

Department: Dane County UW-Extension Address: 5201 Fen Oak Drive, Madison WI 53718	Total project costs: \$5285.00
	Funding amount in current budget: received grant of \$985 from Dane County Environmental Council
	Funding amount requested: \$4300.00
Project Title: Water Conservation Practices and Education at Fen Oak Resource Center	
Project Location: Fen Oak Resource Center, 5201 Fen Oak Drive, Madison WI	
Project Description: <p>The Fen Oak Resource Center houses most of Dane County's natural resource related departments including: Land and Water Resources, Office of Lakes and Watersheds, Parks Division, and UW-Extension as well as some state and federal natural resource agencies. Dane County UW-Extension hold 100's of educational trainings and events at the Fen Oak Resource Center and it uses all the grounds as a teaching garden/landscape for Master Gardeners, the Green Industry (landscapers, arborists, etc.), and many youth groups. In this work we strive for inclusion of diverse groups. This project will allow Dane County UW-Extension to expand its education to incorporate more sustainable water conservation gardening techniques of drip irrigation in its high water needs garden areas.</p> <p>To ensure success, the irrigation project will be overseen by master gardener volunteers with previous experience designing and developing irrigation systems using pex pipe and other materials. The proposed irrigation system will be connected via a hose to an outside faucet so that no permits will be required other than a call to digger's hotline to bury the pipe (depth of 4 inches so that people will not trip over the pipe). Approximately 150 linear feet of pipe and various attachments will be used originating at the hose connected to the building faucet and then leading to several different raised beds ending in several new water faucets closer to the beds. This will allow the demonstration of several different drip irrigation systems all starting from a standard outdoor water faucet, similar to what a homeowner would have available. Various irrigation methods available to home gardeners will be showcased including a variety of drip irrigation systems such as soaker hoses, t-tape, emitter lines, and micro spray sprinkler heads. Water savings during each growing season (from May-September) will save a total of about 1141 gallons by utilizing drip irrigation instead of water hose sprinkler watering for the areas at Fen Oak that are routinely watered.</p> <p>We will also develop permanent outdoor signage to display key water conservation messages and develop both written and electronic educational pieces to teach about both indoor and lawn and garden water conservation practices. These materials will be shared with other county departments and will be used at educational events. We will use a water meter to provide real time data on water use and to enable the Fen Oak Resource Center to track its water use and water conservation. This water use data will be displayed on electronic panels located in the downstairs and upstairs building lobby to help educate the public on water conservation. The displays will also highlight building's solar generation, energy savings, educational messages and building events.</p>	

Describe how the proposed project moves the county toward meeting the Sustainability Principles:

The Fen Oak Resource Center is a core location for natural resource education and gardening, food systems, and landscape education in particular. The Center uses its grounds as an active year-round teaching landscape. This project in conjunction with a successful Dane County Environmental Council grant for \$985 will be used to install the needed plumbing system at Fen Oak for drip irrigation for use in its raised bed vegetable gardens and other high water use gardens. This will allow us to both conserve water and actively teach about these and other water conservation garden and landscaping ideas. Water savings during each growing season (from May-September) will save a total of about 1141 gallons by utilizing drip irrigation instead of water hose sprinkler watering for the areas at Fen Oak that are routinely watered.

This project will also be helpful in showing how one can reduce or eliminate any runoff from property due to overwatering on low permeable soil areas and how to factor in rain events to conserve landscape watering needs. Thus it will help play a role in teaching people about behaviors to assist in conserving resources that will be stressed due to climate change (expecting hotter, drier summers).

This project is greatly beneficial in that the project demonstration will be used for many years to regularly help raise awareness about climate change, water conservation, and stormwater runoff retention in the landscape/garden teaching areas. Master Gardeners are used to help regularly maintain the gardens and landscape and a water meter with results attached to educational display boards in the building's lobbies will help further the educational outreach. Note the solar panel readout information and energy savings will also be displayed on these same displays along with the Center's upcoming educational events and meetings.

Describe how the proposal furthers implementation of the Dane County Government Sustainable Operations Plan goals, objectives, and strategies in your department and/or countywide. Please identify specific plan goals, objectives, and strategies accomplished.

The Dane County UW-Extension Department had a number of strategies to accomplish our goal for wise water use and promote water conservation. Our high water use areas are all clustered together (annual flower beds and vegetable, fruit gardens) while the medium and low water use areas make up the majority of the landscaped area. This project will allow us to accomplish the following stated operational objectives and strategies to meet the above goal: 1. Identify and implement water conservation best practices on the Fen Oak teaching grounds (drip irrigation). 2. Create educational outreach materials on water conservation that can also be used by other county departments. 3. Reduce the amount of potable water used by Fen Oak Resource Center and its teaching landscape. Water savings during each growing season (from May-September) will save a total of about 1141 gallons by utilizing drip irrigation instead of water hose sprinkler watering for the areas at Fen Oak that are routinely watered.

(We plan to expand this project in the future to include education on to be installed water conservation bathroom fixtures and include that information eventually to our educational lobby displays as it too will be connected to the water meter).

4. Track and report on water consumption at the Fen Oak Resource Center and its grounds. Install a smart water meter that can be used for educational purposes.

Describe how the county might build upon the outcomes of the proposed project to work toward greater sustainability.

We hope to build on the outcomes of this project by installing more water conserving practices within the Fen Oak Building, use a water meter and educational kiosk electronic screen displays in lobbies to relay this resource conservation savings in both the upstairs and downstairs lobby areas and covering these practices and incorporate such features in educational outreach efforts. We will be developing water conservation educational outreach materials and signage that can be transferable to other locations and will have the materials in both printed and electronic (web-based) so that other departments Alliant Energy Center, City County Building, Henry Vilas Zoo, etc. could use and benefit from these materials.

Does the proposed project include a strong sustainability education component? If yes, describe the educational component, who it will reach, and how it will be communicated.

Yes, Many natural resource, gardening, landscaping, agricultural, conservation, and land management groups meet at the Fen Oak Resource Building and grounds for discussion and education. Dane County UW-Extension provides the Master Gardener and Master Composter educational programs for the county along with many other natural resource, food system, community garden, and agricultural training programs. The grounds of the Fen Oak Resource Center contain many elements that are used for teaching – pollinator gardens, vegetable and fruit and herb beds, horticultural teaching gardens, composting systems, rain gardens, rain barrels, and soon a porous parking lot and bio-infiltration systems to help reduce stormwater runoff and help reduce salt use. Thus the grounds have become an extensive and growing outdoor teaching area that is used almost daily throughout the year. Faculty and staff from UW-Extension, Master Gardeners, and other professionals from state or county departments, or the private sector are used to help educate both for general public and to provide on-going professional development. These programs are publicized using a variety of mechanisms including print, electronic, social media, and through networks to market them. Inclusion and outreach to our county's diverse groups and underserved populations is integrated into all programs we offer.

We will also develop permanent outdoor signage to display key water conservation messages and develop both written and electronic educational pieces to teach about both indoor and lawn and garden water conservation practices. These materials will be shared with other county departments and will be used at educational events. We will use a water meter to provide real time data on water use and to enable the Fen Oak Resource Center to track its water use and water conservation. This water use data will be displayed on electronic panels located in the downstairs and upstairs building lobby to help educate the public on water conservation. The displays will also highlight building's solar generation, energy savings, educational messages and building events. The Fen Oak Resources building holds 100s of educational events and natural resource related meetings. Thus it is a key area to have resource conservation information and educational messages present in the building lobbies and teaching grounds.

Does the proposed project pilot an innovative new sustainability-advancing technology in county operations and can it be demonstrated by the applicant department to hold promise for additional future applications in county facilities?

The project will showcase a variety of drip irrigation systems such as soaker hoses, t-tape, emitter lines, and micro spray sprinkler heads in a manner that home gardeners can relate to and use similar practices at their home or community garden landscape.

Describe how your department will track and measure outcomes of the proposed project (i.e., annual cost savings, annual energy savings, resource use reductions, maintenance reductions, etc.). Include a timeline for measurement and reporting outcomes, and the staff member contact who is responsible for conducting the tracking and measurement and reporting back.

A water meter will be installed with this project that will allow us to track the use of water use for the landscape educational area. It will eventually be linked to building water use so that we can see water savings once the building's bathrooms and kitchen areas also have water conservation devices installed. The water meter results will be linked to an educational electronic kiosk system in both upstairs and downstairs lobbies of the buildings so that water savings and solar energy generation (from roof solar panels), and educational events and meetings can be posted and used for ongoing educational outreach. This system will be managed primarily by Jeremy Balousek, Sandy Jensen, and Lisa Johnson from Fen Oak Resources Center.

Timeline

Task

installation of irrigation and faucet:
 installation of water meter and electronic display panels
 Set up of data and display information(water and solar and events)
 Regular tracking of measurements and reporting

Time Period

Summer and Fall 2018
 Winter/Spring 2019
 Summer 2019
 Summer 2019 onward (yearly summaries)

Contact persons:
 Lisa Johnson and Mindy Habecker

Phone: 608-224-3715 and 608-224-3718
 E-mail: Johnson.lisa@countyofdane.com
 E-mail: Habecker@countyofdane.com