



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

Onsite Wastewater Systems – Issues and Management Options

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Overview

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 - EGLE Onsite Wastewater Program
 - What is a Septic System?
- PART TWO:
 - Onsite Wastewater in Michigan
 - Current Environmental Health Regulations
- PART THREE:
 - Failed Onsite Wastewater Systems
- PART FOUR:
 - Management Options and Resources

PART ONE



EGLE Onsite Wastewater Program Overview

WHAT IS THE EGLE ONSITE WASTEWATER PROGRAM?



ONSITE WASTEWATER
STAFF PROVIDE:



PROGRAM SPECIFIC
TRAINING TO LOCAL
HEALTH DEPARTMENTS
AND THE PRIVATE
SECTOR.

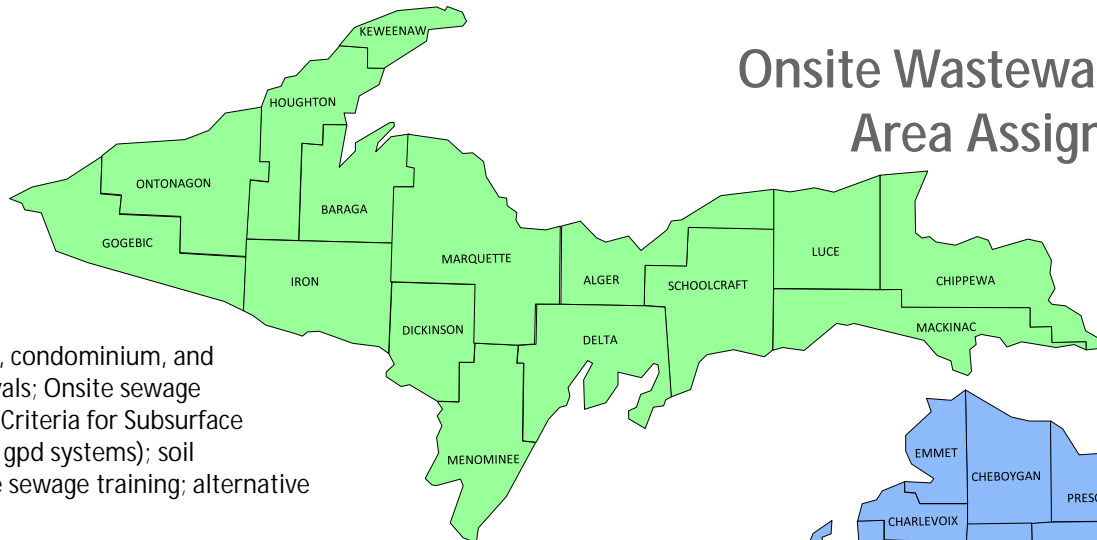


SOILS TRAINING TO LOCAL
HEALTH DEPARTMENT
STAFF.




TECHNICAL EXPERTISE ON
CONVENTIONAL AND
ALTERNATIVE ONSITE
WASTEWATER
TREATMENT.




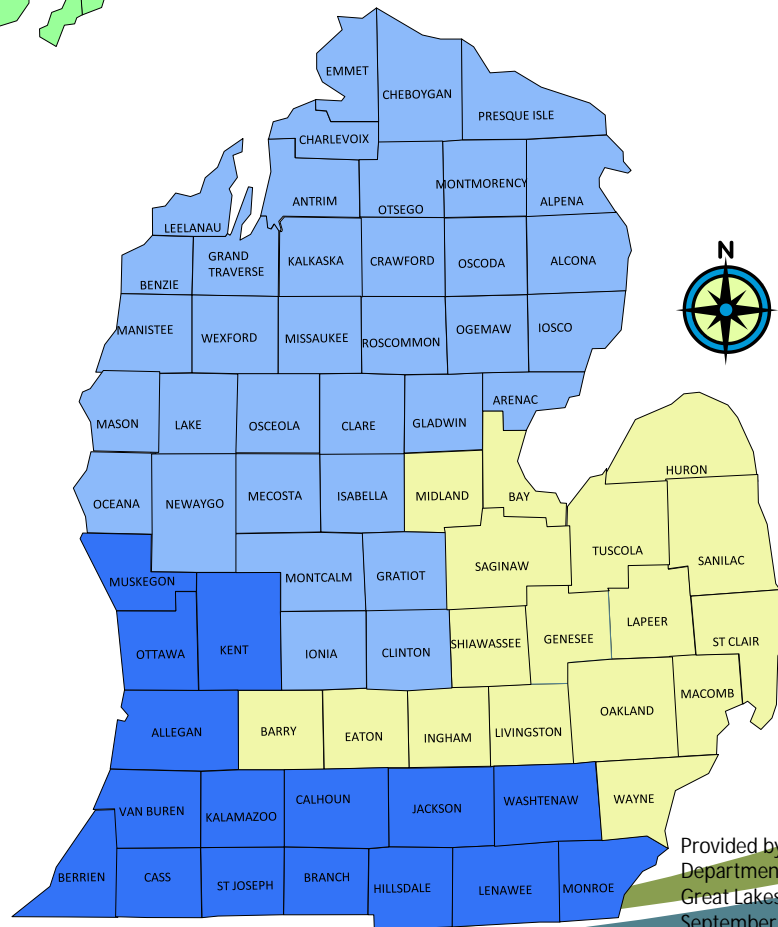


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[Michigan.gov/EGLE/Onsite Wastewater](https://Michigan.gov/EGLE/Onsite_Wastewater)

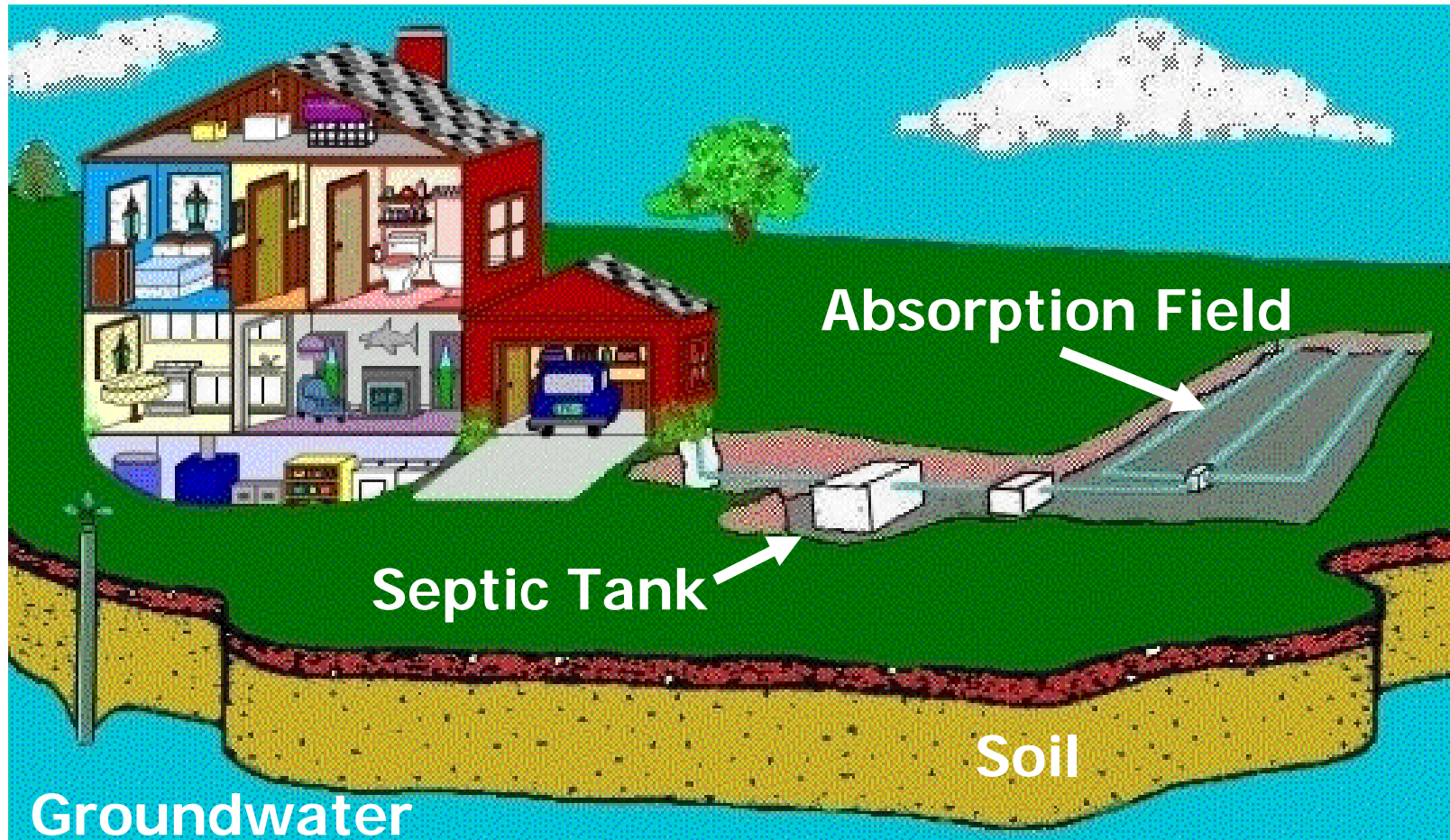
What is a Septic System?

AKA: Onsite Wastewater System

- Small-Scale Wastewater Treatment Plant
- The Largest Utility Investment For Your Home
- Designed Based On Specific Site Characteristics

Recycling of Water for Re-Use as
Drinking Water or for our Surface Waters

Conventional Septic System



Recycling

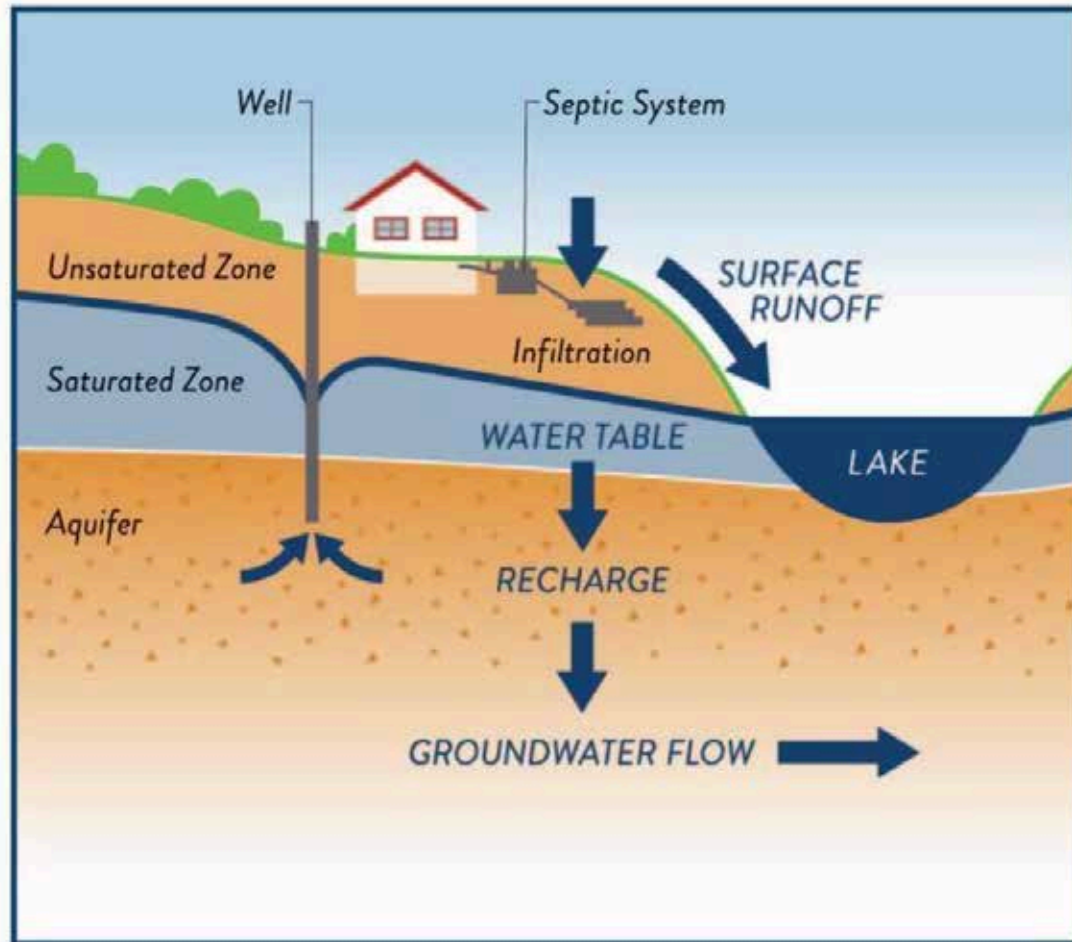


Image from Onsite Installer

PART TWO



Onsite Wastewater in Michigan

Current Environmental Health Regulations

Michigan Onsite Facts

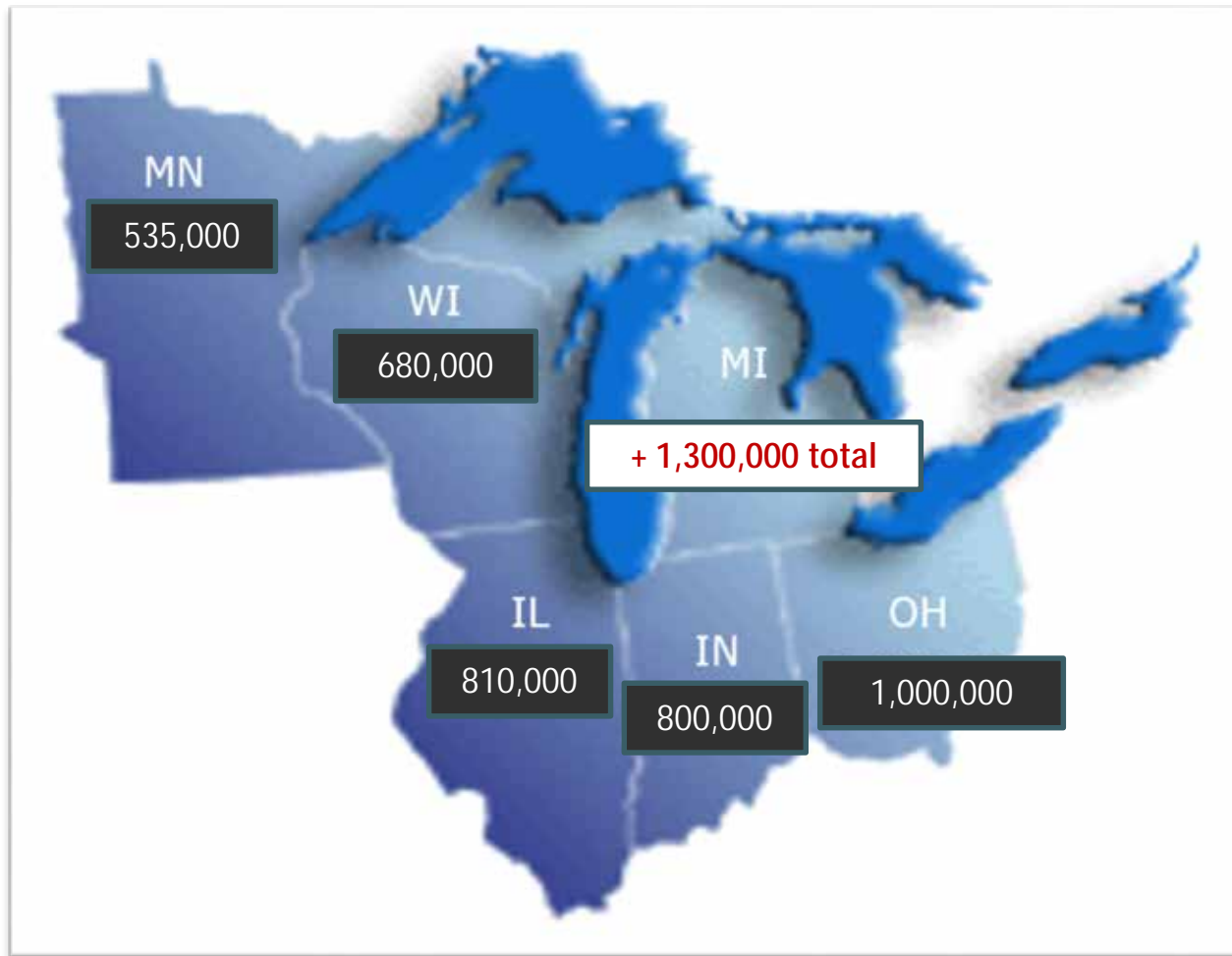


Estimated over 1.3 million onsite systems and growing.

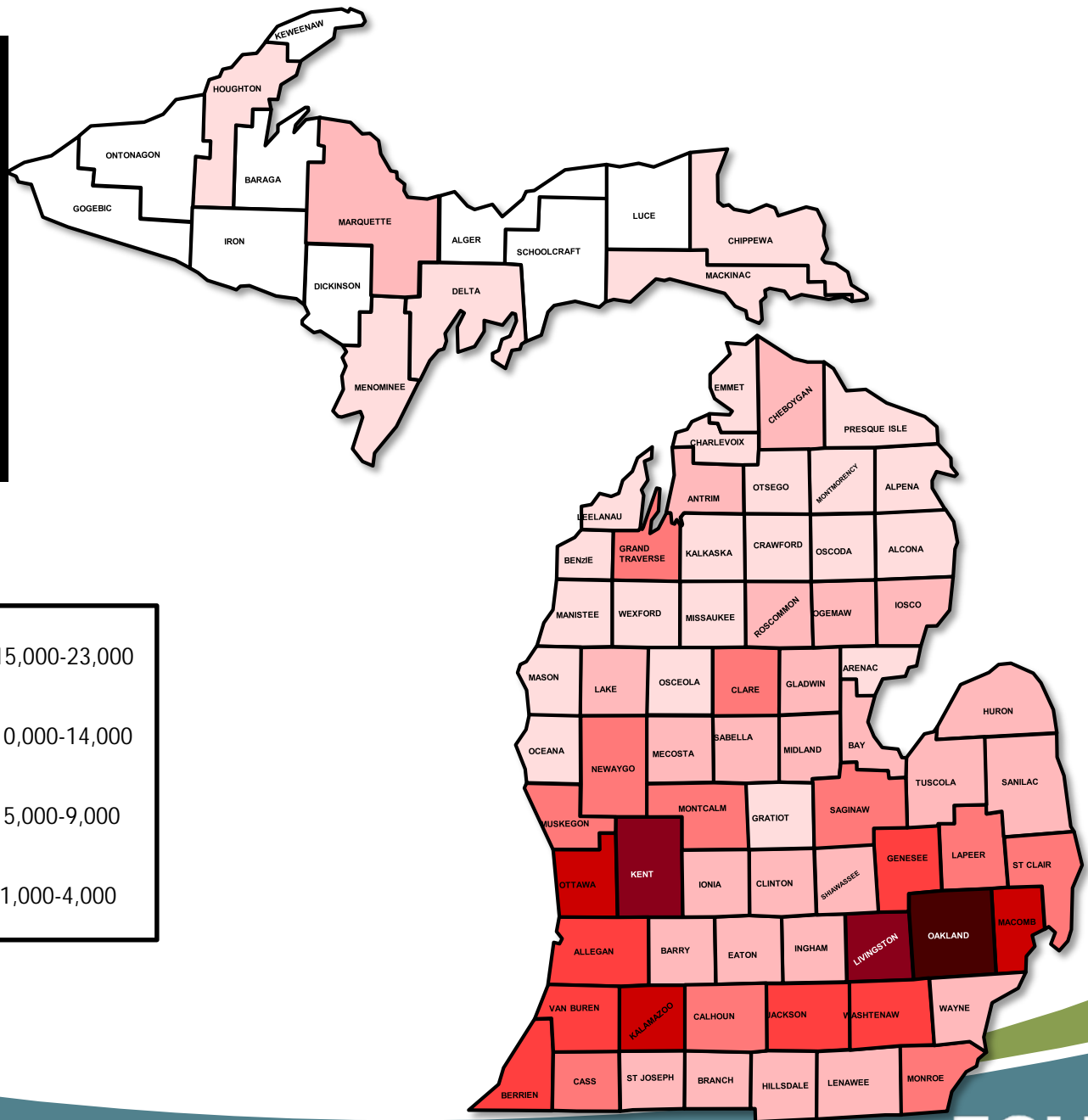


As new homes are built, approximately 50% of them utilize individual or small community onsite systems.

Total Number of Systems Regionally



Relative Number of Onsite Systems by County (1990 Census Data)



STATEWIDE SANITARY CODE?

Michigan is currently the last state in the nation to implement a statewide sanitary code for single family residences.

13 Bills drafted over 16 years, none of which have passed.

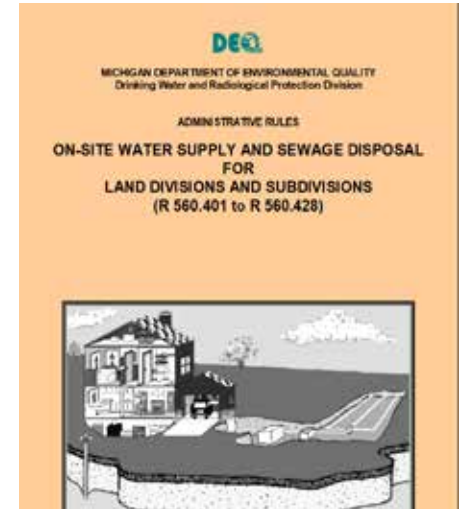
Difficult to find agreement in the Stakeholder Process

Statewide Regulations for Onsite Systems

Administrative Rules for land developments utilizing onsite systems including:

- Subdivisions
- Condominiums
- Land division less than 1 acre

Michigan criteria for onsite systems discharging between 1,000 and 10,000 gallons per day.



Local Regulations for Onsite Systems

44 LHD Regulations for:

- The single and two-family residential onsite systems
- Commercial systems with flows less than 1,000 gallons per day

PART THREE



Failed Onsite Wastewater Systems



Photo Courtesy of Midland County Health Department





Photo courtesy of Old Dominion Onsite, Inc., Ashland, VA



Lush Grass Growth
and Catch Basin at
Surface



Lush Grass Growth
Leading to
Roadside Ditch



Water Valve Head



EPA Guidelines for Management of Onsite/Decentralized Wastewater Systems

PART FOUR

Why are the Guidelines needed?

The performance of onsite and other decentralized wastewater systems is a national issue of great concern. Nationally, states have reported in their 1998 lists of polluted waters that designated uses are not being met for 5,281 waterbodies because of pathogens and that 4,773 waterbodies are impaired by nutrients. Onsite systems are often significant contributors of pathogens and nutrients. Onsite/decentralized wastewater treatment systems serve approximately 25 percent of the U.S. population and 40 percent of new development. The U.S. Bureau of the Census has indicated that at least 10 percent of onsite systems have stopped working, and some communities report failure rates as high as 70 percent. State agencies report that these failing systems are the third most common source of groundwater contamination.

In the 1997 *Response to Congress on Use of Decentralized Wastewater Treatment Systems*, EPA determined that with the technology now available, adequately managed decentralized systems can protect public health and the environment as well as provide long-term solutions for the nation's wastewater needs. The report also cited five major barriers to increasing the use of decentralized wastewater treatment systems, including the lack of adequate management (i.e., site selection, design, installation, and operation and maintenance).



Management Options and Resources



EPA Guidelines for Management of Onsite/Decentralized Wastewater Systems

Why are the Guidelines needed?

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What are onsite/decentralized systems?

Onsite/decentralized wastewater treatment systems, commonly called "septic systems," treat sewage from homes and businesses that are not connected to a centralized wastewater treatment plant. Decentralized treatment systems include individual onsite septic systems, cluster systems, and alternative wastewater treatment technologies like constructed wetlands, recirculating sand filters, mound systems, and ozone disinfection systems.

What are the Guidelines?

The *Guidelines for Management of Onsite/Decentralized Wastewater Systems* (Guidelines) are a set of recommended practices needed to raise the level of performance of onsite/decentralized wastewater systems through improved management programs. Five separate model programs are presented as a progressive series. Management requirements of wastewater systems become more rigorous as the system technologies become more complex or as the sensitivity of the environment increases. Each of the model programs share the common goal of protecting human health and the environment. Each model approach includes program elements and program activities needed to achieve the management objectives. The Guidelines address the sensitivity of the environment in the community and the complexity of the system used. The five model management programs are

1. System inventory and awareness of maintenance needs
2. Management through maintenance contracts
3. Management through operating permits
4. Utility operation and maintenance
5. Utility ownership and management

System Inventory and Awareness of Maintenance Needs...

...becoming SepticSmart

What is SepticSmart?



SepticSmart is a nationwide public education effort by the Environmental Protection Agency with outreach activities and resources for homeowners, local organizations, and government leaders to encourage homeowners and communities to care for and maintain their septic systems.



For more information visit; [EPA.gov/Septic](https://www.epa.gov/septic)

Core Messages from Septic Sam



Septic Sam is a cartoon character wearing a green shirt with a 'SAM' patch, blue pants, brown shoes, and a blue cap with the 'septicSMART' logo. He is pointing upwards with his right hand.

septicSMART
U.S. Environmental Protection Agency

Do Your Part, Be SepticSmart: The Do's and Don'ts of Your Septic System

Learn these simple steps to protect your home, health, environment and property value:

Protect It and Inspect It:

Do:

- Have your system inspected (in general) every three years by a licensed contractor and have the tank pumped, when necessary, generally every three to five years.

Think at the Sink:

Don't:

- Pour cooking grease or oil down the sink or toilet.
- Rinse coffee grounds into the sink.
- Pour household chemicals down the sink or flush them.

Do:

- Eliminate or limit the use of a garbage disposal.
- Properly dispose of coffee grounds & food.
- Put grease in a container to harden before discarding in the trash.

Don't Overload the Commode:

Don't:

- Flush non-degradable products or chemicals, such as feminine hygiene products, condoms, dental floss, diapers, cigarette butts, cat litter, paper towels, pharmaceuticals.

Do:

- Dispose of these items in the trash can!

Shield Your Field:

Don't:

- Park or drive on your drainfield. The weight can damage the drain lines.
- Plant trees or shrubs too close to your drainfield, roots can grow into your system and clog it.

Do:

- Consult a septic service professional to advise you of the proper distance for planting trees and shrubs, depending on your septic tank location.

Don't Strain Your Drain:

Don't:

- Concentrate your water use by using your dishwasher, shower, washing machine, and toilet at the same time. All that extra water can really strain your septic system.

Do:

- Stagger the use of water-generating appliances. This can be helpful especially if your system has not been pumped in a long time.
- Become more water efficient by fixing plumbing leaks and consider installing bathroom and kitchen faucet aerators and water-efficient products.

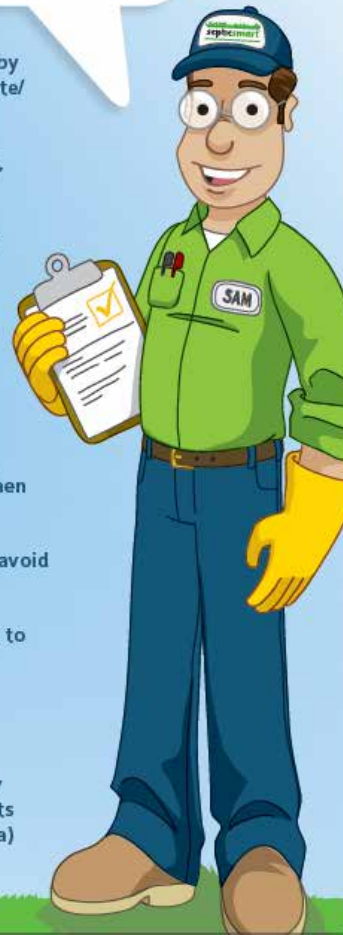
For more SepticSmart tips, visit: www.epa.gov/septicSMART

 832-R-13-002 • September 2013

If you moved from the city wouldn't you like to know?

Top 10 Ways to Be a Good Septic Owner

- ✓ Have your system inspected every three years by a qualified professional or according to your state/ local health department's recommendations
- ✓ Have your septic tank pumped, when necessary, generally every three to five years
- ✓ Avoid pouring harsh products (e.g., oils, grease, chemicals, paint, medications) down the drain
- ✓ Discard non-degradable products in the trash (e.g., floss, disposable wipes, cat litter) instead of flushing them
- ✓ Keep cars and heavy vehicles parked away from the drainfield and tank
- ✓ Follow the system manufacturer's directions when using septic tank cleaners and additives
- ✓ Repair leaks and use water efficient fixtures to avoid overloading the system
- ✓ Maintain plants and vegetation near the system to ensure roots do not block drains
- ✓ Use soaps and detergents that are low-suds, biodegradable, and low- or phosphate-free
- ✓ Prevent system freezing during cold weather by inspecting and insulating vulnerable system parts (e.g., the inspection pipe and soil treatment area)



Any Questions?



Michigan Department of
Environment, Great Lakes, and Energy

800-662-9278

Michigan.gov/EGLE



Thank you from the
Onsite Wastewater Program

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