

ATTACHMENT 1
Projects Eligible under the ASADRA

Clean Water SRF

If a project is not specifically listed below, states must explain in their IUP how the project addresses the purposes outlined in section III.A. of this memorandum.

- I. Projects that prevent interruption of collection system operation in the event of a flood or natural disaster, including but not limited to:**
- a. Physical “hardening” or waterproofing of pumps and electrical equipment at pump stations and other components of collection systems (including storage facilities and associated equipment) through upgrade or replacement, including:
 - Installation of submersible pumps
 - Waterproofing electrical components (e.g. pump motors)
 - Waterproofing circuitry
 - Dry floodproofing/sealing of structure to prevent floodwater penetration
 - Installation/construction of wind resistant features (e.g. wind resistant roofing materials, wind-damage resistant windows, storm shutters)
 - b. Relocation of pump stations or other collection system facilities to less flood prone areas
 - c. Installation of physical barriers around pump stations or other collection system facilities (e.g. levies or dykes)
 - d. Installation of back-up generators or alternative energy sources (including switch boxes) that service pump stations or other collection system facilities
 - e. Correction of significant infiltration and inflow problems that increase the likelihood of sewer backups or flooding of a treatment works
 - f. Separation of combined sewers that will result in a reduced risk of flooding of the collections system and/or treatment works
 - g. Installation/construction of redundant collection system components and equipment
 - h. Regionalization project that enables diversion of wastewater flows to an alternate system for emergency wastewater collection and treatment services
 - i. SCADA system projects to allow remote or multiple system operation locations
 - j. Replacement of damaged equipment with more energy efficient equipment
 - k. Construction or installation of flood attenuation, diversion, and retention infrastructure within or beyond the boundaries of a treatment works that protects the collection system
 - Green infrastructure that reduces flood risk by reducing stormwater runoff, including permeable pavement, green roofs and walls, bioretention infrastructure (e.g. constructed wetlands, detention basins, riparian buffers, or stormwater tree trenches/pits/boxes), stream daylighting, and downspout disconnection
 - Natural systems, and features thereof, capable of mitigating a storm surge, such as barrier beach and dune systems, tidal wetlands, living shorelines, and natural berms/levees
 - Floodwater pumping systems
 - Flood water channels/culverts, physical barriers, and retention infrastructure

II. Projects that prevent floodwaters from entering a treatment works, including but not limited to:

- a. Installation of physical barriers around a facility (e.g. levies or dykes around the facility to prevent flooding)
- b. Relocation of facilities to less flood prone areas
- c. Construction or installation of flood attenuation, diversion, and retention infrastructure within or beyond the boundaries of a treatment works that protects the treatment works
 - Green infrastructure that reduces the risk of flooding by reducing stormwater runoff, including permeable pavement, green roofs and walls, bioretention infrastructure (e.g. constructed wetlands, detention basins, riparian buffers, or stormwater tree trenches/pits/boxes), stream daylighting, and downspout disconnection
 - Natural systems, and features thereof, capable of mitigating a storm surge, such as barrier beach and dune systems, tidal wetlands, living shorelines, and natural berms/levees
 - Floodwater pumping systems
 - Flood water channels/culverts, physical barriers, and retention infrastructure

III. Projects that maintain the operation of a treatment works and the integrity of the treatment train in the event of a flood or natural disaster, including but not limited to:

- a. Physical “hardening” or waterproofing of pumps and electrical equipment at treatment works through upgrade or replacement, including:
 - Installation of submersible pumps
 - Waterproofing electrical components (e.g. pump motors)
 - Waterproofing circuitry
 - Dry floodproofing/sealing of structure to prevent floodwater penetration
 - Installation/construction of wind resistant features (e.g. wind resistant roofing materials, wind-damage resistant windows, storm shutters)
- b. Relocation of critical equipment to less flood prone areas of a facility and/or elevation of critical structures
- c. Installation of physical barriers around individual treatment processes
 - Flood walls around treatment tanks
 - Elevated walls or capping of treatment tanks
- d. Installation of larger capacity storage tanks
 - Installation of larger capacity chemical storage tanks for continued treatment in absence of delivery service
 - Installation of larger capacity fuel storage tanks for back-up generators
 - Construction of storage tanks at treatment works to store overflows for future treatment
- e. Installation of back-up energy supply or alternative energy sources and/or hardening of existing connections to the power grid
- f. Installation/construction of redundant components and equipment
- g. Replacement of damaged equipment with more energy efficient equipment
- h. SCADA system projects to allow remote or multiple system operation locations

IV. Projects that preserve and protect treatment works equipment in the event of a flood or natural disaster, including but not limited to:

- a. Relocation of critical equipment to less flood prone areas of a facility and/or elevation of critical structures
 - b. Prevention of saltwater damage to materials and equipment
 - Installation of salt water resistant chemical storage tanks
 - Installation of salt water resistant fuel storage tanks
 - Installation of salt water resistant equipment and appurtenances
- V. Planning projects that assess a treatment works' vulnerability to flood damage or that analyze the best approach to integrate system and community sustainability/resiliency priorities in the face of a variety of uncertain futures including natural disasters and more frequent and intense extreme weather events, provided the planning work is reasonably expected to result in a capital project, including but not limited to:**
- a. Risk/vulnerability assessments considering recent floodplain maps and projected sea level rise
 - b. Alternatives analysis
 - c. Asset Management Plans
 - d. Emergency Preparedness, Response, and Recovery Plans
- VI. Projects that assess, prepare for, protect, or mitigate damage to treatment works or collection system from earthquakes and wildfires, including but not limited to:**
- a. Risk/vulnerability assessments considering recent seismic and liquefaction maps and wildfire hazard maps
 - b. Emergency Preparedness, Response, and Recovery Plans considering ground movement and wildfire potentials
 - c. Installation of flexible piping at pipe/conduit connections to equipment to accommodate expected movement in an earthquake
 - d. Installation of seismic resilient pipe or other strategies (e.g., bypassing pumping plan) at key failure nodes
 - e. Retrofit buildings and tanks to address earthquakes and that comply with seismic standards (e.g., American Society of Civil Engineers ASCE 41)
 - f. Anchor equipment (e.g., computers, bookshelves) as well as laboratory equipment and chemical and fuel tanks
 - g. Maintain seismically certified emergency generators at key facilities to help mitigate widespread power outages
 - h. Practice mechanical thinning, weed control, selective harvesting, controlled burns and creation of fire breaks on utility managed property
 - i. Create a zone of defensible space for utility equipment and facilities (e.g., structures, supports to wires and transformers); keep intakes clear of debris
 - j. Install manual or automatic irrigation systems to provide wetting of components and groundcover for vulnerable areas (e.g., chemical storage, control equipment buildings)
 - k. Installation of fire-resistant building materials
 - l. Purchase of fire suppression equipment and fire safety kits as key components of emergency response equipment