Water Management (554).

## Scenarios

### **Aquaculture Pond Outlet Structure Only**

The typical setting is an existing or proposed aquaculture pond which requires an outlet structure to manage water levels and drain water from the pond. Costs include all equipment necessary to install a reinforced concrete structure for water control. The payment rate is based on the height of the reinforced concrete structure.

### **Culvert Less Than 30 inches CMP**

This scenario consists of installing a new corrugated metal pipe (CMP) culvert less than 30 inches in diameter to convey water under roads or other barriers. Work includes site preparation, acquiring and installing culvert pipe with gravel bedding and fill (compacted), and riprap protection of side slopes. The payment rate is based upon the pipe diameter in inches multiplied by the pipe length in feet (Inch-Foot).

### **Culvert Less Than 30 inches HDPE**

This scenario consists of installing a new HDPE culvert, less than 30 inches in diameter to convey water under roads or other barriers. Work includes site preparation, acquiring and installing culvert pipe with gravel bedding and fill (compacted), and riprap protection of side slopes. The payment rate is based upon the pipe diameter in inches multiplied by the pipe length in feet (Inch-Foot).

### **Culvert Guard, Grill or Fence**

The beaver stop uses a system of cylindrical screens to prevent beaver from plugging pipe inlets with debris. Plugged pipe inlets may cause erosion due to frequent use of the auxiliary spillway or overtopping of the embankment.

### **Drainage Water Management (Control) Structure**

The control structure allows the operator to maintain water in the soil profile in accordance with a drainage water management plan. The payment rate is based on the number of structures, which can be any combination of commercially available flashboard water control structures, buried automatic float activated water level control structures or pump sump structures.



### **Flap gate structure**

This scenario consists of the installation of a permanent flap gate structure to control the direction of flow resulting from high water or back-flow from flooding. The payment rate is based on the diameter of the flap gate.

### **Inline Flashboard Riser, Commercial**

This scenario consists of a commercially available Inline Water Control Structure (WCS) where the elevation is controlled at a point along the pipe extending through an embankment, providing ease of access to the structure. The payment rate is based upon the flashboard weir length in inches multiplied by the outlet length in feet (Inch-Foot).

### **Inline or Inlet Flashboard Riser, Metal**

This scenario consists of a flashboard riser fabricated of metal and used as a control structure in a water management system. They are often fabricated from vertical pipes with the stoplogs located in the middle (i.e. full-rounds) or sheet steel in a box shape. The payment rate is based upon the flashboard weir length in inches multiplied by the outlet length in feet (Inch-Foot).

### **Outlet Structure and External Harvest kettle for an Existing Aquaculture Pond**

The typical setting is an existing aquaculture pond which requires an outlet structure and harvest kettle to manage water levels and drain water from the pond and allow fish to move from the pond to a harvest kettle area where the fish are removed from the water. Costs include all equipment necessary to install a reinforced concrete structure for water control. The payment rate is based on the height of the reinforced concrete outlet structure.

### **Rock Checks for Water Surface Profile**

The typical setting is in a stream that has become incised and is therefore disconnected from the floodplain. This scenario consists of the installation of a "vee" shaped rock structures with points facing upstream for the purpose of raising the water surface profile. The check dams are underlain with geotextile fabric and disturbed areas are protected with permanent vegetative cover. The payment rate is based on the tons of rock riprap installed.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement:  
Practice Standard 649 – Structures for Wildlife

## Supplemental Criteria

1. No special provisions.

## Scenarios

### **Bat Box**

**(Tribal Only)** This scenario is for the installation of bat houses on all land uses.

### **Blue Bird Box**

**(Tribal Only)** This scenario covers all uplands habitats that need installation of Blue Bird Boxes, when habitat assessment indicates inadequate habitat for Eastern Bluebird. This scenario includes structures utilized for bird nesting and rearing. The number of structures to be installed will be determined by the habitat assessment.

### **Loon Nesting Platform**

**(Tribal Only)** This scenario is for the installation of Loon nesting platforms needed when a habitat assessment indicates inadequate habitat for Common Loons. The number of structures to be installed per body of water will be determined by a habitat assessment.

### **Osprey Nesting Platform**

**(Tribal Only)** This scenario is for the installation of wildlife nesting when a habitat assessment indicates inadequate habitat for Osprey. The number of structures to be installed will be determined by a habitat assessment.

### **Snake Hibernaculum**

Sites must meet the following criteria to be eligible for the hibernaculum scenario:

- **Riparian setting (within 1000' of stream)** - Area must be existing grass or re-vegetated and undisturbed open canopy habitat on both sides of the stream to be eligible for practice.
- **Upland setting (greater than 1000' from stream)**- Area must be less than 30% agriculture land and greater than 70% fallow or natural community to be eligible for practice.

### **Wood Duck Nesting Box**

**(Tribal Only)** This scenario is for the installation of waterfowl nesting boxes when a habitat assessment indicates inadequate habitat for Wood Ducks. The number of structures to be installed will be determined by a habitat assessment.

### **Woody Habitat, Off Site (Lakeshore only)**

**(Tribal Only)** This scenario is for the installation of structural woody cover in lakes under Tribal control or the ceded territory where shallow water habitat is a limiting factor for amphibians, reptiles and fish. Structures consist of a 12 inch diameter or greater tree transported to the site,

placed, and anchored to the shoreline. Tree drops are placed in the shallow or littoral areas to provide basking sites for turtles and snakes and cover for newts, lizards and small fish.

### **Woody Habitat, On Site (Lakeshore only)**

**(Tribal Only)** This scenario is for the installation of structural woody cover in lakes under Tribal control or the ceded territory where shallow water habitat is a limiting factor for amphibians, reptiles and fish. Structures consist of a 12 inch diameter or greater tree source located on the project site, placed, and anchored to the shoreline. Tree drops are placed in the shallow or littoral areas to provide basking sites for turtles and snakes and cover for newts, lizards and small fish.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 606 – Subsurface Drain

## Supplemental Criteria

1. Perforated drains may only be used as a component of a conservation practice to the extent required to provide drainage necessary to facilitate the conservation purpose of the practice. **Subsurface drain is not eligible as a stand-alone practice.**
2. The maximum length of subsurface drain that may be paid for in terraces and water and sediment control basin channels shall be limited to 500 feet per terrace or basin.

## Scenarios

### **Secondary Main Retrofit for DWM**

An agricultural field has existing patterned tile system and a secondary main will be needed to allow drainage water management to be implemented in the field. The new mainline is hooked to each individual lateral and continued to a stable outlet. Costs include the conduit, drainage lateral connections and excavation and labor to install the main. When installed to facilitate Drainage Water Management, control structures must also be installed so that water can be retained in the field. This scenario also applies to systems where the secondary main is used to connect drain lines from a tile drained field to a Saturated Buffer (739) or a Denitrifying Bioreactor (747).

### **Structural Practice Support Drain**

Subsurface drainage is installed to facilitate the construction and operation of an associated structural practice including perimeter tiles around in ground concrete tanks. Without the subsurface drain installation, soil wetness inhibits vegetative cover or adversely effects soil engineering properties impacting the performance of the associated practice. With the subsurface drainage in place vegetation is established and maintained and the required soil engineering properties are achieved to enable the construction and operation of the associated practice.

### **Waste Storage Facility Perimeter Drain, 9 or less feet deep**

A subsurface drainage system is required to construct and operate an aquaculture pond or waste storage facility. The measured length is the length of tubing installed. The outlet of the subsurface drainage system is contracted separately under Underground Outlet (620).

The installation of this practice prevents excess inclusion of groundwater into the structure affecting its operational capacity and the potential damage of side slopes and liners which may cause excess nutrient loading from stored contents seeping into groundwater.

### **Waste Storage Facility Perimeter Drain, greater than 9 feet deep**

A subsurface drainage system is required to construct and operate an aquaculture pond or waste storage facility. The measured length is the length of tubing installed. The outlet of the subsurface drainage system is contracted separately under Underground Outlet (620).

The installation of this practice prevents excess inclusion of groundwater into the structure affecting its operational capacity and the potential damage of side slopes and liners which may cause excess nutrient loading from stored contents seeping into groundwater.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 600 – Terrace

## Supplemental Criteria

1. No special provisions

## Scenarios

### **Graded, Broadbase, Greater Than or Equal to 1.5ft Average Height**

A series of broadbase terraces with an average height of equal to or greater than 1.5 feet and farmable front and back slopes. A stable outlet is provided in the form of a Grassed Waterway. Costs include all equipment and forces necessary to excavate, shape and compact the terrace. It is assumed that the terrace is installed with a dozer, scraper or road grader and is typically farmed.

### **Graded, Broadbase, Less Than 1.5ft Average Height**

A series of broadbase terraces with an average height of less than 1.5 feet and farmable front and back slopes. A stable outlet is provided in the form of a Grassed Waterway. Costs include all equipment and forces necessary to excavate, shape and compact the terrace. It is assumed that the terrace is installed with a dozer, scraper or road grader and is typically farmed.

### **Graded, Narrow Base or Grass Backslope**

A series of narrow base or grassed backslope terraces with 2:1 front and back slopes. Permanent vegetation is established on the terraces. A stable outlet is provided in the form of a Grassed Waterway. Costs include all equipment and forces necessary to excavate, shape and compact the terrace and establish permanent vegetation. It is assumed that the terrace is installed with a dozer, scraper or road grader.

### **Grassed Backslope**

A series of terraces with one side slope that is relatively flat (typically 5:1) and the other that is relatively steep (typically 2:1). The steep slope is established to permanent vegetation and the flatter slope is farmed. Runoff is stored and handled with an underground outlet. Costs include all equipment and forces necessary to strip the base, place fill, shape, compact terrace, spread topsoil and establish permanent vegetation. It is assumed that the terrace is installed with a dozer, scraper or road grader.

### **Narrow Base 8 percent or less**

A series of narrow base terraces with 2:1 front and back slopes. Permanent vegetation is established on the terraces. The field where the terraces are constructed have slopes between 3% to 8% and contain loam soils or soils similar in regards to workability. A stable outlet is provided in the form of an Underground Outlet. Costs include all equipment and forces necessary to excavate, shape and compact the terrace and establish permanent vegetation. It is assumed that the terrace is installed with a dozer, scraper or road grader.

### **Narrow Base greater than 8 percent**

A series of narrow base terraces with 2:1 front and back slopes. Permanent vegetation is established on the terraces. The field where the terraces are constructed typically have slopes exceeding 8% and contain loam soils or soils similar in regards to workability. A stable outlet is provided in the form of a Grassed Waterway or Underground Outlet. Costs include all equipment and forces necessary to excavate, shape and compact the terrace and establish permanent vegetation. It is assumed that the terrace is installed with a dozer, scraper or road grader.

### **Terrace Rehab**

A typical installation is a series of terraces that have exceeded their useful life and need to be rehabilitated to continue functioning. The work involves substantial rework of the embankment and channel which exceeds routine maintenance needs. Costs include all equipment and forces necessary to rework, shape, and compact terrace. Permanent vegetation is established if needed. Seeding is not included and should be contacted using Critical Area Planting (342). It is assumed that the work is done with a dozer, scraper or road grader.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 575 –Trails & Walkways

## Supplemental Criteria

1. Stream Crossing (578) will be used when the trail or lane crosses streams or shallow water areas.

## Scenarios

### **Boardwalk, wood post foundation**

**(Tribal Only)** A timber boardwalk trail is installed on level or rolling topography. This trail is constructed from treated, dimensional lumber, and is supported by treated posts. The trail type is generally constructed on seasonally or continuously wet or saturated ground.

### **Gravel Over Geotextile**

A trail or walkway with a gravel surface treatment over geotextile. Costs include all earthfill, excavation, grading, aggregate surfacing treatment, geotextile, seeding and all equipment, labor and incidental materials necessary to provide a smooth permanent travel pathway.

### **Gravel Over Graded Rock**

A trail or walkway with a fine aggregate or gravel surface treatment over graded rock. Costs include all earthfill, excavation, grading, aggregate surfacing treatment, seeding and all equipment, labor and incidental materials necessary to provide a smooth permanent travel pathway.

### **Gravel Over Graded Rock and Geotextile**

A trail or walkway with a fine aggregate or gravel surface treatment over graded rock and geotextile. Costs include all earthfill, excavation, grading, aggregate surfacing treatment, geotextile, seeding and all equipment, labor and incidental materials necessary to provide a smooth permanent travel pathway.

### **Gravel Over Graded Rock and Sand Bedding**

A trail or walkway with a gravel surface treatment over graded rock and sand filter. Costs include all earthfill, excavation, grading, aggregate surfacing treatment, rock subgrade, sand filter, seeding and all equipment, labor and incidental materials necessary to provide a smooth permanent travel pathway.

### **Gravel Walkway**

A trail or walkway with a gravel surface treatment. Costs include all earthfill, excavation, grading, aggregate surfacing treatment, seeding and all equipment, labor and incidental materials necessary to provide a smooth permanent travel pathway.



**Raised earth walkway**

An earth or vegetated trail consisting of mostly fill with some excavation, grading and shaping necessary to provide a smooth permanent travel surface. No surface materials are included with this practice. If the lane is vegetated and requires planting, the vegetation shall be planted according to Critical Area Planting (342). Costs include earthfill, excavation, shaping, grading, and all equipment, labor and incidental materials necessary to install the practices.

**Wood Chips, Walkway**

A trail or walkway with a wood chip surface treatment on an earthen foundation. Costs include all earthfill, excavation, grading, shaping, surfacing material, seeding and all equipment, labor and incidental materials necessary to provide a smooth permanent travel pathway.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 612 – Tree/Shrub Establishment

## Supplemental Criteria

1. Payment rate includes cost of seedlings, planting, animal deterrent devices and installation.
2. Payment will not be made until shelters (tubes or bud caps), **if required**, are in place the year of planting.
3. **See General Provision 9** for site preparation information when using planted stock.
4. **Tree/Shrub Site Preparation (490) must be implemented in conjunction with the practice Tree/Shrub Establishment (612)** if a determination is made that it will be needed for successful establishment of planned tree/shrub planting.
5. For fabric, use Mulching (484).
6. **Wildlife Criteria:** Financial assistance is available only for establishing and restoring mixed native hardwood and conifer species in historically forested landscapes. The exception being winter cover block plantings which are allowable statewide.

## Scenarios

### **Aerial Seeding**

Native conifer seed from native tree species are broadcast aurally on the site. Site preparation is either not needed, not practical or completed. The native seeds are collected/purchased locally to get trees known to be adapted to local conditions.

### **Conifer, hand plant with woven-wire environmental stressors protection**

The scenario involves hand planting conifers after the site has been prepared for seedling growth and establishment. The productivity of the site is good and will handle medium density planting rate. Newly planted conifer seedlings are protected from browsing by installing woven-wire cages around only the susceptible tree species seedlings, notably northern white cedar and native pines.

### **Hardwood Establishment, Direct Seeding**

Seed (acorns, nuts, etc.) from native tree species are directly planted in the soil. Site preparation is completed (disking to eliminate competing vegetation). The native seed are collected/purchased locally so seeded trees are known to be adapted to local conditions. This scenario is for converting cropland, pasture, or other land use to forest land.

### **Hardwood Establishment, Direct Seeding, Regen**

Native seed (acorns, nuts, etc...) from native tree species are directly planted in the soil. Site preparation is completed (disking to eliminate competing vegetation). The native seeds are collected/purchased locally so as to get trees known to be adapted to local conditions. This scenario is to regenerate an existing forest.

### **Hardwood mechanical Planting, bare root, with tree protectors**

Improving the hardwood forest setting by hand planting or mechanical hardwood tree or shrub seedlings. Seedlings are protected from deer browsing. The number of trees to plant is lower than establishing a new forest.

### **Individual tree, hand planting** (no tree protection)

Machine planting is included. This includes hardwoods, conifers and shrubs. Tree seedlings will be planted in the forested area where stocking is insufficient or open areas. Wildlife habitat is degraded by loss of forest conditions.

### **Medium Density, Conifer, hand plant with mesh protectors**

This practice involves planting of tree seedlings after the site has been prepared for seedling growth and establishment. The productivity of the site is good and will handle a medium density planting rate. Newly planted conifer seedlings are protected from browsing by installing open tree tubes. Terrain is moderately to steeply sloping, too steep to be planted with a mechanical tree planter so the area is hand planted.

### **Medium Density, Conifer, hand plant, with bud caps**

Tree seedlings will be hand planted in the forested area where few or no forest trees growing, the existing stand of trees needs underplanting, or the previously planted seedling tree stocking level is below desirable conditions. Seedlings are protected from wildlife browsing. Wildlife habitat is degraded by loss of forest conditions.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 660 – Tree/Shrub Pruning

## Supplemental Criteria

1. Payment is authorized when pruning is necessary to address **an identified resource concern**.
2. This practice is eligible only on land designated as Forestland. It is not eligible for tree/shrub pruning in HQ areas (landscaping).

## Scenarios

### **Pruning- High Height (greater than 9 ft.)**

Pruning is done by hand with chain saws, tree loppers, hand shears, or hand saws, according to a pruning plan. Crop trees may be identified for pruning.

### **Pruning-Low Height (up to 9 ft.)**

Pruning is done by hand with chain saws, tree loppers, hand shears, or hand saws, according to a pruning plan. Crop trees may be identified for pruning.

### **Root Pruning for Oak Wilt Control**

A Natural Resource Professional, e.g., Forester, Biologist, Pathologist, determines the extent of an Oak Wilt infection and delineates the treatment area. Brush and small trees are removed from treatment area (trencher line) using a combination of a bulldozer and chainsaw. A trencher or vibratory plow is then used to sever root grafts between adjacent oak trees to stop the spread of Oak Wilt from infected trees to healthy trees. Trees within treatment area are treated with herbicide to ensure mortality of all diseased trees and further reduce chance of disease spread.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 490 – Tree/Shrub Site Preparation

## Supplemental Criteria

1. Tree/Shrub Site Preparation (490) **must be implemented** in conjunction with Tree/Shrub Establishment (612) if a determination is made that it will be needed for successful establishment of planned tree/shrub planting or natural regeneration.
2. Use (384) Woody Residue Treatment if cleaning up after a catastrophic event.

## Scenarios

### **Chemical, Ground Application** (includes hand application)

This practice involves the use of various herbicides in order to remove undesirable vegetation and improve site conditions for establishing trees and/or shrubs. Typical sites include abandoned fields, pastures, rangelands, agricultural fields or forestland that was recently harvested.

### **Mechanical, Heavy Machinery**

This practice involves the use of heavy machinery to treat an area in order to improve site conditions for establishing trees and/or shrubs including natural regeneration. Typical sites include trees and brush cover that needs to be controlled for successful tree establishment.

### **Mechanical, Light or Moderate Machinery**

This practice involves the use of light/moderate machinery to clear above ground vegetation and to also rip/cut/lift underground root systems in order to improve site conditions for establishing trees and/or shrubs. Typical sites include abandoned fields, pastures, rangelands, agricultural fields or forestlands that have been recently logged/harvested.

### **Windbreak, Site Preparation**

This practice involves the use of various chemical/mechanical methods to allow for the planting of a windbreak. Site preparation includes chemically killing vegetation prior to a mechanical site preparation. Typical sites include open land such as agricultural fields, old fields, pastures, and rangelands.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 620 – Underground Outlet

## Supplemental Criteria

1. Payment for Underground Outlet is authorized as a supporting practice for Grade Stabilization (410) only if a stable outlet cannot be provided with the typical length of pipe listed in the Grade Stabilization Embankment Dam scenarios.

## Scenarios

### **10 inch corrugated plastic tubing**

An installation includes 10 inch diameter single wall corrugated plastic tubing, a 12 inch perforated plastic riser inlet, trench excavation, trench backfill, rodent guard and CMP outlet protection. Not all, or different appurtenances may be required in some situations.

### **12 inch corrugated plastic tubing or larger**

A typical installation includes 12 inch diameter single wall corrugated plastic tubing, a 12 inch perforated plastic riser inlet, trench excavation, trench backfill, rodent guard and CMP outlet protection. Not all, or different appurtenances may be required in some situations.

### **15-21 inch pipe conduit**

A typical installation includes 18 inch diameter dual wall HDPE pipe, a precast concrete drop inlet with steel grate or slotted intake, trench excavation, bedding material, trench backfill, rock riprap slope protection at outlet, rodent guard and CMP outlet protection. Not all, or different appurtenances may be required in some situations.

### **24 inch pipe conduit**

A typical installation includes 24 inch diameter dual wall HDPE pipe, a precast concrete drop inlet with steel grate or slotted intake, trench excavation, bedding material, trench backfill, rock riprap slope protection at outlet, rodent guard and CMP outlet protection. Not all, or different appurtenances may be required in some situations.

### **30 inch pipe conduit**

A typical installation includes 30 inch diameter dual wall HDPE pipe, a precast concrete drop inlet with steel grate or slotted intake, trench excavation, bedding material, trench backfill, rock riprap slope protection at outlet, rodent guard and CMP outlet protection. Not all, or different appurtenances may be required in some situations.

### **36 inch pipe conduit or larger**

A typical installation includes 36 inch diameter dual wall HDPE pipe, a precast concrete drop inlet with steel grate or slotted intake, trench excavation, bedding material, trench backfill, rock riprap slope protection at outlet, rodent guard and CMP outlet protection. Not all, or different appurtenances may be required in some situations.

### **6 inch corrugated plastic tubing or smaller**

A typical installation includes 6 inch diameter single wall corrugated plastic tubing, an 8 inch perforated plastic riser inlet, trench excavation, trench backfill, rodent guard and CMP outlet protection. Not all, or different appurtenances may be required in some situations.

### **6 inch pipe conduit (or smaller)**

A typical installation includes 6 inch diameter schedule 40 PVC pipe, a precast concrete drop inlet with steel grate or slotted intake, trench excavation, trench backfill, rodent guard and CMP outlet protection. Not all, or different appurtenances may be required in some situations.

### **8-12 inch pipe conduit**

A typical installation includes 10 inch diameter PVC or dual wall HDPE pipe, a precast concrete drop inlet with steel grate or slotted intake, trench excavation, trench backfill, rodent guard and CMP outlet protection. Not all, or different appurtenances may be required in some situations.

### **8 inch corrugated plastic tubing**

An installation includes 8 inch diameter single wall corrugated plastic tubing, a 10 inch perforated plastic riser inlet, trench excavation, trench backfill, rodent guard and CMP outlet protection. Not all, or different appurtenances may be required in some situations.

### **Blind Inlet for Water Quality**

Install an excavated earthen box with perforated collector tubing placed in the bottom and filled to the surface with bedding material and sand to direct surface flow into a “main line” or subsurface drain. Typically installed in low areas to replace surface risers, thus reducing direct flow of sediment into tile and out to stream. Costs include the collection pipe, excavation, gravel and sand layers. This practice can be installed in conjunction with small drainage area WASCObS or similar practices.

### **Intake Riser and short offset outlet**

This scenario consists of a perforated riser and section of pipe that acts as an offset to connect to a separate tile line that has adequate capacity. A typical installation includes an 8 inch diameter Perforated PVC Riser Inlet, 8 inch diameter connecting pipe, tee connection, trench excavation, and trench backfill. Not all, or different appurtenances may be required in some situations. This practice is often installed in conjunction with terraces, diversions, sediment control basins, waterways or similar practices.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 645 – Upland Wildlife Habitat Management

## Supplemental Criteria

1. **There is a maximum payment cap of \$50,000 for this practice.** Consult General Provision **14** for additional details.
2. **Payment is not made until the seeding is completed AND all 3 monitoring data collections have been submitted to NRCS Area Office.**
3. For Honey Bee habitat, the application must be located within 1 mile of an existing or planned apiary. An apiary is defined as **5** or more hives **and** the producer must provide written documentation of location of apiary.
4. Acreage established to annual honeybee forage mixture is intended to maximize benefits to honeybees and associated wildlife in accordance with conservation practice standard 645 – Upland Wildlife Habitat Management. **Contracted acres may not be hayed or grazed and vegetation is left undisturbed throughout the winter.**
5. Practice may be applied on the same acres for up to three consecutive years.

## Scenarios

### **Honeybee Habitat – Multi-species Mix, with Monitoring and Forgone Income**

Setting is **cropland** with the potential to provide foraging habitat for European honey bees and the decision of the land user is to forgo planting of annual crops to benefit the bee. Safe honey bee forage will be provided during the summer under this scenario. This scenario will include the **annual** planting of a multi-specie mixture for honey bee forage. Monitoring will be used to determine if the goal of providing safe forage for the honey bee is being met. Monitoring will involve measuring the use of different flowering species by honey bees and native pollinators, per NRCS monitoring guidelines.

### **Inter-seeding Milkweed for Monarch Habitat**

Inter-seeding milkweed into an existing stand of vegetation that has sufficient nectar plant richness and distribution, but lacks reproductive habitat (milkweed). Existing vegetation will be treated with herbicides in strips. Drilling of milkweed will be into the herbicide treated strips. In addition to providing monarch habitat, this practice scenario may also reduce sheet, rill, and wind erosion, improve soil quality, improve water quality, and improve air quality. The practice may also provide wildlife habitat. Practice applicable on cropland, odd areas, corners, etc.

### **Wildlife Habitat Enhancement**

Exclusion of livestock on grassland for the enhancement of habitat for wildlife.



# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 635 - Vegetated Treatment Area

## Supplemental Criteria

1. Consult **General Provision 12** for Comprehensive Nutrient Management Plan (CNMP) requirements.
2. Vegetated Treatment Area (635) is an ineligible practice when the participant is obligated to implement as a requirement established by **court order** proclaimed, signed and issued by a judge through civil actions - **CPM 515.81 E. (1) (iv)**. MPCA Stipulation Agreement and Schedule of Compliance (SOC) are not considered a court order, and practice implementation is still considered voluntary for EQIP eligibility purposes, even if fines have been levied by the MPCA.

## Scenarios

### **Mechanical Distribution (Irrigated VTA)**

The practice consists of a permanent herbaceous vegetative area located adjacent to a livestock production area. Wastewater (runoff or milking parlor wastewater) is properly collected at the production area and pumped to mechanically distribute wastewater onto the VTA.

A settling basin for wastewater collection is contracted using Waste Separation Facility (632) and Pumping Plant (533). Waste Transfer (634) is contracted to get the wastewater to the VTA mechanical distribution component from the livestock production area. Costs include the irrigation equipment used to distribute wastewater onto the VTA.

### **VTA downslope from collection point, Fill Present on Site**

The practice consists of an existing area downslope of the wastewater collection area which is to be used as an overland flow area for nutrient rich runoff treatment. A flow distribution component consisting of a concrete or gravel spreader is installed to establish sheet flow at the start of the VTA. There is an adequate amount of suitable material available onsite to grade and shape the treatment area. Clean runoff is diverted where possible. More substantial dikes needed to direct flow toward the area or to prevent clean water from flowing into the treatment area should be contracted using Diversion (362).

More substantial dikes needed to direct flow toward the area or to prevent clean water from flowing into the treatment area should be contracted using Diversion (362).

### **VTA downslope from collection point, Haul in Fill**

The practice consists of an existing area downslope of the wastewater collection area which is to be used as an overland flow area for nutrient rich runoff treatment. A flow distribution component consisting of a concrete or gravel spreader is installed to establish sheet flow at the start of the VTA. There is not enough suitable material available onsite to grade and shape the treatment area, so enough earthfill must be brought in to cover the treatment area to meet the requirements in the practice standard. More substantial dikes needed to direct flow toward the

area or to prevent clean water from flowing into the treatment area should be contracted using Diversion (362).

### **Wastewater Pumped Uphill to Basin with Gravity Outflow to VTA**

The practice consists of an area or channel located upslope from the wastewater collection area. The topography of the site requires wastewater to be pumped uphill to the VTA designed system. Wastewater is properly collected at the production area and pumped uphill to a shallow tank or basin where it has a controlled gravity outflow into the VTA. The practice includes a concrete basin at the VTA but a settling basin for wastewater collection at the production area must be contracted using Waste Separation Facility (632) and Pumping Plant (533) must be contracted to provide for transferring the wastewater upslope to the VTA distribution point.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 601 – Vegetative Barrier

## Supplemental Criteria

1. Payment is for seedbed preparation, seeding, seed, soil amendments and weed control as appropriate based on an approved plan.
2. **This is for rhizomes or plugs only.**

## Scenarios

### **Vegetative Planting**

Permanent strips of stiff, dense vegetation of rhizomes or plugs established along the general contour of slopes.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 360 – Waste Facility Closure

## **Supplemental Criteria**

1. This practice applies to agricultural waste facilities or livestock production sites that are no longer needed as a part of a waste management system and are to be permanently closed or converted for another use.
2. Payment is not authorized for the closure of above ground commercially fabricated storage facility.
3. The unit measure is the total storage volume to top of structure or impoundment.
4. Closure of concrete tanks shall require the complete removal or burial of the structure.
5. Burial of demolition waste shall meet all state and local rules and regulations

## **Scenarios**

### **Closure of Liquid Waste Impoundment disposal offsite**

This scenario includes the decommissioning of a liquid waste facility involving the partial removal of a concrete liner or the complete removal of a concrete bottom. Disposal of concrete is off site.

### **Closure of Liquid Waste Impoundment disposal onsite**

This scenario includes the decommissioning of a liquid waste facility involving the partial removal of a concrete liner or the complete removal of a concrete bottom. Disposal of concrete is on site.

### **Poultry House Soil Remediation**

This practice scenario includes the remediation of the soil in an abandoned poultry structures previously used to store poultry waste (litter) on an earthen floor.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 632 – Waste Separation Facility

## Supplemental Criteria

1. For mechanical separators, practice payment includes separator, concrete base, and protective cover, etc.
2. Consult **General Provision 12** for Comprehensive Nutrient Management Plan (CNMP) requirements.
3. Consult **General Provision 13** for requirements related to manure application land base and/or manure applications on land not owned or controlled by the EQIP contract holder.
4. Sand stacking areas related to sand separation scenarios shall be contracted under Waste Storage Facility (313).

## Scenarios

### **Barnyard Basin Wall**

A concrete or treated wood wall designed for the purpose of trapping agricultural waste from animal barnyards. Scenario feature measure is linear feet of basin wall.

### **Concrete Basin**

A concrete structure, such as a basin with concrete walls and floor with a weeping wall, used to capture and separate a portion of the solids from a liquid stream from a feedlot or confinement facility or feed storage area. Scenario feature measure is the volume of design storage.

### **Concrete Basin, Multiple Cells, Gravity**

A concrete basin containing multiple cells with concrete walls and floor with weeping walls. Often used where manure is cleaned by flushing. Use of multiple separation cells allows for the continuous operation and management of the waste stream to be altered between cells. Scenario feature measure is the volume of design storage.

### **Concrete Sand Settling Lane**

A concrete lane with curbs, used to capture and separate a portion of the solids, mainly sand, from a liquid stream from a confinement facility. Scenario feature measure is the footprint of the settling lane.

### **Earthen Settling Structure**

An earthen structure, such as a basin or a terrace or dike like structure, used to capture and separate a portion of the solids from a liquid stream from a feedlot or confinement facility. Scenario feature measure is the design storage.

### **Earthen w/Picket Fence Box**

An excavated basin used to capture and separate a portion of the solids from a liquid stream from a feedlot or confinement facility to facilitate waste handling and to address water quality

concerns. The basin constructed by excavation and partial berm with wooden picket fence box around an outlet. Scenario feature measure is the total volume.

### **Mechanical system**

A multi-unit mechanical separation system including, but are not limited to: static inclined screens, vibratory screens, rotating screens, centrifuges, screw or roller presses, or other systems.

### **One Mechanical Separator**

A small mechanical separation facility to partition organic solids, liquids, and/or associated nutrients from animal waste streams. The partitioning of the previously mentioned components facilitates the protection of air and water quality, protects animal health, and improves the management of an animal waste management system. Mechanical separators may include, but are not limited to: static inclined screens, vibratory screens, rotating screens, centrifuges, screw or roller presses, or other systems.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 313 – Waste Storage Facility

## Supplemental Criteria

1. The eligible volume of storage for tanks and earthen storage structures is the design storage volume as defined in Practice Standard 313.
2. Consult General Provision 12 for Comprehensive Nutrient Management Plan (CNMP) requirements.
3. Consult General Provision 13 for requirements related to manure application land base and/or manure applications on land not owned or controlled by the EQIP contract holder.
4. Payment is authorized for feedlot relocation, with the following provisions:
  - a. The payment for relocation shall be based on the most practical and feasible waste management facility at the existing site.
  - b. Existing location is to be abandoned in an environmentally safe manner as outlined in MPCA guidelines.
  - c. The following statement shall be included in the EQIP contract: “As a condition of EQIP Payment on feedlot relocation, the producer agrees to eliminate designated pollution sources at this facility. Failure to comply with this provision may result in a recovery of federal Payment funds.”
5. Waste Storage Facility (313) is an ineligible practice when the participant is obligated to implement as a requirement established by **court order** proclaimed, signed and issued by a judge through civil actions - *CPM 515.81 E. (1) (iv)*. MPCA Stipulation Agreement and Schedule of Compliance (SOC) are not considered a court order, and practice implementation is still considered voluntary for EQIP eligibility purposes, even if fines have been levied by the MPCA.

## Scenarios

### **Above Ground Steel or Concrete, between 100 and 200K ft3 storage**

An above ground circular glass lined steel or concrete structure constructed to store wastes such as manure, wastewater, and contaminated runoff as part of an agricultural waste management system. This scenario has a design storage volume of between 100,000 and 200,000 ft3.

### **Above Ground Steel or Concrete, greater than 200K ft3 storage**

An above ground circular glass lined steel or concrete structure constructed to store wastes such as manure, wastewater, and contaminated runoff as part of an agricultural waste management system. This scenario has a design storage volume of greater than 200,000 ft3.

### **Above Ground Steel or Concrete, less than 25K ft3 storage**

An above ground circular glass lined steel or concrete structure constructed to store wastes such as manure, wastewater, and contaminated runoff as part of an agricultural waste management system. This scenario has a design storage volume of less than 25,000 ft3.

### **Above Ground Steel or Concrete, between 25 and 100K ft<sup>3</sup> storage**

An above ground circular glass lined steel or concrete structure constructed to store wastes such as manure, wastewater, and contaminated runoff as part of an agricultural waste management system. This scenario has a design storage volume of between 25,000 and 100,000 ft<sup>3</sup>.

### **Concrete Tank, Buried, greater than or equal to 110K ft<sup>3</sup>**

This scenario consists of installing a concrete tank that has a design storage volume greater than or equal to 110,000 CF. Tank is totally or partially buried.

### **Concrete Tank, Buried, greater than or equal to 15K and less than 25K ft<sup>3</sup>**

This scenario consists of installing a concrete tank that has a design storage volume from 15,000 to 24,999 CF. The tank is totally or partially buried and has an open top.

### **Concrete Tank, Buried, greater than or equal to 25K and less than 50K ft<sup>3</sup>**

This scenario consists of installing a concrete tank that has a design storage volume from 25,000 to 49,999 CF. Tank is totally or partially buried and has an open top.

### **Concrete Tank, Buried, greater than or equal to 50K and less than 75K ft<sup>3</sup>**

This scenario consists of installing a concrete tank that has a design storage volume from 50,000 to 74,999 CF. Tank is totally or partially buried.

### **Concrete Tank, Buried, greater than or equal to 5K and less than 15K ft<sup>3</sup>**

This scenario consists of installing a concrete tank that has a design storage volume from 5,000 to 14,999 CF that is totally or partially buried.

### **Concrete Tank, Buried, greater than or equal to 75K and less than 110K ft<sup>3</sup>**

This scenario consists of installing a concrete tank that has a design storage volume from 75,000 to 109,999 CF. Tank is totally or partially buried.

### **Concrete Tank, Buried, less than 5K ft<sup>3</sup>**

This scenario consists of installing a small concrete tank with a design storage volume of less than 5,000 CF that is totally or partially buried. Payment rate is based on the design storage volume.

### **Dry Stack, Concrete floor, and Wood wall or Modular Block Wall**

This scenario consists of a dry stack facility with concrete Floor with pressure treated wood walls or Modular Block Wall. This scenario is intended for stackable material. This scenario is applicable when geological, soil, climate conditions or state and local regulations prohibit the use of an earthen surface, and requires a hard working surface such as concrete. The purpose of this practice is to temporarily, properly store manure and other agricultural by-products until they can be hauled away from the site for proper disposal or utilization on land at agronomical rates. This practice will address soil and water quality by reducing the pollution potential to soil, surface water and ground water.

### **Dry Stack, Non-reinforced concrete floor, Reinforced concrete wall**

This scenario consists of a dry stack facility with reinforced concrete floor without side walls. Payment rate is based on the stacking area.

### **Dry Stack, Reinforced concrete floor, Reinforced concrete wall**

This scenario consists of a dry stack facility with reinforced concrete floor and concrete walls.



### **Earthen Storage Facility, Above Ground, Embankment**

An earthen waste impoundment constructed to store wastes such as manure, wastewater, and contaminated runoff as part of an agricultural waste management system. Due to high water table conditions, shallow to bedrock, the earthen embankment is constructed on the soil surface. Earthen storage liners are addressed with another standard.

### **Earthen Storage Facility, in ground, less than 50K ft3 Storage**

An earthen waste impoundment constructed to store wastes such as manure, wastewater, and contaminated runoff as part of an agricultural waste management system. This scenario has a design storage volume of less than 50,000 ft<sup>3</sup>. Earthen storage liners are addressed with another standard.

### **Earthen Storage Facility, in ground, greater than 50K ft3 Storage**

An earthen waste impoundment constructed to store wastes such as manure, wastewater, and contaminated runoff as part of an agricultural waste management system. This scenario has a design storage volume of more than 50,000 ft<sup>3</sup>. Earthen storage liners are addressed with another standard.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 634 – Waste Transfer

## Supplemental Criteria

1. Consult **General Provision 12** for Comprehensive Nutrient Management Plan (CNMP) requirements.
2. Waste Transfer (634) does not include barn cleaners and flush systems.
3. All pumps are covered under Pumping Plant.
4. Concrete channel (Scrape alley) is only applicable to alleys outside of barns.

## Scenarios

### **Concrete Channel (Scrape Alley)**

This scenario consists of the installation of a concrete channel with or without curbs. Scenario feature measure is the bottom surface area of the concrete channel.

### **High pressure flow conduit, 100 psi or greater**

This scenario consists of a high pressure flow conduit. High pressure flow PVC transfer pipelines can be between 3" and 30" diameter and are designed for a pumping pressure of more than 100 psi. This practice includes the pipe plus the inlet structure connection and all other fittings, trench excavation and backfill, labor and equipment for installation. Scenario feature measure is the length of pipe installed.

### **Hopper Inlet or pull plug with gravity pipeline to waste storage facility**

This scenario consists of a gravity flow conduit, which is typically a large diameter water tight HDPE sanitary sewer pipe, which is used to transfer manure by gravity. The gravity transfer system typically consists of an inlet structure or hopper with an adaptor to a smooth interior large diameter HDPE pipe. This scenario assumes an inlet structure, transfer pipe plus any and all other fittings, trench excavation and backfill, labor and equipment for installation.

### **Large Pipe Only, 18 inch diameter or larger**

This scenario consists of a gravity flow conduit, typically a large diameter water tight HDPE sanitary sewer pipe. This scenario includes the pipe attachment to an existing inlet structure and all other fittings, trench excavation and backfill, labor and equipment for installation. Scenario feature measure is the length of pipe installed.

### **Medium Pipe only, between 6 and 18 inch diameter**

This scenario consists of a low pressure flow conduit between 6 and 18 inches in diameter. The low pressure flow situation refers to pipeflow that has an unrestricted outlet and low pumping head pressure. Low pressure flow transfer pipelines can be between 3" and 30" diameter and are designed for a pumping pressure of no more than 100 psi. This scenario includes the pipe plus

the inlet structure connection and all other fittings, trench excavation and backfill, labor and equipment for installation. Scenario feature measure is the length of pipe installed.

### **Milkhouse transfer system**

This scenario consists of the installation of a wastewater transfer system that includes materials and structures to transfer liquids from a milkhouse/parlor. Scenario payment unit is based on the collection volume installed.

### **Small Pipe Only, 6 inch diameter or smaller**

This scenario consists of a low pressure flow conduit with a diameter of 6 inches or smaller. The low pressure flow situation refers to pipeflow that has an unrestricted outlet and low pumping head pressure. Low pressure flow transfer pipelines can be between 3" and 30" diameter and are designed for a pumping pressure of no more than 100 psi. This practice includes the pipe plus the inlet structure connection and all other fittings, trench excavation and backfill, labor and equipment for installation. Scenario feature measure is the length of pipe installed.

### **Transfer channel to catch basin with transfer pipe to waste storage pond**

This scenario includes the installation of a concrete channel with curbs and to transfer waste to a collection basin and/or waste storage facility. The wastewater is then transferred from the basin to the waste storage pond through a low pressure pipeline. Scenario feature measure is the bottom surface area of the concrete channel.

### **Transfer Channel/scrape alley with push-off wall at pond and safety gate**

This scenario includes of the installation of a concrete channel that consists of a slab with curbs and a push-off ramp. The push-off ramp is a concrete cantilever structure that allows the waste to be moved into a storage facility. Scenario feature measure is the bottom surface area of the concrete channel.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 629 – Waste Treatment

## Supplemental Criteria

1. Consult General Provision 12 for Comprehensive Nutrient Management Plan (CNMP) requirements.
2. Consult General Provision 13 for requirements related to manure application land base and/or manure applications on land not owned or controlled by the EQIP contract holder.
3. Waste Treatment (629) is an ineligible practice when the participant is obligated to implement as a requirement established by **court order** proclaimed, signed and issued by a judge through civil actions – *CPM 515.81 E. (1) (iv)*. MPCA Stipulation Agreement and Schedule of Compliance (SOC) are not considered a court order, and practice implementation is still considered voluntary for EQIP eligibility purposes, even if fines have been levied by the MPCA.
4. Payment rate includes components needed for the actual waste treatment. Components needed for temporary storage and transfer of wastes are covered under separate practices.

## Scenarios

### **Milking Parlor Waste with Treatment Dosing System**

This practice scenario includes a dosed treatment system for milking center parlor wastewater that will outlet to a constructed wetland and/or vegetated treatment area and/or other acceptable treatment. Typical scenario includes transfer pipe from milkhouse, septic tanks and distribution piping. Scenario feature measure is based on the design flow.

### **Milking Parlor Waste Treatment System with Dosing System and Bed (and other systems listed in the MN-629 Practice Standard)**

This practice scenario includes all treatment options listed in MN Practice Standard 629 for milking center wastewater. Typical scenario is an Organic (Bark) Bed system and includes transfer pipe from milkhouse, septic tanks, distribution piping, wood chips, gravel and geotextile. Scenario feature measure is based on the design flow.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 638 – Water and Sediment Control Basin

## Supplemental Criteria

1. Fill Height is measured at centerline using average ground at low point to design height, not including freeboard.
2. The outlet is typically a riser and underground outlet which is contracted through Underground Outlet (620).

## Scenarios

### **Berm between 10ft and 12ft tall, grassed**

A typical structure consists of a berm between 10 feet and 12 feet in height with approximately 3:1 side slopes that has permanent vegetation established on it. The structure is normally constructed with a dozer, scraper, or road grader. Costs include all equipment necessary to excavate, shape, grade and compact the Water and Sediment Control Basin and for mobilization of equipment and to establish permanent vegetation.

### **Berm between 12ft and 15ft tall, grassed**

A typical structure consists of a berm between 12 feet and 15 feet in height with approximately 3:1 side slopes that has permanent vegetation established on it. The structure is normally constructed with a dozer, scraper, or road grader. Costs include all equipment necessary to excavate, shape, grade and compact the Water and Sediment Control Basin and for mobilization of equipment and to establish permanent vegetation.

### **Berm between 4ft and 6ft tall, farmed**

A typical structure consists of a berm between 4 feet and 6 feet in height with approximately 6:1 side slopes that are typically farmed. The structure is normally constructed with a dozer, scraper, or road grader. Costs include all equipment necessary to excavate, shape, grade and compact the Water and Sediment Control Basin and mobilization of equipment.

### **Berm between 4ft and 6ft tall, grassed**

A typical structure consists of a berm between 4 feet and 6 feet in height with approximately 3:1 side slopes that has permanent vegetation established on it. The structure is normally constructed with a dozer, scraper, or road grader. Costs include all equipment necessary to excavate, shape, grade and compact the Water and Sediment Control Basin and for mobilization of equipment and to establish permanent vegetation.

### **Berm between 6ft and 8ft tall, grassed**

A typical structure consists of a berm between 6 feet and 8 feet in height with approximately 3:1 side slopes that has permanent vegetation established on it. The structure is normally constructed with a dozer, scraper, or road grader. Costs include all equipment necessary to

excavate, shape, grade and compact the Water and Sediment Control Basin and for mobilization of equipment and to establish permanent vegetation.

### **Berm between 8ft and 10ft tall, grassed**

A typical structure consists of a berm between 8 feet and 10 feet in height with approximately 3:1 side slopes that has permanent vegetation established on it. The structure is normally constructed with a dozer, scraper, or road grader. Costs include all equipment necessary to excavate, shape, grade and compact the Water and Sediment Control Basin and for mobilization of equipment and to establish permanent vegetation.

### **Berm less than 4ft tall, farmed**

A typical structure consists of a berm less than 4 feet tall with approximately 8:1 side slopes which are typically farmed. The structure is normally constructed with a dozer, scraper, or road grader. Costs include all equipment necessary to excavate, shape, grade and compact the Water and Sediment Control Basin and mobilization of equipment.

### **Berm less than 4ft tall, grassed**

A typical structure consists of a berm less than 4 feet tall with 3:1 side slopes that has permanent vegetation established on it. The structure is normally constructed with a dozer, scraper, or road grader. Costs include all equipment necessary to excavate, shape, grade and compact the Water and Sediment Control Basin and for mobilization of equipment and to establish permanent vegetation.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 642 – Water Well

## **Supplemental Criteria**

1. Payment is authorized when required for providing stock water as a component of Prescribed Grazing.
2. Not authorized for any part of a human domestic water supply.
3. Payment is not authorized for dry wells.

## **Scenarios**

### **High Volume**

This scenario is for the construction of a well in areas where sufficient water is typically known to occur within 75 to 300 feet from the ground surface. The well is usually drilled to an aquifer for water supply. The purpose of the practice is to provide a high volume of water for livestock. Scenario payment units are based on the linear foot of casing installed.

### **Shallow (less than 75ft)**

This scenario is for the construction of a well in areas where sufficient water is typically known to occur within 50 feet of the ground surface. The well shall be drilled, driven, or bored (commonly drilled) to an aquifer for water supply. The purpose of the practice is to provide water for livestock. Scenario payment units are based on the linear foot of casing installed.

### **Typical (75 ft and deeper)**

This scenario is for the construction of a well in areas where sufficient water is typically known to occur within 75 to 300 feet from the ground surface. The well shall be drilled, driven, or bored (commonly drilled) to an aquifer for water supply. The purpose of the practice is to provide water for livestock. Scenario payment units are based on the linear foot of casing installed.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 614 – Watering Facility

## Supplemental Criteria

1. Payment is authorized when required as a component of a Prescribed Grazing system or feedlot relocation.

## Scenarios

### **Frost Free Fountain**

A small permanent watering facility for a typical grazing system pasture where livestock need to access water. Typically a prefabricated two or four-hole, frost-free, on-demand drinker which includes all tank materials, tank plumbing and float valve. All watering facilities will be constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation. This watering facility will address the resource concerns of inadequate supply of water for livestock and or wildlife, habitat degradation, water quality, and undesirable plant productivity and health. Electrical wiring and local electrical inspection may also be required where applicable.

### **Tank Greater Than 150 and Less Than or Equal to 500 Gallons**

A permanent watering facility for livestock and or wildlife constructed of approved materials with greater than 150 to 500 gallons of capacity that stores adequate quantity and quality of water for storage and or direct drinking access. All watering facilities will be constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation. This watering facility will address the resource concerns of inadequate supply of water for livestock, habitat degradation, water quality, and undesirable plant productivity and health.

### **Tank Greater Than 500 Gallons**

A tank constructed of approved materials with a capacity to store an adequate quantity and quality of water for storage and or direct drinking access. All watering facilities will be constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation. Water storage may be provided using poly tanks, rubber tire tanks or other approved materials. This watering facility will address the resource concerns of inadequate supply of water for livestock, habitat degradation, water quality, and undesirable plant productivity and health.

### **Tank less than or equal to 150 gallons**

A permanent watering facility for livestock and or wildlife constructed of approved materials with 150 gallons or less capacity that stores adequate quantity and quality of water for storage and or direct drinking access. All watering facilities will be constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation. This watering facility will address the resource concerns of inadequate supply of water for livestock, habitat degradation, water quality, and undesirable plant productivity and health.



# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 351 –Well Decommissioning

## Supplemental Criteria

1. No special provisions.

## Scenarios

### **Deep Drilled Well - Bedrock Not Present**

Deep drilled or driven wells typically have a 6" diameter casing and a depth of greater than 50 feet. The well is located in alluvial material where bedrock is not present. Procedures and sealing materials shall conform to ASTM D5299 and all applicable local, State, Tribal, and Federal requirements. Scenario feature measure is the depth of well.

### **Deep Drilled Well - Bedrock Present**

Deep drilled or driven wells typically have a 6" diameter casing and a depth of greater than 50 feet. The well is drilled into bedrock or Karst. Procedures and sealing materials shall conform to ASTM D5299 and all applicable local, State, Tribal, and Federal requirements. Scenario feature measure is the depth of well.

### **Dug Well**

Shallow or hand dug wells are typically 36 inches in diameter and 20 feet deep. Decommissioning of shallow or hand dug wells commonly consists of placing compacted earthfill in the well up to within five feet from the surface and the top five feet of the well is filled with cement grout or bentonite. Procedures and sealing materials shall conform to ASTM D5299 and all applicable local, State, Tribal, and Federal requirements.

### **Shallow Drilled Well Sealed with Grout**

Shallow drilled or driven wells typically have a 6" diameter casing and a depth of less than 50 feet. The well is a sandpoint or well or located in alluvium with no embedment in bedrock. Procedures and sealing materials shall conform to ASTM D5299 and all applicable local, State, Tribal, and Federal requirements. Scenario feature measure is the depth of well.

# Environmental Quality Incentives Program

## 2019 - Minnesota Supplement for: Practice Standard 657 – Wetland Restoration

### Supplemental Criteria

1. The producer is responsible for obtaining easements, rights of way, local, state and federal permits and other permission necessary to perform and maintain the practice. Expenses incurred due these items are not eligible for assistance. Financial assistance payments will not be made until proof of necessary permits has been provided. **See General Provisions 7 and 10.**
2. The restored area shall not be used:
  - a) For irrigation or livestock watering purposes
  - b) To produce agricultural commodities.
  - c) For grazing livestock.
3. Critical Area Planting (342) may be used as a facilitating practice for necessary seed and seeding.
4. Upland Treatment is required. **See General Provision 8.**

### Scenarios

#### **Depression Sediment Removal and Ditch Plug**

A depression wetland is to be restored. The purpose of this practice is to restore the appropriate hydrological and vegetative characteristics necessary to meet the desired wetland functions and values. Restoration will be accomplished through removal of sediment and subsurface drain tile. Native vegetation will be allowed to establish. Soil borings may be needed to determine the extent of sediments to be removed.

#### **Ditch Plug**

A depression wetland is to be restored. The purpose of this practice is to restore the appropriate hydrological and vegetative characteristics necessary to meet the desired wetland functions and values. Restoration will be accomplished through plugging of existing surface ditches. Native vegetation will be allowed to establish.

#### **Embankment**

A depression wetland is to be restored. The purpose of this practice is to restore the appropriate hydrological and vegetative characteristics necessary to meet the desired wetland functions and values. Restoration will be accomplished through construction of an earth embankment. Native vegetation will be allowed to establish.

#### **Riverine Levee Removal and Floodplain Features**

A riverine landform on a large floodplain is to be restored through a combination of dike/levee removal and restoration of former shallow water and oxbow features.

**Scrape, average depth 12 inches**

Excavation to remove accumulated sediment up to 12" water depth to restore original hydrology. The purpose of this practice is to restore the appropriate hydrological and vegetative characteristics necessary to meet the desired wetland functions and values. Restoration will be accomplished through removing accumulated sediments deposited in the existing basin. Soil borings may be needed to determine the extent of sediments to be removed. Native vegetation will be allowed to establish.

**Scrape, average depth 24 inches**

Excavation to remove accumulated sediment up to 24" water depth to restore original hydrology. The purpose of this practice is to restore the appropriate hydrological and vegetative characteristics necessary to meet the desired wetland functions and values. Restoration will be accomplished through removing accumulated sediments deposited in the existing basin. Soil borings may be needed to determine the extent of sediments to be removed. Native vegetation will be allowed to establish.

**Tile Break**

A depressional wetland is to be restored. The purpose of this practice is to restore the appropriate hydrological and vegetative characteristics necessary to meet the desired wetland functions and values. Restoration will be accomplished through removal of subsurface drain tile. Native vegetation will be allowed to establish.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 644 – Wetland Wildlife Habitat Management

## Supplemental Criteria

1. Wild Rice Seeding may be scheduled up to 3 times on the same acres in the contract to help ensure establishment.

## Scenarios

### **Wild Rice Seeding**

**(Tribal Only)** A Wild Rice bed established through hand seeding on an appropriate site. Practice applicable on suitable wetland and open water habitats. Wild Rice Seeding may be scheduled up to 3 times on the same acres in the contract to help ensure establishment.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 380 – Windbreak/Shelterbelt Establishment

## Supplemental Criteria

1. Payment rate includes cost of all trees, planting, in-row weed control, animal deterrent devices and vegetative covers between rows as planned.
2. Payment will not be made until shelters (tubes or bud caps), **if required**, are in place the year of planting.
3. Consult **General Provision 9** for site preparation information when using planted stock.
4. Payment rate is calculated by adding up the total feet of windbreak to be planted, across all rows. Example: if a 3 row 100 foot windbreak is planned, enter 300 feet into the contract.

## Scenarios

**Shrubs and Hardwoods, with protection, per foot of rows planted** (includes conifers)

This scenario is utilized when the majority of trees to be planted in the windbreak will consist of conifers, hardwoods and/or shrubs; where browse protection is needed. **This scenario is only eligible if greater than 50% of the trees are protected.**

**Shrubs and Hardwoods, per foot of row planted** (includes conifers)

This scenario is utilized when the majority of trees to be planted in the windbreak will consist of conifers, hardwoods and/or shrubs.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 650 – Windbreak/Shelterbelt Renovation

## **Supplemental Criteria**

1. This practice is only for renovation of a windbreak/shelterbelt and not be to use to convert to another landuse (ex. renovate back to cropland).
2. Use (490) Tree/Shrub Site Preparation as needed if replanting any trees or shrubs.
3. Use (380) Windbreak/Shelterbelt Establishment to replace the trees removed, if needed.

## **Scenarios**

### **Pruning**

Windbreak is pruned by hand (hand tools + chainsaw) to improve shape and form of trees and/or shrubs so that the overall effectiveness of the windbreak will improve. Slash is treated to prevent potential insect, disease, fire and operability problems.

### **Removal less than 8 inches DBH with Skidsteer (Row removal)**

Windbreak renovation requires the removal of degraded or inappropriate trees or shrubs within a windbreak. This may include removal of entire rows, including stumps or roots, or selected trees/shrubs in order to prepare for the necessary planting of a replacement row within the windbreak, improve the health of the remaining rows, and/or allow for supplemental planting to expand the windbreak.

### **Thinning**

Windbreak is thinned by hand w/chainsaw and cut stumps have herbicide applied to prevent undesirable sprouting.

# Environmental Quality Incentives Program

2019 - Minnesota Supplement for:  
Practice Standard 384 – Woody Residue Treatment

## Supplemental Criteria

1. This practice is eligible only in conjunction with a catastrophic event. Examples include blow-down event, wildfire, ice storm, die back due to pest or disease. Eligible event should be documented in the case file.
2. This practice is used on forests and will not be used to convert forests to pastures or another land use.

## Scenarios

### **Restoration or conservation treatment following catastrophic events**

The use of a combination of hand (chainsaw) and heavy equipment, similar to those used in logging, to treat slash and woody residue resulting from catastrophic events. This scenario will remove/treat the larger material the size of which is consistent with the large equipment used.