

Strategies for Wastewater Management

Water Quality State Guide Plan Element

11/21/2013

Goal: Wastewater systems are planned, designed, constructed and operated to protect surface water quality and public health.

Policy: Wastewater planning is based on time horizons that reflect the useful life of the infrastructure; e.g. twenty or more years.

Actions:

- On a statewide basis, periodically survey wastewater systems to identify, document and prioritize capital needs.
- Maintain and enhance data systems that document capital needs of wastewater systems to facilitate data sharing.

Policy: The facility planning process guides the orderly expansion and utilization of public wastewater systems including the extension of public sewers to those areas deemed necessary to achieve water quality protection goals.

Actions:

- Mandate all publicly owned wastewater systems maintain facility plans. Encourage data collection to reduce gaps in information on the location and ownership of public sewer lines.
- Strengthen the state oversight role in wastewater system facility planning and ensure modifications to such plans, to either expand or reduce service, are done in a manner that is cost-effective and supports the optimal use of existing infrastructure.
- Continue state review and approval of facility plans. Ensure such plans are consistent with policies reflected in Land Use 2025.
- Evaluate opportunities for regional approaches to various aspects of wastewater management, especially within the urbanized service districts in which different authorities maintain portions of a common system.
- Complete vulnerability assessments of wastewater systems relative to potential impacts from climate change. Use the resulting information to devise and implement over time adaptation strategies that will improve wastewater system resiliency to a changing climate.
- Periodically update facility plans to reflect new information including the results of assessments pertaining to climate change impacts.
- Develop incentives for wastewater system owners to develop, update and implement facility plans.

- Strengthen state authority to compel municipalities to develop community – based solutions to persistent on-site wastewater management problems; e.g. develop sewer systems or extend service.

Policy: Ensure wastewater management for on-site wastewater systems and sewer areas within a community or service district is coordinated.

Actions:

- Foster the development of community-wide wastewater plans that integrate facility planning and on-site wastewater management planning.
- Strengthen state oversight to require that comprehensive plans, local wastewater management plans and facility plans are consistent. Develop procedures to resolve conflicts among the plans.
- Strengthen policies and/or state law to ensure properties with ready access to public sewer systems are connected.
- Provide guidance to wastewater systems to foster sewer assessments and use fees that are fair and equitable.
- Develop targeted financial assistance program to facilitate sewer extensions and connections to priority areas necessary to restore water quality in circumstances where traditional financing mechanisms constitute an obstacle to implementation, e.g. excessive individual property owner cost.
- Develop policies to ensure privately constructed WWTFs are properly operated and maintained and that sufficient financial resources will be available to repair and upgrade such systems as needed in the future.

Policy: Ensure wastewater systems are designed and constructed to provide reliable wastewater treatment in a manner consistent with facility plans.

Actions:

- Continue state oversight of the design of major components of wastewater system infrastructure.
- Ensure policies for the design of wastewater systems accommodate advancements in technologies and allow for the incorporation of newer technologies that have been demonstrated effective elsewhere.
- Utilize inspection processes to ensure wastewater infrastructure projects are properly constructed as designed.

Policy: Ensure discharge permits are protective of water quality.

Actions:

- Continue to maintain the state discharge permitting program (RIPDES) as delegated by the EPA pursuant to the federal Clean Water Act.

- Implement water quality monitoring programs to ensure data is available to support the development and re-issuance of RIPDES permits. This includes monitoring the ecosystem response in receiving waters as part of an adaptive management approach to wastewater management.
 - Continue to develop, refine and apply improved scientific tools and data systems, e.g. water quality models, to support permitting decision-making.
 - Develop and periodically update water quality based permits for public and industrial wastewater discharges that include discharge limits that will allow water quality standards to be achieved.
 - Develop and periodically update permits for cooling water discharges to ensure thermal impacts do not degrade aquatic ecosystems.
- Stay abreast of technological innovations in wastewater management and utilize advanced treatment technologies where warranted to abate water quality degradation associated with wastewater discharges.
- Improve data management systems to ensure effluent data and other important information on wastewater treatment performance is reported and reviewed in a timely and efficient manner among federal, state and local entities. In coordination with federal EPA requirements, adapt data systems to support the electronic submittal of permit applications and associated reports.
- As new science warrants, develop policies to address pollutants of emerging concern including compounds associated with personal care products and pharmaceuticals discharged from wastewater facilities in their effluent or solids (sludge).
 - Reduce the deliberate disposal of unused drugs into wastewater systems via expanded public education.
 - Expand capacity of existing programs that provide alternative disposal of unused pharmaceuticals to capture a wider range of contaminants; e.g. over-the-counter drugs.
 - Encourage research

Policy: Encourage and support efforts to achieve effective control of upstream wastewater discharges in MA which affect downstream water quality in RI.

Actions:

- Continue to collect, synthesize and share scientific information that characterizes the upstream contribution from MA to water pollution problems in RI waters.
- As needed, participate in EPA decision-making to ensure downstream impacts on RI waters from MA wastewater sources are properly considered in EPA permit decisions.

Policy: Prevent the introduction of toxics and other substances into wastewater systems in quantities that may cause disruption of desired treatment processes.

Actions:

- Continue to implement effective pretreatment programs at the state and local/system level.
- Develop policies to improve coordination among municipal pretreatment programs and private operators of WWTFs.
- Expand programs that collect grease from restaurants and other sources for beneficial re-use.

Policy: Ensure wastewater systems are operated and maintained to provide effective wastewater treatment.

Actions:

- Require operation and maintenance plans for all WWTFs to be followed. Continue to conduct periodic inspections of WWTFs.
- Maintain wastewater operator certification program to ensure qualified staffing at wastewater treatment facilities.
 - Provide sufficient training to meet needs of WWTF operators including those associated with the greater use of more advanced and complex treatment technologies.
 - Provide training and professional development opportunities to attract and develop effective managers to serve in wastewater systems.
 - Expand wastewater certification requirements where warranted to ensure effective operation of privately owned and industrially operated wastewater treatment systems.
- Establish asset management programs within all major public wastewater systems to facilitate preventative maintenance and prompt replacement or repair of wastewater infrastructure.

- Continue to implement policies that require prompt reporting and response actions in the event of sewer system overflows.
- Provide technical assistance to wastewater dischargers to foster improved performance.
 - Develop programs to provide technical assistance to private businesses, in particular small businesses.
- Revise policies to broaden the use of sustainable practices in wastewater operations.
 - Facilitate the broader use of beneficial reuse of biosolids generated via wastewater treatment.
 - Promote the practice of wastewater reuse where appropriate and cost-effective.
 - Reduce amount of chemical use where feasible.
 - Promote practices that achieve energy efficiencies and increase use of cost-effective alternative energy sources.
- Maintain and periodically update a statewide plan to ensure Rhode Island has adequate septage disposal capacity that is reasonably distributed throughout the state.

Policy: Sludge generated via wastewater treatment is handled and disposed of in a manner that is protective of public health and the environment.

Actions:

- Maintain and update a statewide sludge management plan to ensure sufficient disposal for sludge generated at WWTFs.
- Promote the beneficial re-use of sludge; e.g. compost. Revise policies as needed to support acceptable re-use opportunities.

Policy: Utilize informal and formal enforcement procedures to deter non-compliance by wastewater dischargers.

Goal: Wastewater infrastructure is improved to reduce pollutant loadings to restore water quality.

Policy: Reduce nutrient pollutant loadings from wastewater treatment facilities.

Actions:

- Complete implementation of strategy to upgrade WWTFs to reduce pollutant loadings of nitrogen from 11 RI WWTFs affecting upper Narragansett Bay.

- Encourage timely implementation of WWTF upgrades in MA portion of the Narragansett Bay watershed.
- Complete implementation of upgrades for phosphorus controls at targeted WWTFs.
- Develop improved decision-making tools that can be applied to support future decisions on nutrient reductions from WWTFs discharging to the Narragansett Bay watershed including its tributaries.

Policy: Minimize untreated discharges from Combined Sewer Overflows.

Actions:

- Implement CSO abatement strategies for Providence metropolitan region and City of Newport.
 - Evaluate the effectiveness of Phase 2 of NBC CSO abatement and use information to adapt Phase 3 plans.
- Encourage CSO abatement in MA portion of Narragansett Bay watershed (Fall River).
- As practicable, minimize the generation of combined sewer overflows by redirecting and capturing stormwater runoff through application of green infrastructure practices in urbanized areas.

Policy: Reduce discharges that result from sewer system overflows.

Actions:

- Develop and implement effective programs to detect, replace or repair conveyance systems and pump stations in order to prevent sewer systems overflows within all public wastewater systems.
- Conduct infiltration and inflow detection programs to identify and eliminate sources of excessive amounts of water entering into sewer systems.
- Continue to provide state technical assistance to aid in the investigation of sewer system overflows.

Policy: Extend or establish public sewer service to mitigate pollution problems resulting from continued reliance on septic systems.

Actions:

- On a statewide basis, identify and prioritize areas where sewers are needed, as determined by technical information including water quality data or other factors (e.g., public health risks from increasing numbers of failing systems).
- Enact state law to require connections to public sewer systems. Such law should allow for reasonable waiver period for properties that have recently installed or repaired an OWTS.

Goal: Wastewater systems have sufficient financial resources to meet operating and maintenance needs as well as invest in priority infrastructure repairs and upgrades.

Policy: Ensure wastewater systems have access to needed financial support.

Actions:

- Continue to provide financing via the Clean Water SRF Program.
- Evaluate long-term infrastructure financing needs and identify options for supplementing existing funding mechanisms including increasing capacity of the State Revolving Fund.
- Encourage the use of enterprise funds as an appropriate means of managing WWTF financial resources.
- Lower annual operating costs through by incorporating energy efficiencies and use of sustainable energy sources in wastewater operations.