

Rural Policy Plan: Water & Sewer Infrastructure Chapter

Section 1 Goal

The Commonwealth should ensure that all rural communities have potable water and sanitary sewer infrastructure suitable for supporting and enabling both current and future needs for housing and economic development.

Section 2 Key Issues

General Description of Focus Area and Issues

Rural areas lack centralized systems of water and sewer infrastructure, which effectively restricts creation of housing and commercial development to individual lots of the right size and topography to include a well and septic system. Private wells and septic systems can be prohibitively expensive to build.

Rural taxpayers cannot afford to construct centralized systems without state and federal investment. Even with funding support those systems can be difficult to site to meet environmental, zoning and permitting requirements. Once constructed, governance, staffing and oversight issues provide additional challenges in rural areas.

Examples That Highlight the Issue

1. New systems are expensive to construct, maintain and operate. A proposed regional anaerobic digester in Franklin County is estimated to cost over \$7M. Sludge disposal costs are increasing due to trucking greater distances to disposal sites outside Massachusetts. Convincing local taxpayers to pay for new systems is difficult, and some districts do not meet financial stability guidelines for loans. Grant applications require long lead times and expensive up-front engineering costs.
2. Environmental problems are causing concern. Wells are going brackish in North Shore towns. Excess nitrogen (sourced mainly from septic systems) in coastal waters causes eelgrass die-off which negatively impacts coastal fisheries. It's difficult to protect aquifers when multiple wells and septic systems are located in densely-packed locations.
3. Siting and designing systems is challenging, especially on the Cape and Islands. Some water systems are near capacity and National Seashore land is unavailable for new water sourcing. Seasonality of the population on Cape and Islands, and other areas with second home owners, requires sewer systems designed for peak summertime flows which means the treatment processes may not work during off-peak months.
4. DEP historically has not embraced permitting of innovative/alternative technologies, such as for small package treatment plants. DEP is not adequately funded to hire enough staff.
5. Governance, Staffing and Oversight Issues:
 - Hard to find Commissioners that live in-district
 - Difficult to shut off sewer service for non-payment of fees
 - Limitations on private systems borrowing money
 - Towns not supportive of absorbing failing private districts
 - Hard to find and train part-time system operators.
 - Hard to manage public oversight of private systems

Section 3 Existing Policies and Programs

- **State Revolving Fund** – Clean Water and Drinking Water programs offer affordable loan options to cities and towns to improve water supply infrastructure and drinking water safety; and to help them to comply with federal and state water quality requirements that deal with wastewater treatment plants and collection systems, while

addressing issues such as watershed management priorities, storm water management, and green infrastructure. Additionally, the SRF supplies financial assistance to address communities with septic system problems.

- **Water & Waste Disposal Loan & Grant Program (USDA Rural Development)** -- Provides loan funding for up to 40 years for drinking water systems, sanitary sewage disposal, sanitary solid waste disposal, and storm water drainage in eligible rural areas and towns with populations of 10,000 or less. This program assists qualified applicants who are not otherwise able to obtain commercial credit on reasonable terms. Eligible applicants include local governmental entities and private nonprofits.
- **Cape Cod and Islands Water Protection Fund** – Created by state law (Chapter 337 of the Acts of 2018, the short-term rental bill). All Cape and Island towns are eligible to participate. Purpose is to capture revenue, mainly through a 2.75% excise tax on short-term room rentals, and help member towns pay for the estimated \$4 billion cost of reducing nitrogen contamination in coastal waters. Each participating town may appoint a representative to the Fund Management Board that oversees use of the Fund.
- **MassWorks Infrastructure Program** -- A competitive state grant program for public infrastructure projects that support and accelerate housing production, spur private development, and create jobs throughout the Commonwealth. MassWorks emphasizes the production of multi-family housing in appropriately located walkable, mixed-use districts that result in direct and immediate job creation and/or that support economic development in weak or distressed areas.
- **MassHousing Homeowner Septic Repair Loan Program** – Financial help to repair a failed septic system for owner-occupied 1-4 family homes and condominium associations. Income eligibility determines if 0%/3%/5% loan. Sponsored by the combined effort of DEP, DOR and MassHousing.
- **Local/Regional Housing Authority Loan Programs** -- To help homeowners fix code violations, including plumbing and septic system repairs. For example, the Franklin County Regional Housing and Redevelopment Authority administers a Housing Rehabilitation Loan Program on behalf of 24 of the 26 towns in Franklin County. Homes must be owner-occupied with annual household income equal to or less than the area median income. Projects must address code violations and bring the property into compliance.

Section 4 Best Practices

Massachusetts Alternative Septic System Test Center (MASSTC) – Operated by Barnstable County, the MASSTC conducts testing and allows for R&D of products that remove contaminants found in domestic wastewater. The facility can accommodate over 20 concurrent tests. MASSTC also tracks and monitors approximately 2,200 innovative/alternative septic systems installed to reduce nitrogen output across the Cape and Islands.

MASSTC tests innovative/alternative systems designed to treat less than 10,000 gallons per day. Current testing includes vertical permeable reactive barriers to reduce nitrogen output, as well as testing options for what to do with septic system effluent to reduce the need for or size of leach fields or sewer treatment systems. Wastewater used in the tests on site is sourced from the Barnstable County Correctional Facility and U.S. Coast Guard housing at the nearby Joint Base Cape Cod.

Operating expenses are paid for with grants or by private companies that pay to do their own testing on the site. While the MASSTC is self-sustaining operationally, it has capital needs to

correct health and safety issues in its office and laboratory spaces. The work of the MASSTC could be expanded or replicated to serve statewide needs to test innovative/alternative systems.

Section 5 Recommendations

1. **Provide additional state funding for rural water and sewer infrastructure needs:**
 - a. Provide adequate funding for water and sewer infrastructure investment
 - b. Provide funding to test and pilot innovative / alternative system technologies.
 - c. Encourage collaboration among state and federal funding sources to maximize use of available funding.
 - d. Provide adequate funding for MA DEP to hire staff to work with towns to protect public health, review and approve I/A systems, and train and mentor new system operators
2. **DEP should allow implementation of additional innovative / alternative systems to address unique rural problems.** Full scale treatment plants may be too expensive and unwarranted in rural areas. New technology is needed to address the system design problems created by the seasonality of population on the Cape and Islands and other areas with large numbers of second homes. To address these issues, DEP should revise regulations as needed to:
 - a. Encourage shared septic systems for small cluster developments
 - b. Encourage small scale treatment systems
 - c. Encourage shared treatment systems
 - d. Encourage economic and housing development by approving more site-specific waivers from existing regulations.
3. **DEP should provide additional local technical assistance and operator training.**
 - a. *Prioritize technical assistance to rural towns and water & sewer districts.* Small rural towns cannot afford to employ professional staff and must rely on volunteer boards and committees. These volunteers often need professional assistance. Towns also need help addressing issues related to the management of private wells and septic systems.
 - b. *Provide training for new system operators that is accessible statewide.* Consider holding in-person training sessions in various locations across the state and the use of online training to remove the need for travel and time off from other employment to learn to be an operator. Create a pathway to training through community colleges and trade schools.
4. **Legislation should be pursued to improve the governance and operation of rural water and sewer districts.** Depending on the language of their enabling documents, public and private districts need legislation to ensure they may borrow for capital projects, allow for commissioners to serve that do not live in-district, and allow access to more tools to collect user fees, thus improving cash flow and long term sustainability.
5. **DEP should encourage and support the sharing of operators for small systems and provide adequate training, mentoring and support for those operators to succeed.**
6. **Incent smart growth village center development in rural areas** – Doing so will improve the cost effectiveness of new systems and will reduce the size of needed distribution and collection systems. Smaller systems are less expensive to build and maintain.

7. **Massachusetts Alternate Septic System Test Center (MASSTC) should receive greater state support so it can serve statewide testing needs.** The MASSTC is testing small scale systems that can benefit rural environmental, housing and economic development needs on the Cape and Islands. Its work should be expanded to test innovative / alternative systems that will work in other areas across the entire state.

List of Stakeholders for Appendix. Many people, agencies and organizations were consulted in the drafting of this Plan. Recommendations contained in this document are not necessarily supported or endorsed by all parties listed below.

- RCAP
- STAM
- MMA
- MA DOR DLS
- MA DEP
- MA EOHED
- MassDevelopment
- EPA
- Rural Commonwealth
- USDA-Rural Development
- Select Board Associations
- MA Rural Water Association
- RPAs
- Collins Center at UMASS Boston
- East Northfield Water Company