



RURAL COMMUNITY SEWERS

ENVIRONMENTAL SERVICES DIVISION | WWW.IOWADNR.GOV

Before state wastewater standards went into effect in the 1960s, raw sewage could flow directly to a stream without treatment. Despite the standards, this continues in many areas today. In areas called "unsewered communities," outdated and poorly functioning septic tanks still allow untreated wastewater into our waters.

An unsewered community doesn't have to be an incorporated city. In this case, a "community" has 10 or more residential homes with one or more houses per acre. It's "unsewered" if it lacks a central sewage treatment system or if most of its septic systems don't meet state standards.

Assistance is available to help you upgrade and meet standards. Here's how:

1. Determine the problem and its scope.
2. Select a manager for your sewer system.
3. Hire an engineer to design the system.
4. Apply for funding.
5. Install and operate the new sewer system.



A dump truck signals that a child has played in partially treated wastewater from an inadequate septic tank.

CONSIDER THE BENEFITS OF UPGRADING

1. Cleaner water with fewer bacteria and disease-causing pathogens in creeks where kids and pets play.
2. Safer drinking water in areas where poor septic tanks threatened groundwater used in private wells.
3. A more attractive community for businesses looking to locate in a small town and not operate their own wastewater treatment system.
4. Increased home values, as buyers want to avoid upgrading or maintaining a private septic system.

1. Determine the problem and scope

Most unsewered communities have similar problems, namely that each house or building has an outdated or improperly functioning septic tank. These septic tanks often drain to a tile line that empties in a road ditch or a waterway on the edge of town. The wastewater from these systems is only partially treated, polluting nearby waterways, often small creeks where children and pets play. The partially treated sewage can also seep into groundwater, which many rural residents depend on for drinking water.

These discharges are illegal and must be fixed. In most cases, residents can do more for less if a community works together on a solution. First, determine the treatment problems and bring the community together to discuss a course of action. Different agencies can help guide your planning process.

2. Select a manager for your sewer system

Whichever group or organization you select to manage your system, you will need its coordination and leadership to take you through the entire process. The management entity will:

- Hire an engineering firm to assess options and to plan and design the wastewater treatment system.
- Apply for grants and loans to fund construction.
- Develop a billing system if one doesn't already exist for city or rural drinking water services.
- Navigate legal issues, such as land easements, right of way access and finding land for the treatment system.
- Operation and maintenance of the completed system, which may include hiring an operator.

Many existing groups and agencies can serve as your management entity, including:

- An incorporated city, if it has the capability to manage its own sewer system.
- A county can manage sewers in unincorporated communities.
- A rural water district may also manage sewer systems. However, not all rural water agencies deal with wastewater.
- A sanitary sewer district can be formed and can manage systems in a specified geographical area.
- Multi-county agencies or utility maintenance organizations can manage sewer systems in its member counties.

3. Hire an engineer to assess, design

Before you can choose a new treatment system, you will need an engineer to assess your community's conditions and recommend the most cost-effective system.

You will want to seek out an engineer with experience working with small community wastewater treatment systems. The options run from using individual or clustered septic systems to lagoon systems, with a host of alternative options in between. *The DNR does not specify the type of wastewater treatment your community requires, only that everyone in the community has an approved treatment system.*

Based on the number of homes, lay of the land, lot sizes, available space and a number of other factors, the engineer will recommend the most applicable systems. Make sure to ask if they have considered other options and done a cost comparison. Some systems, like lagoons, have more expenses up front but have low-cost maintenance over time. Other systems like media filters and alternative collection systems have a lower initial cost but require more maintenance. Consider all the costs when choosing.

To secure grants and loans to construct the new system, you will need a preliminary engineering report, outlining problems and potential solutions. If you need funding to hire the engineer, the State Revolving Fund (SRF) offers planning and design loans. You can roll the loan into a SRF construction loan or pay with other permanent funding when obtained. There is no initial cost.

4. Apply for funding

Several government agencies provide loans and grants for wastewater treatment systems. Your management entity will apply for funding, and having data chronicling problems and suggesting solutions — such as a preliminary engineering study or notice of violation from the DNR or a

QUESTIONS TO ASK YOUR ENGINEER

1. Have you evaluated alternative treatment options?
2. Do you have a cost estimate for each option, including maintenance and other ongoing costs?
3. Will the system require our management entity to hire a certified wastewater operator and if so, what grade?
4. Why is the system you recommend the best choice for our community? Why did you not select other options?
5. What will each resident pay on a monthly sewer bill?
6. Does everyone have to hook up to the system?

More info on hiring an engineer from Midwest Assistance Program: www.map-inc.org/pdf/HowtoHireanEngineer-0207.pdf

health agency — can be key to securing funds.

You may need funds from more than one of these agencies to complete your project. Some options include:

- Iowa State Revolving Fund
Low interest loans for wastewater treatment systems
www.iowasrf.com
- USDA Rural Development
Loans and grants
www.rurdev.usda.gov/ia/
- Iowa Finance Authority
Wastewater Treatment Financial Assistance Program
www.iowafinanceauthority.gov
- Iowa Department of Economic Development
Community Development Block Grants
www.iowalifechanging.com/community/community/
- Onsite Loan Program
www.iowadnr.gov/InsideDNR/RegulatoryWater/PrivateSepticSystems.aspx

5. Install and operate the new system

WHEN YOU HIT A ROADBLOCK

The road to installing a community sewer system, often long, can take years. While you may feel like ending the process when you encounter difficulties, that's not an option. All systems must meet legal requirements, and the DNR will not require a community to install a system it can't afford. Some tips for handling roadblocks:

- Keep lines of communication open between all partners and agencies involved in the process. Make sure everyone is on the same page.
- If a grant or loan falls through, try other sources and consider reapplying in the next cycle. Most communities will seek assistance from multiple funding sources over a number of years.

DISADVANTAGED COMMUNITIES

A new Iowa law addresses "disadvantaged communities" in a new way when it comes to wastewater treatment requirements. However, other than the criteria used to determine disadvantaged status, the law does not treat disadvantaged communities differently than other communities required by EPA rules, DNR rules or an NPDES permit to install or upgrade wastewater treatment.

According to the law, the DNR can not force a disadvantaged community to install a system that it cannot afford, a practice already long-held by the DNR. It does *not* remove the community's responsibility to adequately treat the wastewater, but gives it more time — up to 30 years — to explore different ways to adequately treat the wastewater at a cost within the community's financial means.

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