

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER REVOLVING FUND (DWRF)
GREEN PROJECT RESERVE GUIDANCE
Beginning Fiscal Year (FY) 2014**

All Green Project Reserve (GPR) projects must be eligible for DWRF funding. GPR projects and activities must meet the definition of one of the four GPR categories: green infrastructure, water efficient, energy efficient and environmentally innovative activities.

The following sections outline the aspects for the DWRF GPR. Categorically green projects are listed, as well as projects that are ineligible. Examples of projects that would require a business case are also provided.

1. GREEN INFRASTRUCTURE

Definition: Green infrastructure includes a wide array of practices that manage wet weather to maintain and restore natural hydrology by infiltrating, evapotranspiring, and capturing and using stormwater. On a regional scale, green infrastructure is the preservation and restoration of natural landscape features, such as forests, floodplains, and wetlands, coupled with policies such as infill and redevelopment that reduce overall imperviousness in a watershed. In the context of the DWRF, green infrastructure consists of site-specific practices, such as green roofs and porous pavement at drinking water utility facilities. In addition to managing rainfall, these green infrastructure technologies can simultaneously provide other benefits such as reducing energy demands.

Categorical Projects

Note: must be done at a utility-owned water facility or as part of a water infrastructure project.

- Green roofs
- Permeable or porous pavement (parking lots)
- Bioretention
- Rainwater harvesting/cisterns
- Gray water use
- Constructed wetlands (possibly eligible if treating residuals)
- Sustainable landscaping and site design
- Retrofitting or replacing existing irrigation systems with moisture and rain sensing equipment

Ineligible Projects

- See CWSRF GPR Crosswalk on stormwater controls (http://water.epa.gov/grants_funding/cwsrf/upload/GPR-Crosswalk-Table.pdf)

2. ENERGY EFFICIENT

Definition: Energy efficient is the use of improved technologies and practices to reduce the energy consumption of eligible drinking water projects, use energy in a more efficient way, and/or produce/utilize renewable energy.

Categorical Projects

- Renewable energy source for a water facility (wind, solar, geothermal, micro-hydroelectric, biogas combined heat and power)
 - Includes the portion of a publicly owned renewable energy project that serves the utility's energy needs
 - Must feed into the grid that the utility draws from and/or there is a direct connection
- Projects that achieve at least 20-percent reduction in energy consumption (must show calculations)
- Water facility energy management planning, which is reasonably expected to result in energy efficient capital projects or in a reduction in demand to alleviate the need for additional capital investment
 - Energy assessments
 - Energy audits
 - Optimization studies
 - Sub-metering individual processes to determine high energy use areas

Business Case Required

- Less than 20-percent energy improvement (must show calculations)
 - Note: 10-percent energy savings is the minimum for GPR-eligibility
- Recommendations from energy audit (that are not categorical)
- Projects that cost effectively eliminate pumps or pumping stations
- Replacing pre-Energy Policy Act of 1992 motors with National Electric Manufacturers Association (NEMA) premium efficiency motors
- Upgrade of water facility lighting to energy efficient sources (such as metal halide pulse start technologies, compact fluorescent, light emitting diode, etc.)
- Supervisory Control and Data Acquisition (SCADA) systems that achieve substantial energy savings
- Energy efficient retrofits, upgrades, or new pumping systems, and treatment processes
- Variable Frequency Drives (VFDs)

Ineligible Projects

- Privately owned renewable energy generation
- Portion of publicly owned renewable energy facility that does not provide power to a water infrastructure facility
- Simply replacing a pump, or other piece of equipment, that is at the end of its useful life with something of average efficiency
- Hydroelectric facilities (except micro-hydroelectric projects)

3. WATER EFFICIENT

Definition: Water efficient is the use of improved technologies and practices to deliver equal or better services with less water. Water efficient encompasses conservation and reuse efforts, as well as water loss reduction and prevention, to protect water resources for the future.

Categorical Projects

- Install or retrofit water efficient devices (such as plumbing fixtures and appliances)
- Water conservation incentive programs (rebates)

- Install water meters in previously unmetered areas (if rate structure is based on metered use)
- Replace existing broken/malfunctioning water meters or upgrade existing meters with automatic meter reading (AMR) systems (such as advanced metering infrastructure and smart meters) and meters with built in leak detection
- Retrofit existing meters to add AMR capability or leak detection equipment (not replacing the meter itself)
- Conducting water utility audits, leak detection studies, and water use efficient baseline studies, which are reasonably expected to result in a capital project or in a reduction in demand to alleviate the need for additional capital investment
- Developing water conservation plans/programs reasonably expected to result in a water conservation capital project or in a reduction in demand to alleviate the need for additional capital investment
- Recycling and water reuse projects that replace potable sources with non-potable sources
- Retrofit or replace existing landscape irrigation systems with more efficient systems (for example with moisture and rain sensing controllers)
- Automatic flushing systems (portable or permanent)

Business Case Required

- Water meter replacement with traditional water meters
- Water main replacement or rehabilitation to reduce water loss and prevent water main breaks
- Projects that result from a water efficiency related assessment, such as water audits, leak detection studies, conservation plans, etc. (that are not categorical)
- Storage tank replacement/rehabilitation to reduce water loss (also can be considered energy savings, if removing pump/pumping station, etc.)
- New water efficient landscape irrigation system (where there currently is not one)
- Pressure reducing valves (PRV)
- Internal plant water reuse or recycle
- Distribution system leak detection equipment (portable or permanent)

Ineligible Projects

- Covering open finished water reservoirs (federally mandated, so not considered “above and beyond”)

4. ENVIRONMENTALLY INNOVATIVE

Definition: Within the context of the DWRF program, “environmentally innovative projects” would include those that are consistent with the underlying project eligibilities of the DWRF program, and that demonstrate new and/or innovative approaches to delivering service, and/or managing water resources in a more sustainable way, including projects that achieve public health protection and environmental protection objectives at the least life-cycle costs.

Categorical Projects

- Total/integrated water resources management planning likely to result in a capital project
 - Plans to improve water quantity and quality associated with water system technical, financial, and managerial capacity
 - Eligible source water protection planning

- Utility Sustainability Plan
- Greenhouse gas inventory or mitigation plan
- WTP planning activities to adapt to long-term effects of climate change and/or extreme weather
- Construction of LEED certified buildings or renovation of an existing building on water facilities

Business Case Required

- Projects or project components resulting from total/integrated water resource management planning
- Projects that adapt to climate change identified by a carbon footprint analysis or climate adaptation study at water facilities
- Projects that significantly reduce or eliminate the use of chemicals in water treatment
- Treatment technologies or approaches that significantly reduce the volume of residuals, minimizing the generation of residuals, or lower the amount of chemicals in the residuals
- Educational activities and demonstration projects for water or energy efficiency
- Projects that achieve the goals of utility asset management plans
- Blending groundwater with treated surface water to reduce disinfection byproduct concentrations, reduce costs, and conserve water resources dependent on project location

Note: Projects that qualify as innovative in Michigan based on geographical and climatological conditions include:

1. Technology or approach whose performance is expected to address water quality, but the actual performance has not been demonstrated in the state
2. Technology or approach that is not widely used in the state, but does perform as well or better than conventional technology/approaches at lower cost
3. Conventional technology or approaches that are used in a new application in the state

Ineligible Projects

- Reflective roofs at water facilities to combat heat island effect

DWRF GPR Business Case Development

This guidance is intended to be comprehensive; however, it is understood that example projects requiring a business case may not be all inclusive. For those projects, or portions of projects, which are not included in the categorical projects lists above, a business case will be required to demonstrate that an assistance recipient has thoroughly researched anticipated “green” benefits of a project. Business cases must address the decision criteria for the project category. Quantifiable water and/or energy savings or water loss reduction for water and energy efficient projects should be included. The cost and financial benefit of the project should be included as well, along with the payback time period, where applicable.

This document was prepared using the U.S. Environmental Protection Agency 2011 DWSRF GPR Specific Guidance (Part B), and the CWSRF GPR Crosswalk (http://water.epa.gov/grants_funding/cwsrf/upload/GPR-Crosswalk-Table.pdf). Additional resources are available on the DEQ website at http://www.michigan.gov/deq/0,4561,7-135-3307_3515_4143-233829--,00.html.