

# Green Infrastructure

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|------------------------|---|---|---|
| Business Case Required |   | <ul style="list-style-type: none"> <li>• Fencing to keep livestock out of streams and stream buffers</li> </ul>   | <ul style="list-style-type: none"> <li>• Fencing to keep livestock out of streams and stream buffers</li> </ul>   |
| Categorically Eligible | <p><b>Publicly Owned:</b></p> <ul style="list-style-type: none"> <li>• Green streets               <ul style="list-style-type: none"> <li>• Permeable pavement</li> <li>• Bioretention</li> <li>• Trees</li> <li>• Green roofs</li> <li>• Constructed wetlands</li> <li>• Other practices that mimic natural hydrology to prevent wet weather flows</li> <li>• Equipment to maintain green streets                   <ul style="list-style-type: none"> <li>• Vactor trucks</li> <li>• Other equipment</li> </ul> </li> </ul> </li> <li>• Street tree/urban forestry               <ul style="list-style-type: none"> <li>• Expansion of tree boxes</li> </ul> </li> <li>• Stormwater harvesting/reuse               <ul style="list-style-type: none"> <li>• Cisterns</li> <li>• Distribution pipes</li> </ul> </li> <li>• Downspout disconnection</li> <li>• Riparian buffers               <ul style="list-style-type: none"> <li>• Floodplains</li> <li>• Wetlands</li> <li>• Bioengineered streambank</li> <li>• Stream daylighting</li> </ul> </li> <li>• Sustainable landscaping and site design</li> </ul>  | <ul style="list-style-type: none"> <li>• Green streets               <ul style="list-style-type: none"> <li>• Permeable pavement</li> <li>• Bioretention</li> <li>• Trees</li> <li>• Green roofs</li> <li>• Constructed wetlands</li> <li>• Other practices that mimic natural hydrology to prevent wet weather flows</li> <li>• Equipment to maintain green streets                   <ul style="list-style-type: none"> <li>• Vactor trucks</li> <li>• Other equipment</li> </ul> </li> </ul> </li> <li>• Street tree/urban forestry               <ul style="list-style-type: none"> <li>• Expansion of tree boxes</li> </ul> </li> <li>• Stormwater harvesting/reuse               <ul style="list-style-type: none"> <li>• Cisterns</li> <li>• Distribution pipes</li> </ul> </li> <li>• Downspout disconnection</li> <li>• Riparian buffers               <ul style="list-style-type: none"> <li>• Floodplains</li> <li>• Wetlands</li> <li>• Bioengineered streambank</li> <li>• Stream daylighting</li> </ul> </li> <li>• Sustainable landscaping and site design</li> <li>• Fee simple land purchase or easement</li> </ul>  | <ul style="list-style-type: none"> <li>• Green streets               <ul style="list-style-type: none"> <li>• Permeable pavement</li> <li>• Bioretention</li> <li>• Trees</li> <li>• Green roofs</li> <li>• Constructed wetlands</li> <li>• Other practices that mimic natural hydrology to prevent wet weather flows</li> <li>• Equipment to maintain green streets                   <ul style="list-style-type: none"> <li>• Vactor trucks</li> <li>• Other equipment</li> </ul> </li> </ul> </li> <li>• Street tree/urban forestry               <ul style="list-style-type: none"> <li>• Expansion of tree boxes</li> </ul> </li> <li>• Stormwater harvesting/reuse               <ul style="list-style-type: none"> <li>• Cisterns</li> <li>• Distribution pipes</li> </ul> </li> <li>• Downspout disconnection</li> <li>• Riparian buffers               <ul style="list-style-type: none"> <li>• Floodplains</li> <li>• Wetlands</li> <li>• Bioengineered streambank</li> <li>• Stream daylighting</li> </ul> </li> <li>• Sustainable landscaping and site design</li> <li>• Fee simple land purchase or easement</li> </ul>  |
| CWSRF GPR Ineligible   | <ul style="list-style-type: none"> <li>• Stormwater controls with impervious or semi-impervious liners with no evapotranspiration or harvesting functions</li> <li>• Stormwater ponds with extended detention and/or filtration               <ul style="list-style-type: none"> <li>• Dirt-lined detention basins</li> </ul> </li> <li>• In-line or end-of-pipe treatment systems that only filter or detain stormwater</li> <li>• Underground stormwater control               <ul style="list-style-type: none"> <li>• Swirl concentrators</li> <li>• Hydrodynamic separators</li> <li>• Baffle systems for grit</li> <li>• Trash/floatables removal</li> <li>• Oil and grease</li> <li>• Inflatable booms</li> <li>• Dams for in-line underground storage and flow diversion</li> </ul> </li> <li>• Stormwater conveyance systems that are not soil/vegetation-based               <ul style="list-style-type: none"> <li>• Pipes and concrete channels</li> </ul> </li> <li>• Hardening, channelizing or straightening streams and/or stream banks</li> <li>• Street sweepers, sewer cleaners and vactor trucks (unless they support green infrastructure projects)</li> </ul> | <ul style="list-style-type: none"> <li>• Stormwater controls with impervious or semi-impervious liners with no evapotranspiration or harvesting functions</li> <li>• Stormwater ponds with extended detention and/or filtration               <ul style="list-style-type: none"> <li>• Dirt-lined detention basins</li> </ul> </li> <li>• In-line or end-of-pipe treatment systems that only filter or detain stormwater</li> <li>• Underground stormwater control               <ul style="list-style-type: none"> <li>• Swirl concentrators</li> <li>• Hydrodynamic separators</li> <li>• Baffle systems for grit</li> <li>• Trash/floatables removal</li> <li>• Oil and grease</li> <li>• Inflatable booms</li> <li>• Dams for in-line underground storage and flow diversion</li> </ul> </li> <li>• Stormwater conveyance systems that are not soil/vegetation-based               <ul style="list-style-type: none"> <li>• Pipes and concrete channels</li> </ul> </li> <li>• Hardening, channelizing or straightening streams and/or stream banks</li> <li>• Street sweepers, sewer cleaners and vactor trucks (unless they support green infrastructure projects)</li> </ul> | <ul style="list-style-type: none"> <li>• Stormwater controls with impervious or semi-impervious liners with no evapotranspiration or harvesting functions</li> <li>• Stormwater ponds with extended detention and/or filtration               <ul style="list-style-type: none"> <li>• Dirt-lined detention basins</li> </ul> </li> <li>• In-line or end-of-pipe treatment systems that only filter or detain stormwater</li> <li>• Underground stormwater control               <ul style="list-style-type: none"> <li>• Swirl concentrators</li> <li>• Hydrodynamic separators</li> <li>• Baffle systems for grit</li> <li>• Trash/floatables removal</li> <li>• Oil and grease</li> <li>• Inflatable booms</li> <li>• Dams for in-line underground storage and flow diversion</li> </ul> </li> <li>• Stormwater conveyance systems that are not soil/vegetation-based               <ul style="list-style-type: none"> <li>• Pipes and concrete channels</li> </ul> </li> <li>• Hardening, channelizing or straightening streams and/or stream banks</li> <li>• Street sweepers, sewer cleaners and vactor trucks (unless they support green infrastructure projects)</li> </ul> |

# Energy Efficiency

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|------------------------|--|--|--|
| Business Case Required | <p><b>Publicly Owned:</b></p> <ul style="list-style-type: none"> <li>• POTW projects or unit process projects that achieve less than a 20% energy efficiency improvement</li> <li>• (Non-categorical) projects implementing recommendations from an energy audit</li> <li>• Projects that cost effectively eliminate pumps or pumping stations</li> <li>• Infiltration/inflow correction projects that save energy</li> <li>• I/I correction projects where excessive groundwater infiltration is requiring unnecessary treatment processes</li> <li>• Replacing pre-Energy Policy Act of 1992 motors with NEMA premium efficiency motors</li> <li>• Upgrade of POTW lighting to energy efficient sources             <ul style="list-style-type: none"> <li>• Metal halide pulse start technologies</li> <li>• Compact fluorescent</li> <li>• Light emitting diode (LED)</li> </ul> </li> <li>• SCADA systems</li> <li>• Variable Frequency Drives</li> </ul> | <ul style="list-style-type: none"> <li>• Projects that cost effectively eliminate pumps or pumping stations</li> </ul> | <ul style="list-style-type: none"> <li>• Treatment works projects or unit process projects that achieve less than a 20% energy efficiency improvement</li> <li>• (Non-categorical) projects implementing recommendations from an energy audit</li> <li>• Projects that cost effectively eliminate pumps or pumping stations</li> <li>• Infiltration/inflow correction projects that save energy</li> <li>• I/I correction projects where excessive groundwater infiltration is requiring unnecessary treatment processes</li> <li>• Replacing pre-Energy Policy Act of 1992 motors with NEMA premium efficiency motors</li> <li>• Upgrade of treatment works lighting to energy efficient sources             <ul style="list-style-type: none"> <li>• Metal halide pulse start technologies</li> <li>• Compact fluorescent</li> <li>• Light emitting diode (LED)</li> </ul> </li> <li>• SCADA systems</li> <li>• Variable Frequency Drives</li> </ul> |
| Categorically Eligible | <p><b>Publicly Owned:</b></p> <ul style="list-style-type: none"> <li>• Renewable energy source for a POTW             <ul style="list-style-type: none"> <li>• Wind</li> <li>• Solar</li> <li>• Geothermal</li> <li>• Micro-hydroelectric</li> <li>• Biogas combined heat and power (CHP)</li> </ul> </li> <li>• Projects that achieve 20% reduction in energy consumption</li> <li>• Collection system I/I detection equipment</li> <li>• POTW energy management planning (reasonably expected to result in a capital project)             <ul style="list-style-type: none"> <li>• Energy assessments</li> <li>• Energy audits</li> <li>• Optimization studies</li> <li>• Sub-metering individual processes</li> </ul> </li> </ul>   | <ul style="list-style-type: none"> <li>• Projects that achieve 20% reduction in energy consumption</li> </ul>          | <ul style="list-style-type: none"> <li>• Renewable energy source for a treatment works             <ul style="list-style-type: none"> <li>• Wind</li> <li>• Solar</li> <li>• Geothermal</li> <li>• Micro-hydroelectric</li> <li>• Biogas combined heat and power (CHP)</li> </ul> </li> <li>• Projects that achieve 20% reduction in energy consumption</li> <li>• Collection system I/I detection equipment</li> <li>• Treatment works energy management planning (reasonably expected to result in a capital project)             <ul style="list-style-type: none"> <li>• Energy assessments</li> <li>• Energy audits</li> <li>• Optimization studies</li> <li>• Sub-metering individual processes</li> </ul> </li> </ul>   |
| CWSRF GPR Ineligible   | <ul style="list-style-type: none"> <li>• Privately owned renewable energy generation</li> <li>• The portion of a publicly owned renewable energy facility that does not provide power to a POTW</li> <li>• Simply replacing a piece of equipment that is at the end of its useful life with something of average efficiency</li> <li>• Facultative lagoons</li> <li>• Hydroelectric facilities</li> </ul>  |  | <ul style="list-style-type: none"> <li>• The portion of a renewable energy facility that does not provide power to a treatment works</li> <li>• Simply replacing a piece of equipment that is at the end of its useful life with something of average efficiency</li> <li>• Facultative lagoons</li> <li>• Hydroelectric facilities</li> </ul>   |

# Water Efficiency

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|------------------------|--|--|--|
| Business Case Required | <p><b>Publicly Owned:</b></p> <ul style="list-style-type: none"> <li>• Water meter replacement with traditional water meters</li> <li>• Projects that result from a water audit</li> <li>• Storage tank replacement/rehabilitation</li> <li>• New water efficient landscape irrigation</li> </ul>  | <ul style="list-style-type: none"> <li>• Projects that result from a water audit</li> <li>• New water efficient landscape irrigation</li> <li>• New water efficient agricultural irrigation</li> </ul>   | <ul style="list-style-type: none"> <li>• Water meter replacement with traditional water meters</li> <li>• Projects that result from a water audit</li> <li>• Storage tank replacement/rehabilitation</li> <li>• New water efficient landscape irrigation</li> <li>• New water efficient agricultural irrigation</li> </ul>   |
| Categorically Eligible | <p><b>Publicly Owned:</b></p> <ul style="list-style-type: none"> <li>• Install or retrofit water efficient devices                             <ul style="list-style-type: none"> <li>• Plumbing fixtures</li> <li>• Appliances</li> </ul> </li> <li>• Water conservation incentive programs                             <ul style="list-style-type: none"> <li>• Rebates</li> </ul> </li> <li>• Install water meters in previously unmetered areas (if rate structure is based on metered use)                             <ul style="list-style-type: none"> <li>• Backflow prevention devices (installed in conjunction with meter replacement)</li> </ul> </li> <li>• Replace broken water meters or upgrade existing meters with:                             <ul style="list-style-type: none"> <li>• Automatic meter reading systems</li> <li>• Advanced metering infrastructure</li> <li>• Smart meters</li> <li>• Meters with built-in leak detection</li> <li>• Backflow prevention devices (installed in conjunction with meter replacement)</li> </ul> </li> <li>• Retrofit existing meters to add AMR capability or leak detection equipment</li> <li>• Water audit and water conservation plans</li> <li>• Recycling and water reuse projects that replace potable sources with non-potable                             <ul style="list-style-type: none"> <li>• Gray water/condensate/wastewater effluent reuse systems</li> <li>• Extra treatment costs and distribution pipes associated with water reuse</li> </ul> </li> <li>• Retrofit or replace landscape irrigation systems with more efficient systems                             <ul style="list-style-type: none"> <li>• Moisture and rain sensing controllers</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Water audit and water conservation plans</li> <li>• Recycling and water reuse projects that replace potable sources with non-potable                             <ul style="list-style-type: none"> <li>• Gray water/condensate/wastewater effluent reuse systems</li> </ul> </li> <li>• Retrofit or replace landscape irrigation systems with more efficient systems                             <ul style="list-style-type: none"> <li>• Moisture and rain sensing controllers</li> </ul> </li> <li>• Replace or retrofit existing agricultural irrigation systems with more efficient systems</li> </ul> | <ul style="list-style-type: none"> <li>• Install or retrofit water efficient devices                             <ul style="list-style-type: none"> <li>• Plumbing fixtures</li> <li>• Appliances</li> </ul> </li> <li>• Water conservation incentive programs                             <ul style="list-style-type: none"> <li>• Rebates</li> </ul> </li> <li>• Install water meters in previously unmetered areas (if rate structure is based on metered use)                             <ul style="list-style-type: none"> <li>• Backflow prevention devices (installed in conjunction with meter replacement)</li> </ul> </li> <li>• Replace broken water meters or upgrade existing meters with:                             <ul style="list-style-type: none"> <li>• Automatic meter reading systems</li> <li>• Advanced metering infrastructure</li> <li>• Smart meters</li> <li>• Meters with built-in leak detection</li> <li>• Backflow prevention devices (installed in conjunction with meter replacement)</li> </ul> </li> <li>• Retrofit existing meters to add AMR capability or leak detection equipment</li> <li>• Water audit and water conservation plans</li> <li>• Recycling and water reuse projects that replace potable sources with non-potable                             <ul style="list-style-type: none"> <li>• Gray water/condensate/wastewater effluent reuse systems</li> <li>• Extra treatment costs and distribution pipes associated with water reuse</li> </ul> </li> <li>• Retrofit or replace landscape irrigation systems with more efficient systems                             <ul style="list-style-type: none"> <li>• Moisture and rain sensing controllers</li> </ul> </li> <li>• Replace or retrofit existing agricultural irrigation systems with more efficient systems</li> </ul> |
| CWSRF GPR Ineligible   | <ul style="list-style-type: none"> <li>• Replacing drinking water distribution lines</li> <li>• Leak detection equipment for drinking water distribution systems (except reuse)</li> </ul>   | <ul style="list-style-type: none"> <li>• Agricultural flood irrigation</li> <li>• Lining of canals to reduce water loss</li> </ul>   | <ul style="list-style-type: none"> <li>• Agricultural flood irrigation</li> <li>• Lining of canals to reduce water loss</li> <li>• Replacing drinking water distribution lines</li> <li>• Leak detection equipment for drinking water distribution systems (except reuse)</li> </ul>   |

# Environmentally Innovative

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| Business Case Required | <p><b>Publicly Owned:</b></p> <ul style="list-style-type: none"> <li>• Constructed wetlands projects used for municipal wastewater treatment, polishing, and/or effluent disposal</li> <li>• Projects or project components resulting from total/integrated water resource management planning</li> <li>• Projects that facilitate POTW adaptation to climate change identified by a carbon footprint analysis or climate adaptation study</li> <li>• POTW upgrades or retrofits that remove phosphorus for biofuel production</li> <li>• Projects that significantly reduce or eliminate the use of chemicals in wastewater treatment</li> <li>• Treatment technologies or approaches that significantly reduce the volume of residuals or lower chemical volume in residuals</li> <li>• Educational activities and demonstration projects for water or energy efficiency</li> <li>• Projects that achieve the goals of utility asset management plans</li> <li>• Sub-surface land application of effluent and other means for ground water recharge such as spray irrigation and overland flow</li> </ul> | <ul style="list-style-type: none"> <li>• Projects or project components resulting from total/integrated water resource management planning</li> <li>• Educational activities and demonstration projects for water or energy efficiency</li> </ul> | <ul style="list-style-type: none"> <li>• Constructed wetlands projects used for municipal wastewater treatment, polishing, and/or effluent disposal</li> <li>• Projects or project components resulting from total/integrated water resource management planning</li> <li>• Projects that facilitate treatment works adaptation to climate change identified by a carbon footprint analysis or climate adaptation study</li> <li>• Treatment works upgrades or retrofits that remove phosphorus for biofuel production</li> <li>• Projects that significantly reduce or eliminate the use of chemicals in wastewater treatment</li> <li>• Treatment technologies or approaches that significantly reduce the volume of residuals or lower chemical volume in residuals</li> <li>• Educational activities and demonstration projects for water or energy efficiency</li> <li>• Projects that achieve the goals of utility asset management plans</li> <li>• Sub-surface land application of effluent and other means for ground water recharge such as spray irrigation and overland flow</li> </ul> |
| Categorically Eligible | <p><b>Publicly Owned:</b></p> <ul style="list-style-type: none"> <li>• Total/integrated water resources management planning likely to result in a capital project</li> <li>• Utility Sustainability Plan</li> <li>• Greenhouse gas (GHG) inventory or mitigation plan</li> <li>• POTW planning activities to adapt to long-term effects of climate change and/or extreme weather</li> <li>• Construction of LEED certified buildings or renovation of an existing building on POTW facilities</li> <li>• Decentralized wastewater treatment solutions                             <ul style="list-style-type: none"> <li>• Individual onsite systems</li> <li>• Cluster systems</li> </ul> </li> </ul>  | <ul style="list-style-type: none"> <li>• Total/integrated water resources management planning likely to result in a capital project</li> <li>• Construction of LEED certified buildings</li> </ul>  | <ul style="list-style-type: none"> <li>• Total/integrated water resources management planning likely to result in a capital project</li> <li>• Utility Sustainability Plan</li> <li>• Greenhouse gas (GHG) inventory or mitigation plan</li> <li>• Treatment works planning activities to adapt to long-term effects of climate change and/or extreme weather</li> <li>• Construction of LEED certified buildings or renovation of an existing building on treatment works facilities</li> <li>• Decentralized wastewater treatment solutions                             <ul style="list-style-type: none"> <li>• Individual onsite systems</li> <li>• Cluster systems</li> </ul> </li> </ul>  |
| CWSRF GPR Ineligible   | <ul style="list-style-type: none"> <li>• Air scrubbers to prevent nonpoint source deposition</li> <li>• Facultative lagoons</li> <li>• Surface discharging decentralized wastewater systems</li> <li>• Higher seawalls to protect POTWs from rising sea levels</li> <li>• Reflective roofs at POTW</li> </ul>   | <ul style="list-style-type: none"> <li>• Air scrubbers to prevent nonpoint source deposition</li> </ul>   | <ul style="list-style-type: none"> <li>• Air scrubbers to prevent nonpoint source deposition</li> <li>• Facultative lagoons</li> <li>• Surface discharging decentralized wastewater systems</li> <li>• Higher seawalls to protect treatment works from rising sea levels</li> <li>• Reflective roofs at treatment works</li> </ul>  |