

DRAFT

Dane County Community Manure Storage and Nutrient Redistribution Cost Share Program

FUNDING

Funding made available through 2014, 2015, 2016, and 2017 adopted Dane County Budgets

Budget Line Item: *Community Manure Storage*

Available Funding: *\$1,100,000.00 as of 2/27/2017*

BACKGROUND

Reducing manure and nutrient runoff remains a top priority in the county's effort to improve lake and water quality. Manure has long been used by agricultural producers as a nutrient source to grow crops. However, there are several factors that make it challenging to apply these nutrients in the most efficient and environmentally conscious manner. Some examples of these challenges include:

- The distance between cropland and livestock operations where manure is produced.
- The type of crops that are being grown and their ability to receive manure.
- Environmental factors such as rain and freezing temperatures.
- Transportation logistics and weight restrictions on local roads during the spring thaw.
- The high volume/low nutrient concentration of manure.
- Limited financial resources for the construction of expensive manure storage structures.

Solutions to many of these challenges are available within the agricultural market; however, cost and feasibility for small and medium scale livestock operations (<700 cows) can be challenging as these operations may not have the resources to explore alternative manure management technologies and handling systems.

PURPOSE

The purpose for this cost share program is to help improve the overall water quality of the Upper Yahara Watershed by reducing the adverse environmental impacts of manure and nutrients on both surface Watershed (see attachment "A") and ground water. This will be accomplished by providing small to medium sized livestock operations

with funding to evaluate and implement alternative manure management strategies that reduce the risk of manure and nutrient transport to both surface and groundwater. Funding is available through three two primary tracks:

1. Funding for the storage and management of manure outside the ~~Yahara Watershed~~ ^{Upper Yahara Watershed} for manure that is produced within the watershed.
2. Funding for community based storage structures in which multiple producers within the ~~Yahara Watershed~~ ^{Upper Yahara Watershed} work together to store and manage their manure. ~~Community structures may be located within or outside the Yahara Watershed.~~
3. ~~Funding for the evaluation and planning of innovative manure management strategies and technologies.~~

OBJECTIVES

Along with improving water quality, the following objectives will also be achieved through this cost sharing program:

- Redistributing and directing manure to cropland areas that currently receive little or no manure applications.
- Reducing the application of manure during critical times of the year (frozen and snow covered ground, water saturated field conditions, etc.) when manure has the highest probability of running off and entering nearby streams.
- Incorporating innovative manure management strategies and technologies into current manure management systems.

PARTICIPATION

Producers wishing to participate in this cost share program are encouraged to contact Dane County Land Conservation staff as soon as possible to discuss project opportunities and funding options. Funding is available through two avenues

- 1) A "traditional" Dane County cost share agreement - The cost share agreement process utilizes traditional planning and Land Conservation Committee (LCC) approval with practices meeting specific design standards and specifications. ~~Only small and medium scale livestock operations (<700 cows); which currently have no manure storage capacity, will be eligible for this cost share program.~~
- 2) ~~Response to Request for Proposal for Innovative Manure Management Systems - The RFP process allows for greater innovation in developing solutions by evaluating submitted project proposals based on a set of criteria. The details of each participation process are provided below.~~

DANE COUNTY COST SHARE AGREEMENT

Agreement Conditions

- Producer(s) agree that all manure storage structures and management strategies will be in accordance with Dane County Code of Ordinance Chapter 14.
- Producer(s) agree to provide temporary emergency manure storage for other farming operations at Dane Counties request in amounts not greater than 10% of the structures design storage volume for a period of not greater than ~~5 months~~ ^{8 months KCC} ~~3 months~~.
- Producer(s) agree to have a minimum combined storage capacity of ~~8 months~~ ^{8 months} from all manure storage structures in which manure generated by them is stored in.
- The field application of any stored manure will be the responsibility of the producer who generated it, and Land Applied in accordance with Dane County Code of Ordinance - Chapter 14
- The application of manure from December 1st to March 31st is prohibited without prior written approval from the Director of the Dane County Land and Water Resources Department.

Cost Share Rates

Maximum cost rates will be tiered and based upon the number of producers participating.

- One participant – 70% cost share not to exceed \$120,000
 - Two participants – 80% cost share not to exceed \$120,000 per participant
 - Three or more participants – 90% cost share not to exceed \$120,000 per participant
- *Percent cost sharing is based on actual costs

Producers may request up to 10% of the agreement total be available to them upon Land Conservation Committee (LCC) approval. These funds are to be used solely for engineering costs associated with the design of the manure storage structure.

Agreement Process

- Signup period is effective immediately upon approval by the LCC of this cost share program and will continue until all funds are allocated
- The LCC approves individual cost share agreements and payments
- All decisions of the LCC are to be considered final

REQUEST FOR PROPOSAL (RFP)

Producers within the Yahara River Watershed can submit project proposal that would fund innovative and non-traditional ways of managing manure including collection, storage, transfer, nutrient removal, nutrient concentration, transport, and land application. Producers are encouraged to work with engineers, consultants, and professionals within the manure management industry to develop and submit proposals. Producers and their collaborators can submit a preproposal requesting funding for the development and submittal of a full proposal that would contain detailed information on who, what, where, when, and how the proposed manure management strategy would be implemented. Funding of up to \$100,000 is available for the development of full proposals. Received full proposals will then be evaluated and ranked.

Dane County would then allocate funding to the highest ranked projects until all funds are allocated.

Submittal Process

- Dane County will announce the request for preproposals by April 30th, 2017.
- Producers can work with individuals, organizations, industry professionals, etc. on developing and submitting a preproposal describing the general manure management strategy to be implemented (see Preproposal Criteria for information to be submitted).
- All preproposals are due to Dane County by May 31st, 2017.
- Dane County will review and rank preproposals.
- Projects with the highest ranked preproposals will be contacted and receive funding for the development of full proposals by July 1st, 2017.
- Full proposals are then due to Dane County by August 31, 2017 (see Full Proposal Criteria for information to be submitted).
- Full proposals will be reviewed and ranked by Dane County.
- Projects that rank the highest will be contacted by Dane County (by October 1st, 2017) to develop funding agreements for project implementation.

Preproposal Criteria

The following information will be requested as part of the preproposal project submittal:

- Introduction of facility, operation, landowners, and producers involved in the project.
- Organization capabilities of any consultants or firms assisting with the project including personnel information and qualifications.
- Overview of farm(s) participating in the proposal including location, current manure management systems, animal numbers, nutrient management and acres, and 10 year horizon on future manure management and handling.
- Description of the types of processes and/or technology being considered for implementation. Examples could be:
 - Community storage
 - Anaerobic digestion including methane gas recovery and/or generation of electricity
 - Solids separation and recovery
 - Combustion (i.e. pyrolysis or gasification)
 - Nutrient removal and recovery (nitrogen, phosphorus, potassium, etc.)
 - Ultrafiltration
 - Reverse Osmoses
 - Composting
 - Other
- Evaluation of by-product markets to be included in analysis.
- Proposed budget and funding sources.
- Business structures being proposed for analysis.
- A timeline for developing full proposals not to exceed August 31, 2017.

Full Proposal Criteria

Preproposals that are awarded funding are required to submit full proposals containing detailed information on technologies, products, management strategies, and business plans for the systems they wish to deploy. Information needed in full proposal submittals include:

- A general introduction to the overall approach and technology that will be used to store, manage, and redistribute manure and manure nutrients.
- Technical information regarding the strategy proposed:
 - Specific process details such as treatment processes, handling processes, etc.
 - Interconnection details between various treatment processes and equipment
 - Equipment details such as tank sizes, retention time, mixing equipment, pumps, chemical feed equipment, and solids separation equipment. Include materials of construction and electrical specifications for each piece of equipment supplied.
 - Composition and volumes or quantities for all end products produced by the system including phosphorus, solids, nitrogen, chlorides concentrations, flow rates or volumes, and temperature.
 - Utility needs of the system including sizing and location of incoming power and process connections.
 - Installation, start up, and operation of the system.
 - Any equipment components that must be regularly changed out or replaced, including required change out frequency and replacement costs/disposal requirements.
 - Any chemicals used for process or cleaning of the system should be described along with consumption rates, annual estimated usage, and chemical costs.
 - Parasitic load for each system component in terms of electrical demand (kWh/operating hour), gas and/or therm use.
 - Total life expectancy of all system components.
 - Labor/manpower requirements for operation and for routine and preventative maintenance and costs.
 - General specifications for any buildings that would need to be constructed to house the equipment including dimensions, power requirements and floor load requirements.
 - System control details
- Costs for both the equipment and installation as well as ongoing operation and maintenance.
- Maintenance plans and strategies including routine maintenance protocols and emergency response procedures should equipment fail.
- Management procedures on how manure and products would be handled both before and after treatment.
- Process and product flow diagrams showing how manure and products move through the system.
- End product use descriptions.
- Any permitting requirements.
- Economic feasibility and financial modeling including both capital/equipment and operation/maintenance costs.

COST SHARE RATES SUMMARY

DANE COUNTY AGREEMENTS

Cost sharing varies depending on the number of participants sharing the manure storage structure.

- One participant — 70% cost share not to exceed \$120,000
- Two participants — 80% cost share not to exceed \$120,000 per participant
- Three or more participants — 90% cost share not to exceed \$120,000 per participant
- *Percent cost sharing is based on actual costs
- Up to 10% of each approved cost share agreement's total funding is available for design costs.

REQUEST FOR PROPOSALS (RFP)

No cost sharing is available for preproposals. Funding for full proposals as well as project implementation will vary and be contingent upon the total costs for each.

- Funding for full proposals not to exceed \$100,000
- Project implementation will not exceed the total available funding under this cost share program.

IMPORTANT DATES - TENTATIVE

- Funds available under this cost share program are available upon LCC program approval (tentatively March 16th, 2017)
- Request for Proposal (RFP) announcement April 30th, 2017
- RFP preproposals due May 31st, 2017
- Selection and funding for full proposals by July 1st, 2017
- Full proposals received by August 31st, 2017
- Selection and funding of full proposal projects by October 1st, 2017

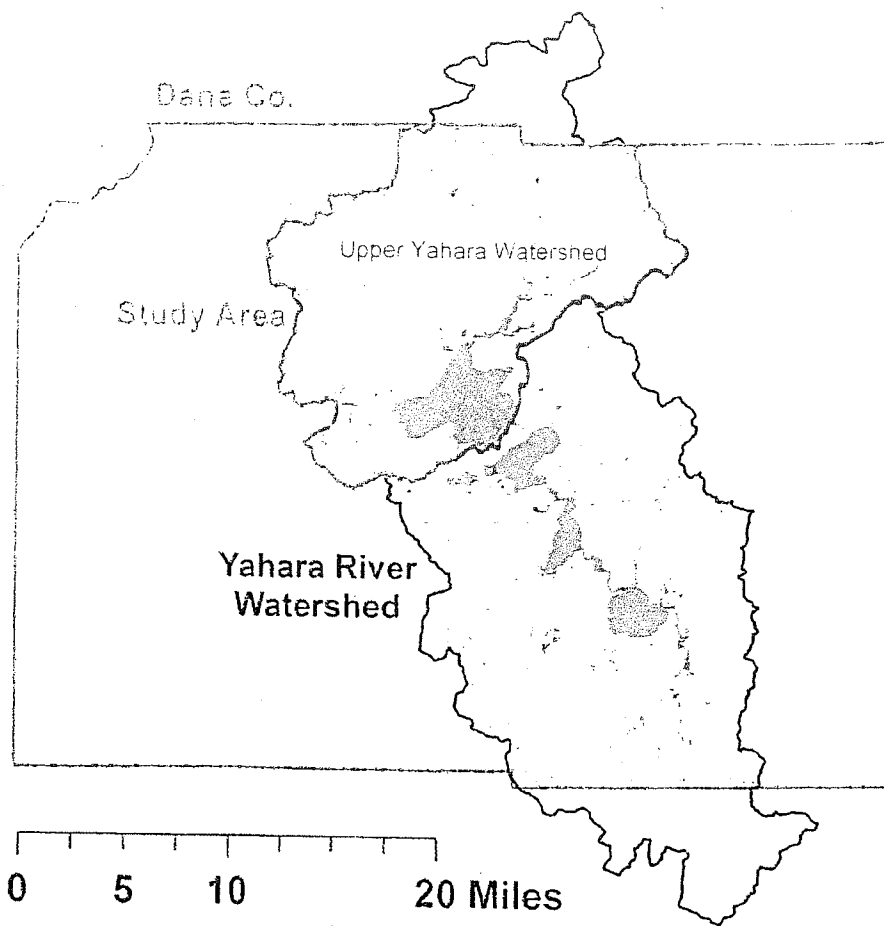


Figure 3: Upper Yahara Sub-Watershed study area