



Septic System Maintenance Webinar

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*For more information visit:
www.allianceofrougecommunities.com*





Septic System Maintenance Webinar

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www.allianceofrougecommunities.com



Alliance of Rouge Communities (ARC)

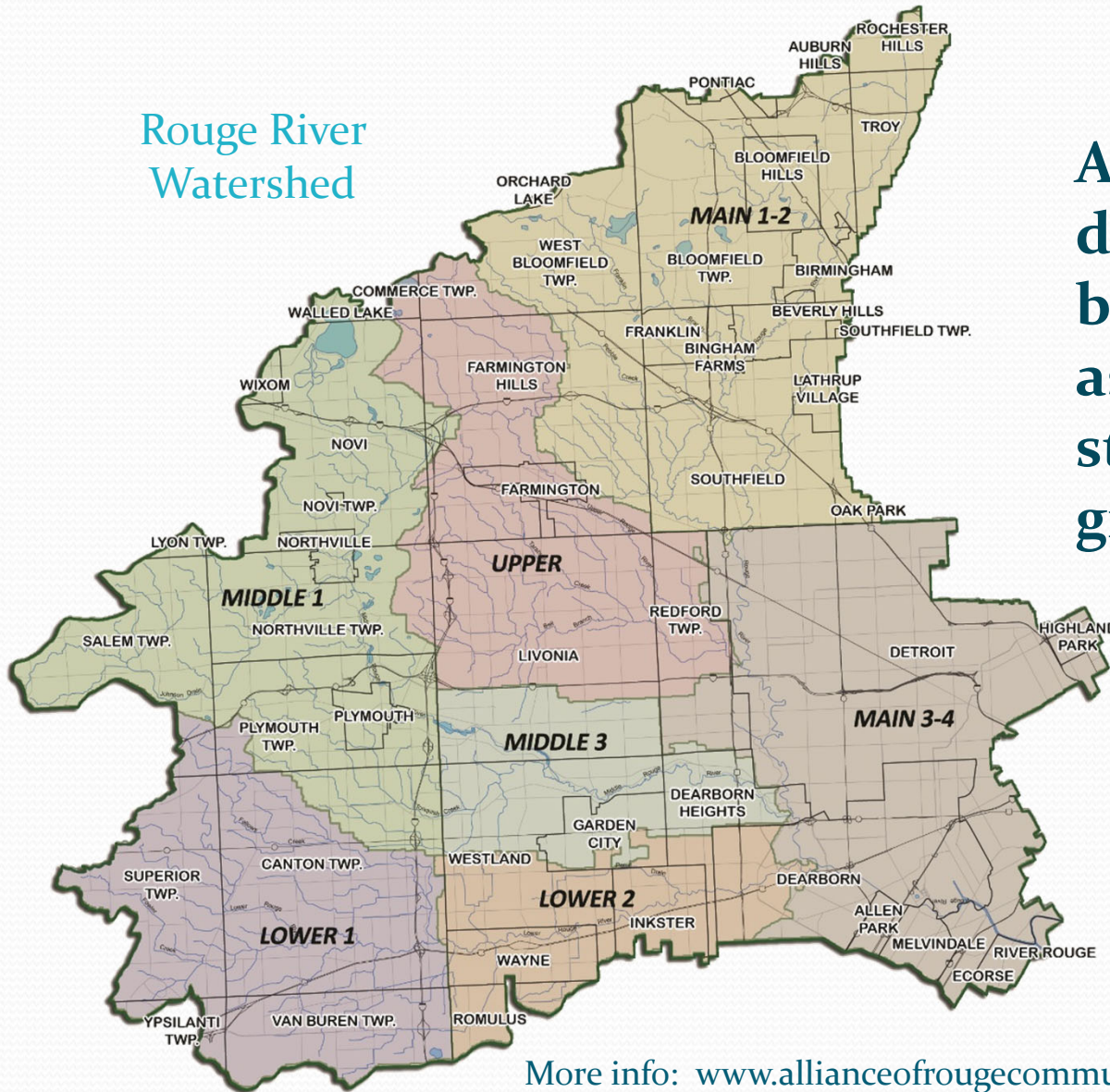
- Non-profit organization
 - Local municipalities
 - Counties
 - Educational institutions
 - Stewardship groups
- Work cooperatively to meet water quality requirements mandated by State's stormwater permit
- Funded by membership dues from local governments and supported by grants

More info: www.allianceofrougecommunities.com/septic.html



We all live in a watershed

Rouge River Watershed



An area of land that drains to a common body of water, such as a lake, river or stream (and even groundwater)

More info: www.allianceofrougecommunities.com/septic.html



Working together, restoring the river

We all live in a watershed

- Pollutants travel from upstream to downstream areas
- As land becomes altered or developed it increases the amount of pollutants traveling



OURS TO PROTECT

Working together, restoring the river

More info: www.allianceofrougecommunities.com/septic.html

What is stormwater?

- Water that originates during rain events and snow/ice melt
- Carries the pollutants
- Travels over land or through storm drains, catch basins or pipes (called outfalls)
- Ends up untreated in our rivers, streams and lakes



More info: www.allianceofrougecommunities.com/septic.html

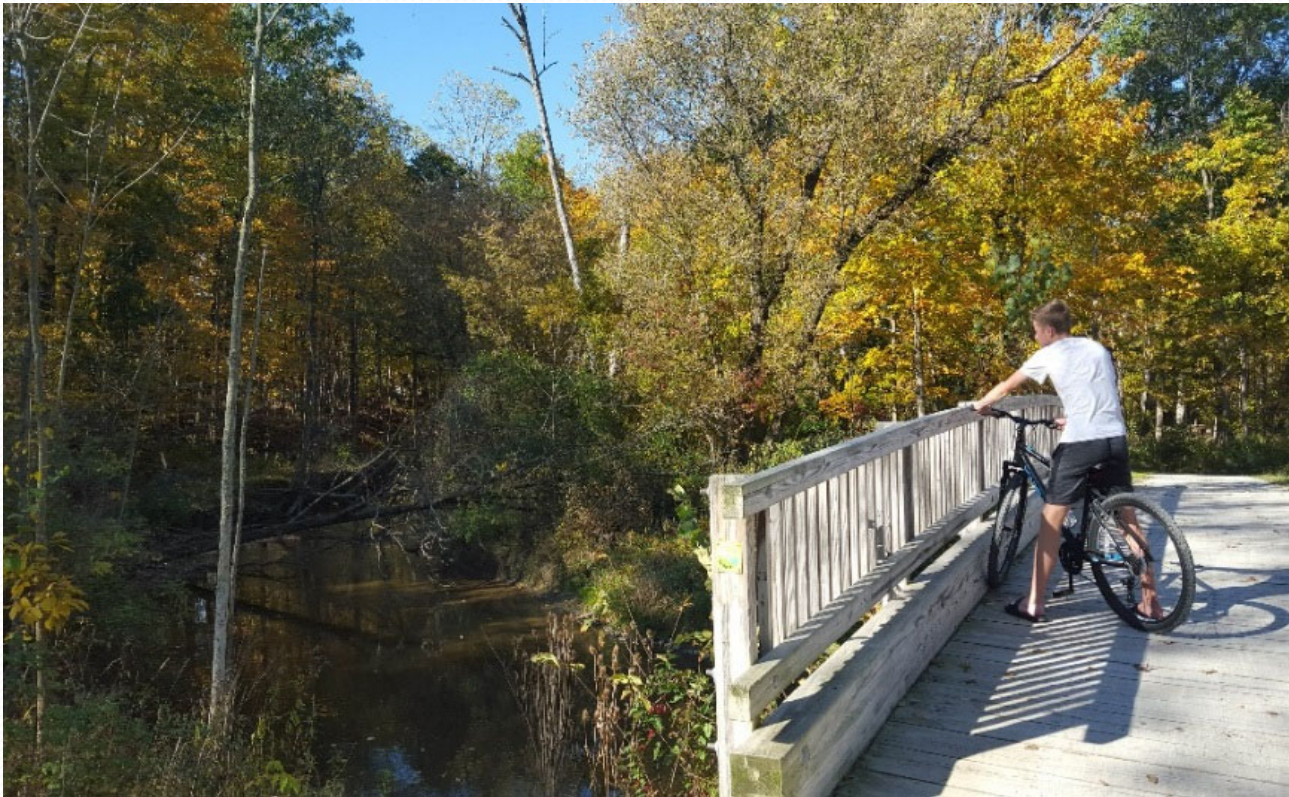
What is wastewater?

- Water that has been used in the home, in a business, or as part of an industrial process
- Is treated before it is released back to the environment

More info: www.allianceofrougecommunities.com/septic.html



Why protect water quality?



More info: www.allianceofrougecommunities.com/septic.html

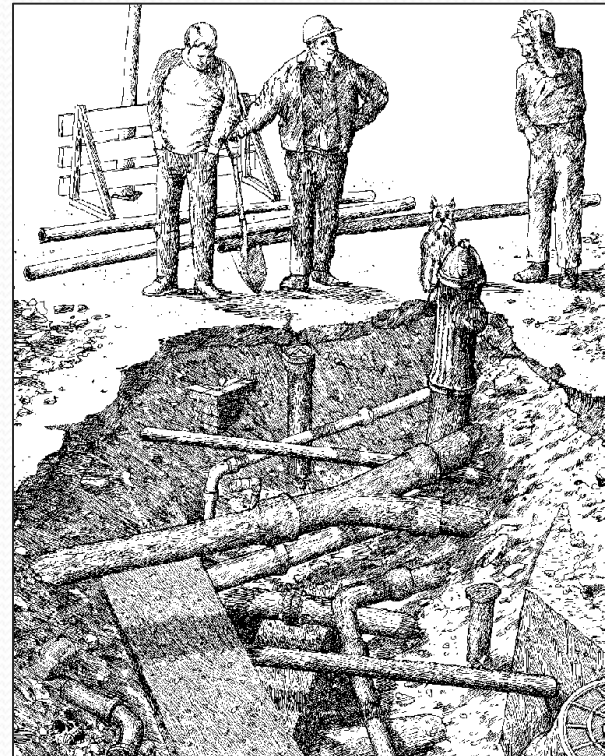
What does Improved water quality mean?



More info: www.allianceofrougecommunities.com/septic.html

Sources of bacteria (*E. coli*)

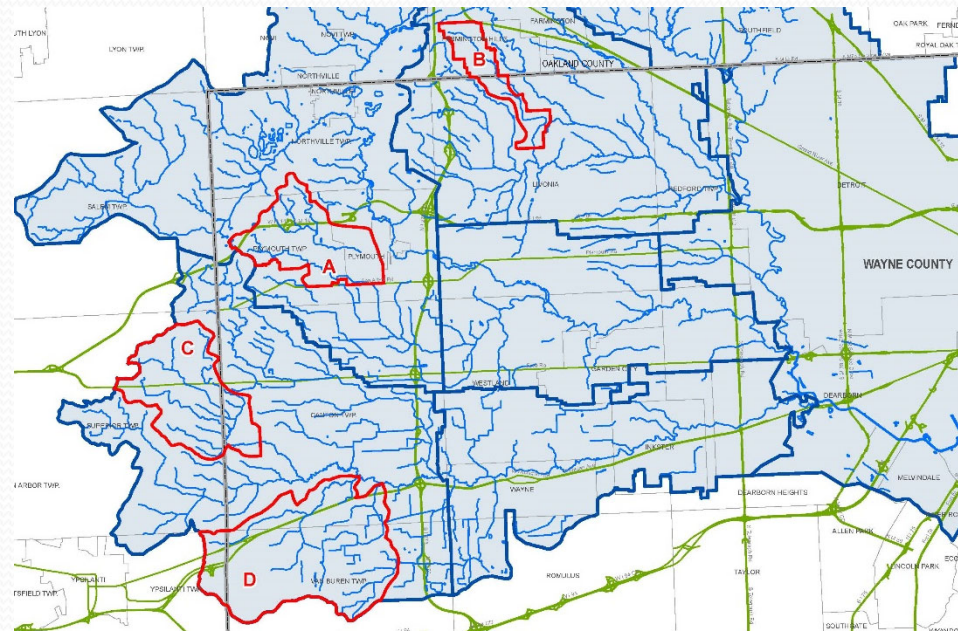
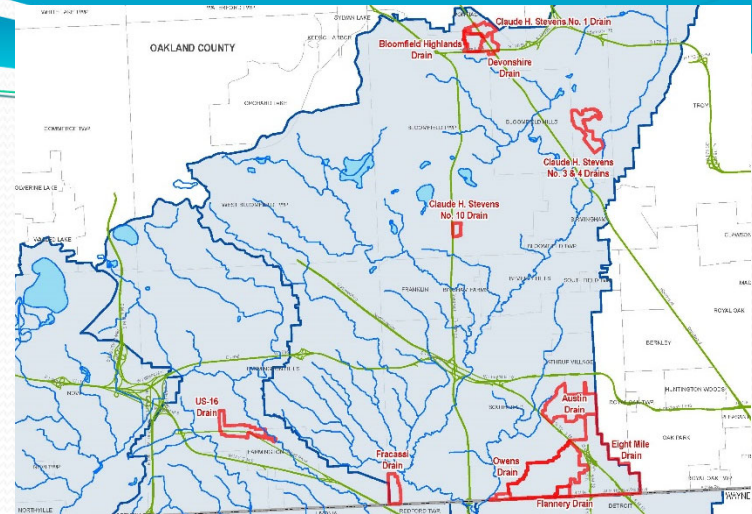
- Humans
 - Illicit connections
 - Failing septic systems
 - Sanitary sewer overflows
- Pets
 - Lack of waste pick-up
- Wildlife
 - Don't feed them



More info: www.allianceofrougecommunities.com/septic.html

Where to begin?

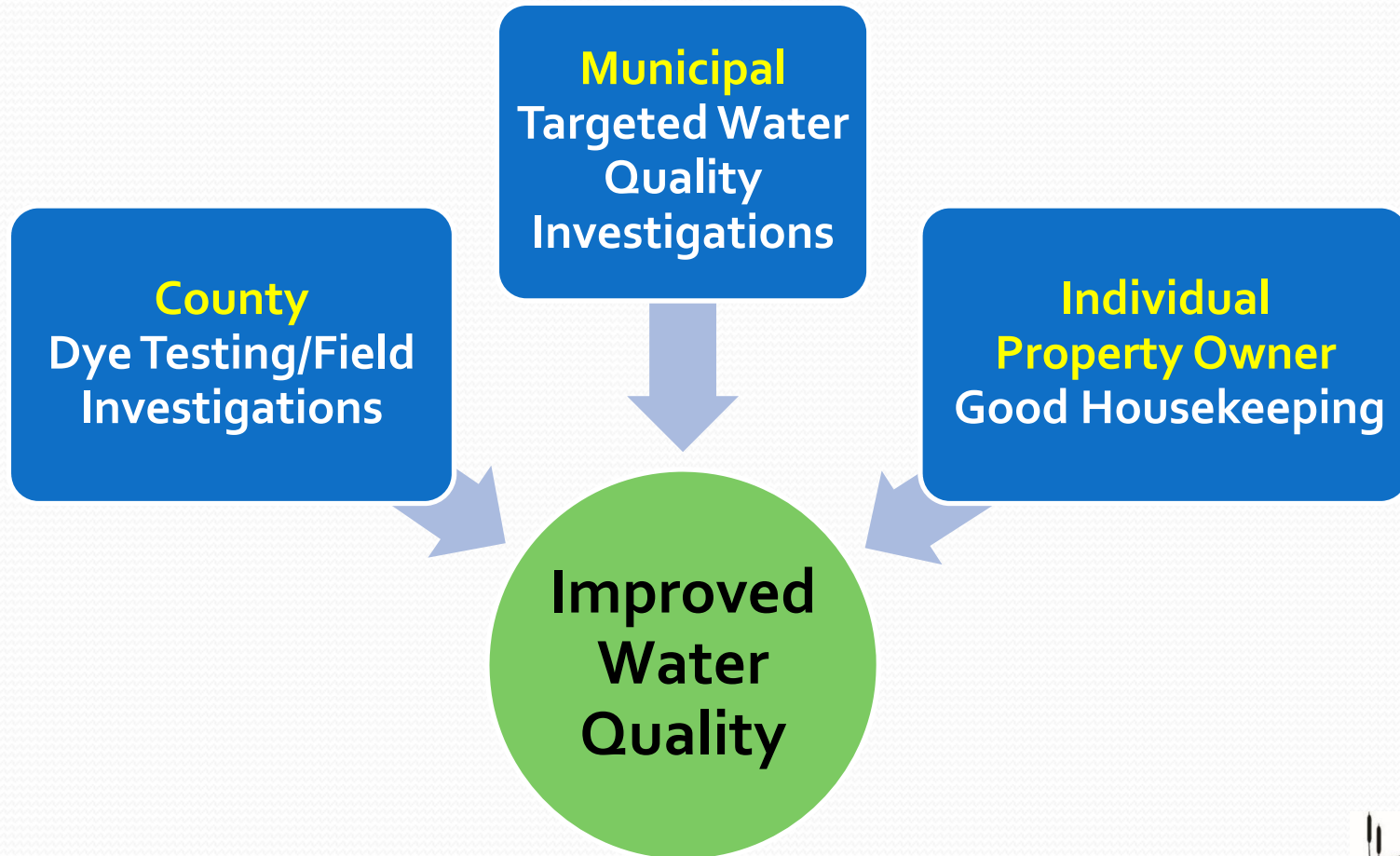
- Priority areas with the:
 - Highest *E. coli* in dry conditions, and
 - Human sources suspected based on DNA testing



Working together, restoring the river

More info: www.allianceofrougecommunities.com/septic.html

Bacteria improvement efforts



More info: www.allianceofrougecommunities.com/septic.html

What to look for in sewer areas



*Sanitary debris
in a storm sewer*



*Soap suds
in a storm sewer*



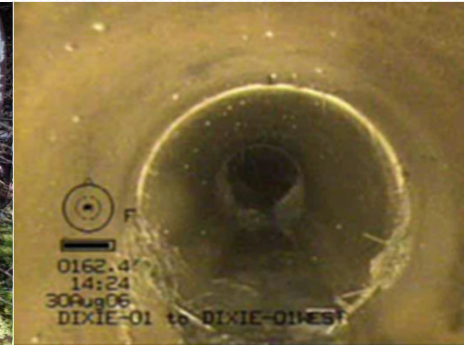
*Gray/black staining
in a storm sewer*

More info: www.allianceofrougecommunities.com/septic.html

How we find these problems



Dye testing



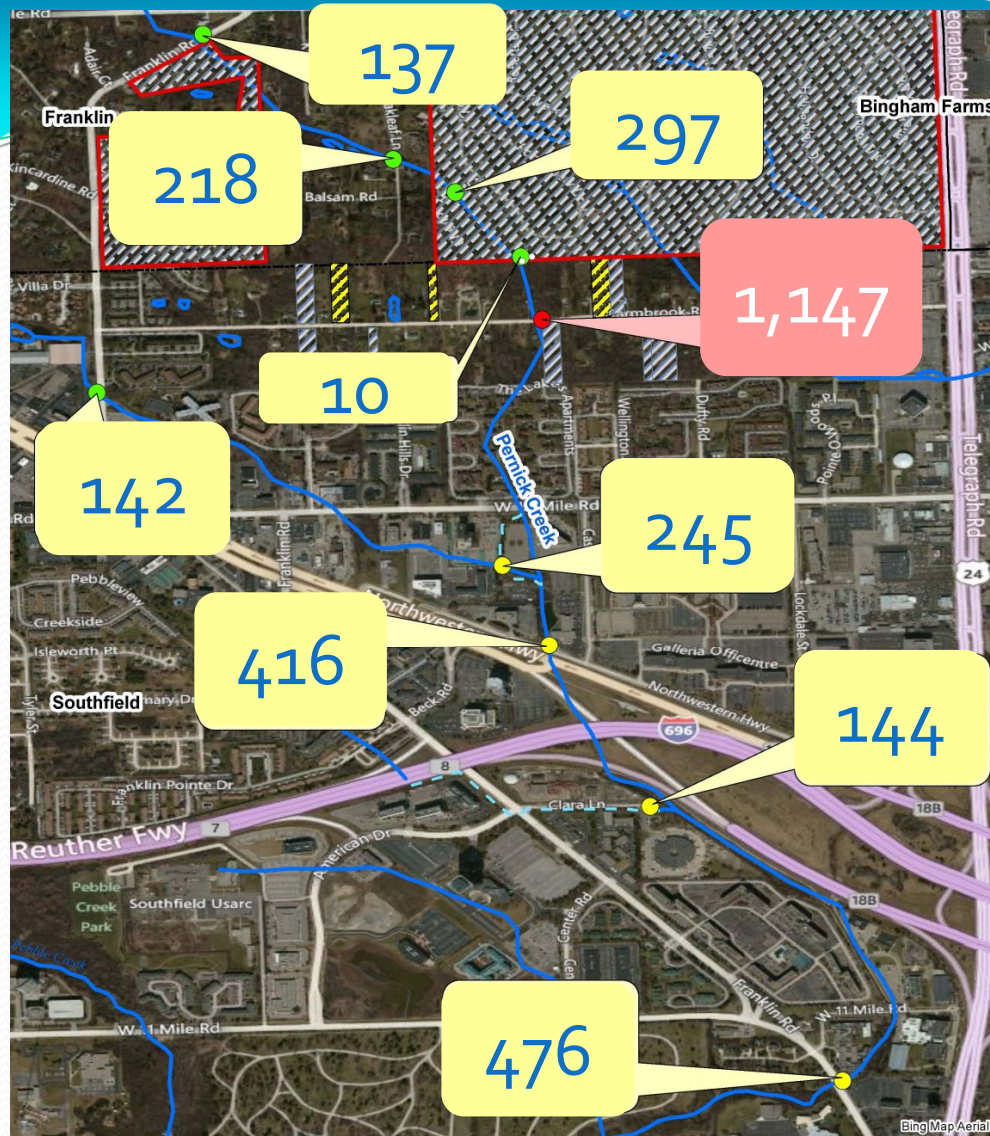
Televising sewers



Smoke testing

More info: www.allianceofrougecommunities.com/septic.html

Example IDEP Investigation

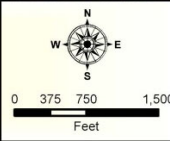


- Human DNA
 - *E. coli*: 1,000 – 2,000
- Likely sources
 - Septic systems
 - Illegal dumping
- Local follow-up:
 - Dye test septics
 - Advertise pollution hot line
 - Septics Workshop

Southfield IDEP
E. coli Results
(MPN/100 ml)

Results		Legend	
● Human	— Assumed Hydrology	— Hydrology	▨ No
● > 1,000	— City Boundary	▨ Yes	
● < 1,000	▨ Mandated Sewer		

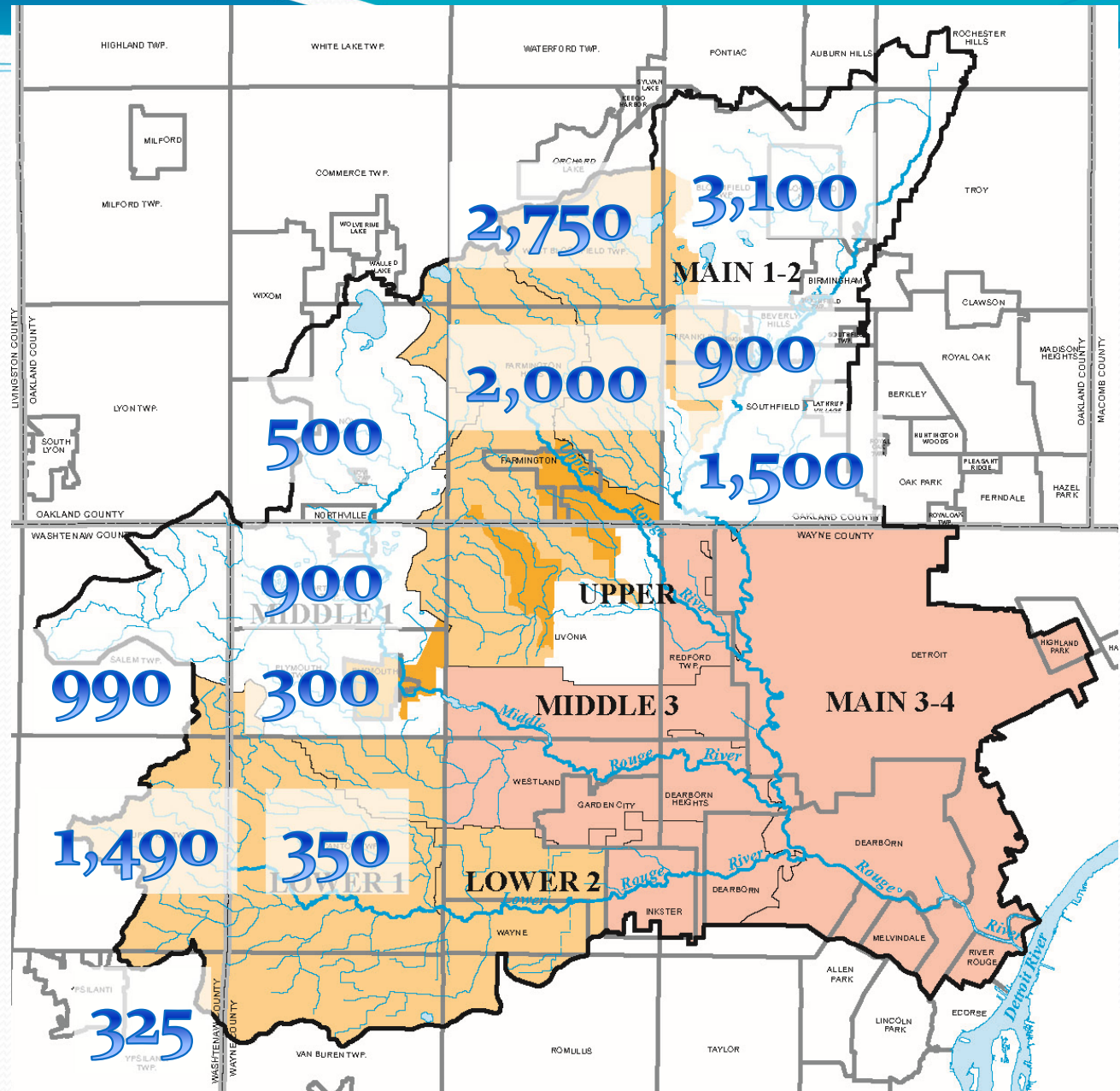
Notes:
NS = No Sample Submitted
Neg = Negative for human
Pos = Positive for human



More info: www.allianceofrougecommunities.com/septic.html

Number of septics in the Rouge watershed

- 19,500 mostly in
 - Bloomfield Twp.
 - West Bloomfield
 - Farmington Hills
 - Southfield
 - Superior Twp.



More info: www.allianceofrougecommunities.com/septic.html

What we look for in septic areas

*Wet lawn
without rain*



Cheater pipes to a ditch



Gray/black staining in a ditch

More info: www.allianceofrougecommunities.com/septic.html

Pollution Complaint Lines

Michigan's Pollution Alert System	800-292-4706
Macomb County	877-679-4337 IDEP@macombcountymi.gov
Oakland County	248-858-0931
St. Clair County	877-504-SWIM
Washtenaw County	734-222-3880
Wayne County	888-223-2363

Illegal Dumping What to Do and Who to Call



Emergencies
9-1-1



Non-emergency issues
(734) 222-3880

www.ewashtenaw.org



More info: www.allianceofrougecommunities.com/septic.html

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More info: www.allianceofrougecommunities.com/septic.html





Septic System Maintenance Webinar

**Alice Bailey, P.E.
Environmental Engineer**

*For more information visit:
www.allianceofrougecommunities.com*





Septic System Maintenance Workshop

What is a septic system and how does it work

How to care for and maintain a septic system

How to recognize signs of failure

Overview of ordinance requirements



Working together, restoring the river

Why are we concerned about septic systems?



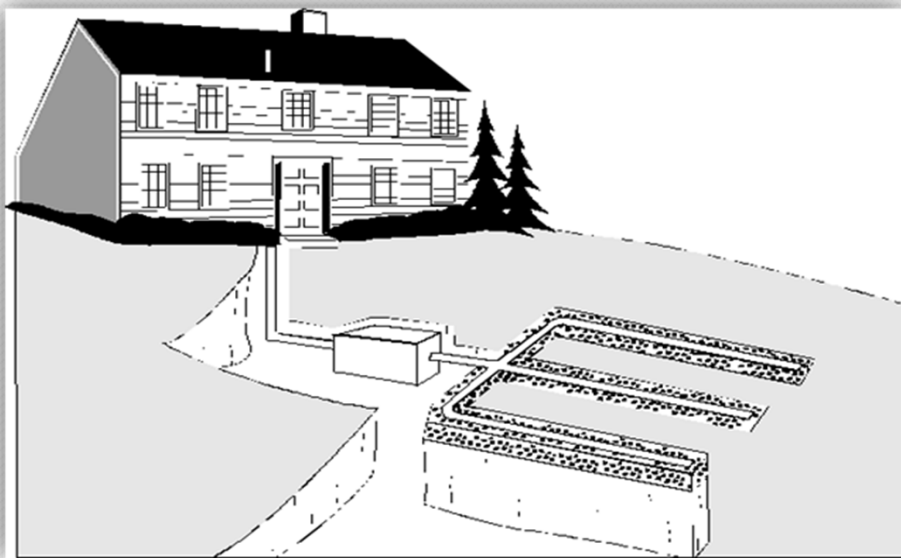
Failing septic systems are suspected to be a significant contributing source of pollution in the Rouge River Watershed.

Septic systems are often neglected and not routinely maintained after the initial installation.

A malfunctioning system can contaminate our waterways and groundwater supply.

More info: www.allianceofrougecommunities.com/septic.html

What is a septic system?



Individual wastewater treatment systems that use the soil to treat small wastewater flows, usually from individual homes.

Treats the wastewater from household plumbing by bathrooms, kitchen drains, dishwasher and laundry.

Common in rural areas without centralized sewer systems.

More info: www.allianceofrougecommunities.com/septic.html

Do you have a septic system?



You use well water.

The waterline coming into your home doesn't have a meter.

You show a "\$0.00 Sewer Amount Charged" on your water bill.

Your neighbors have a septic system.

More info: www.allianceofrougecommunities.com/septic.html

How to find your septic system

Look on your home's "as built" drawing.

Checking your yard for lids and manhole covers.

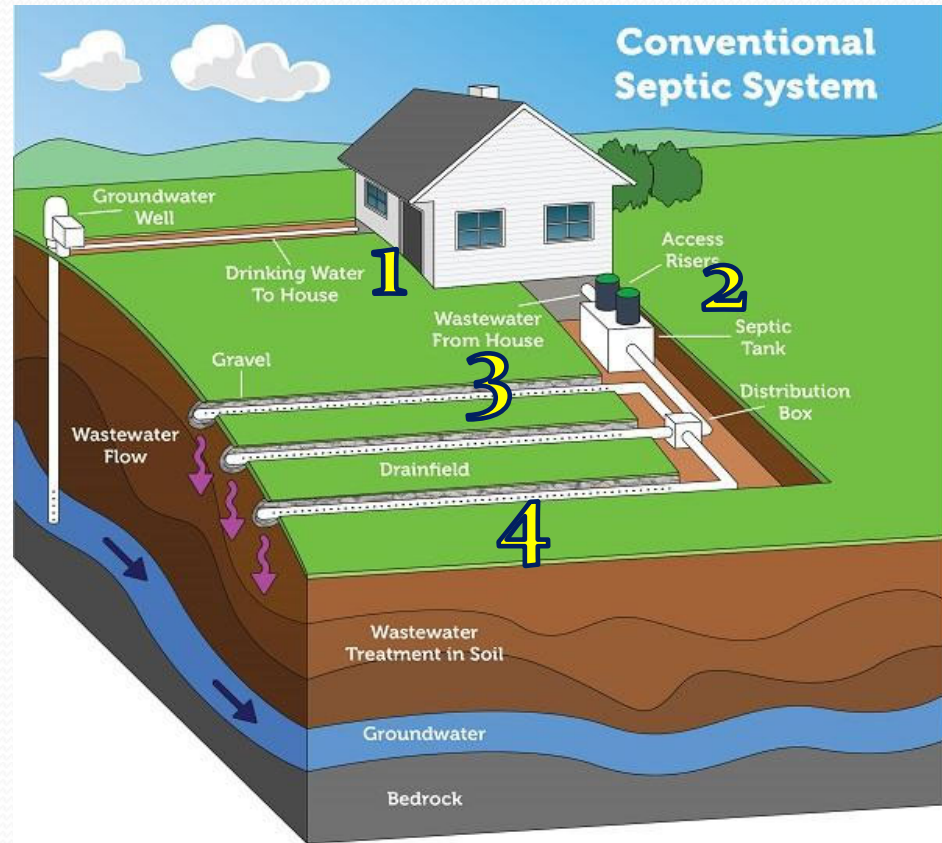
Contacting a septic inspector/pumper to help you locate it.



More info: www.allianceofrougecommunities.com/septic.html

How it works- Overview

1. Drainage Pipe
2. Septic Tank
3. Drain Field
4. Soils



Please note: Septic systems vary. Diagram is not to scale.

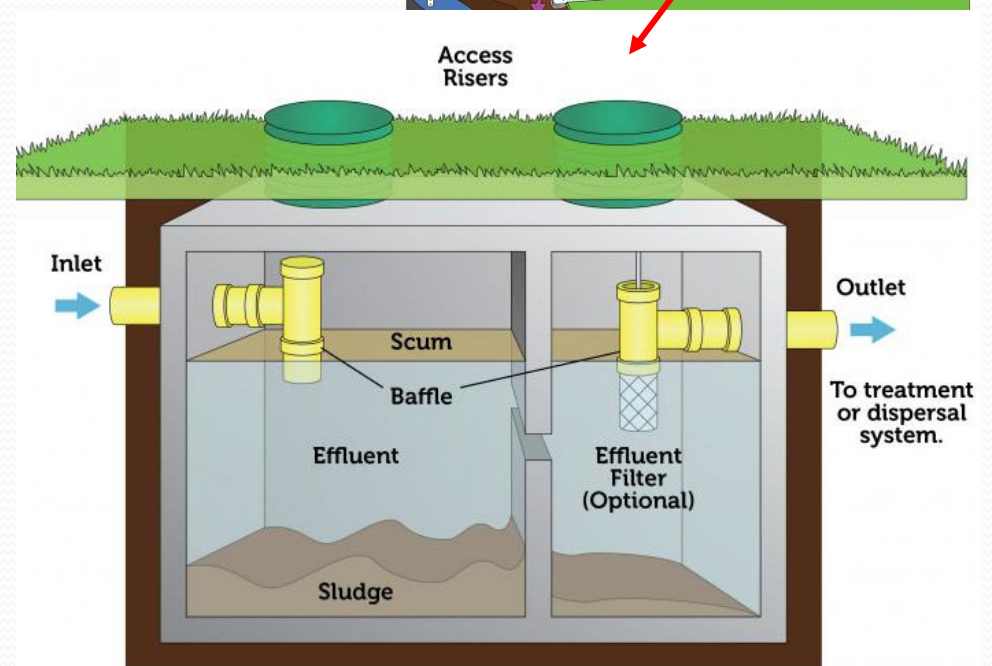
www.epa.gov

More info: www.allianceofrougecommunities.com/septic.html

How it works- Septic Tank

Temporarily holds wastewater in the septic tank to separate heavy solids and lighter scum, this process is called primary treatment.

The solids are stored in the tank and are decomposed by bacteria and later removed by a professional septic tank pumper.



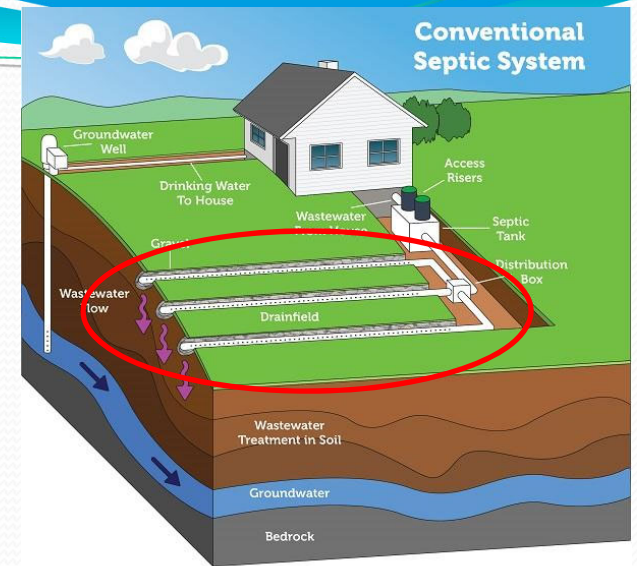
www.epa.gov

How it works- Discharge

Once the wastewater leaves the tank it flows into a distribution box which separates this flow evenly into a network of drainfield trenches.

Drainage holes at the bottom of each line allow the wastewater to drain into gravel trenches for temporary storage.

This effluent slowly seeps into the subsurface soil where it is further treated and purified. This process is known as secondary treatment.



Please note: Septic systems vary. Diagram is not to scale.

www.epa.gov



Working together, restoring the river

More info: www.allianceofrougecommunities.com/septic.html

A properly functioning septic system will:



Help protect and enhance the quality of the County's surface and groundwater resources.

Protect public health from disease causing organisms and nuisance conditions.

Properly dispose of your wastewater.

Preserve the County's waterways, including the Rouge River, for recreational enjoyment.

Saves you money!

More info: www.allianceofrougecommunities.com/septic.html

Caring for your septic system

As the homeowner, it is your responsibility to maintain the septic system.

Neglect or abuse of your septic system can cause it to fail and:

Can cause a serious health threat to your family and neighbors.

Can degrade the environment, especially lakes, streams and groundwater.

Can reduce the value of your property.

Can be very expensive to repair.

Can put thousands of water supply users at risk if you live in a public water supply watershed and fail to maintain your system.

More info: www.allianceofrougecommunities.com/septic.html



Caring for your septic system



Inspect and Pump



Watch for signs of failure



Use water efficiently



Take care what is sent down the drain.

“Think at the Sink”



Take care what is flushed.

“Don’t overload the commode.”

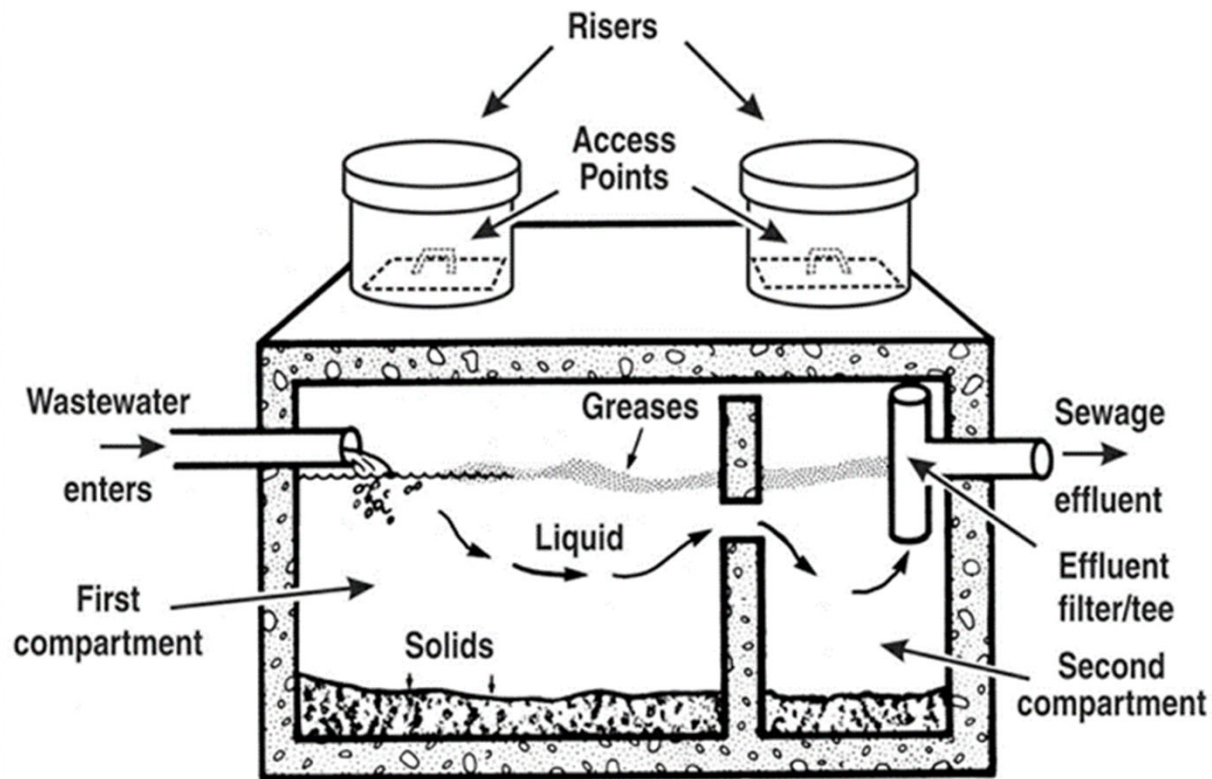


Landscape properly

More info: www.allianceofrougecommunities.com/septic.html

Inspect and Pump

The accumulated solids in the bottom of the septic tank should be pumped out every 3-5 years to prolong the life of the system.



More info: www.allianceofrougecommunities.com/septic.html

Additives

Companies make a lot of claims to sell their products, even promoting and claiming that no pumping is ever required.

The effectiveness of additives is not always agreed on (break down sludge).

We already give tanks all they need.

Every tank needs periodic pumping.

More info: www.allianceofrougecommunities.com/septic.html

Watch for signs of failure

Sewage surfacing over the drainfield (especially after storms).

Sewage back-ups in the house.

Lush, green growth over the drainfield.

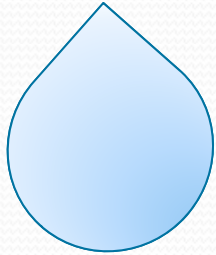
Slow draining toilets or drains.

Sewage odors.

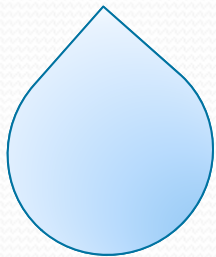


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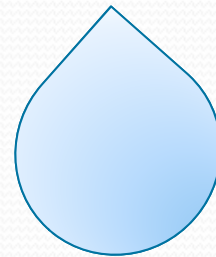
Use water efficiently



Leaky fixtures can add hundreds of extra gallons of water to your system every day.



Overloading with water is a leading cause of failure.



Replacing existing toilets with high-efficiency models is an easy way to reduce the amount of household water entering your septic system.

Faucet aerators and high-efficiency showerheads help reduce water use as well as the volume of water entering your septic system.

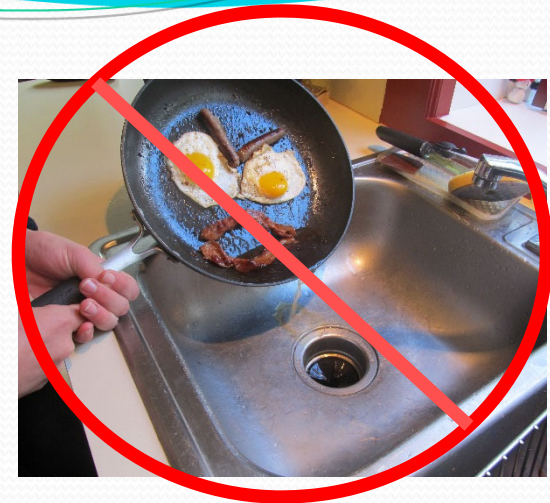
Washing small loads of laundry on the large-load cycle wastes water and energy. Use the proper load size to reduce water waste.

Spread your laundry task throughout the week instead of all on one day to allow your septic tank time to adequately treat waste and reduce the possibility of flooding your drainfield.

More info: www.allianceofrougecommunities.com/septic.html

Take care at the drain

Whether you're at the kitchen sink, bathtub or utility sink:



Avoid chemical drain openers for clogged drains, use boiling water or a drain snake.

Never pour cooking oil or grease down the drain.

Never pour oil-based paints, solvents or toxic cleaners down the drain.

Eliminate or limit the use of a garbage disposal which will reduce the amount of fats, grease and solids that enter your septic tank and can clog its drainfield.

More info: www.allianceofrougecommunities.com/septic.html

Toilets aren't trash cans

Never flush:



Disposable wipes

Feminine hygiene products

Condoms

Dental floss

Diapers

Cigarette butts

Coffee grounds

Cat litter

Household chemicals like gasoline, oil and paint

Pharmaceuticals

More info: www.allianceofrougecommunities.com/septic.html

Use proper landscaping on and around your septic system

Locate your septic tank and drainfield and make sure the area is clear of:

Underground sprinkler lines

Driveways, decks and patios

Sports courts

Storage sheds

Swing sets, sandboxes

Vehicles, swimming pools or storage sheds

More info: www.allianceofrougecommunities.com/septic.html

Use proper landscaping on and around your septic system

Plant native, drought-tolerant plants.

Direct all surface drainage away from the septic system.

Use shallow-rooted plants, tree and shrub roots can grow into the drainlines, clogging and breaking them.

Avoid water-loving plants and trees.

Make sure the tank lid is secure.

More info: www.allianceofrougecommunities.com/septic.html

Ordinances

- Find the ordinances that apply to you
- <http://www.allianceofrougecommunities.com/septic.html>

September 16, 1999

ENROLLED ORDINANCE No. 99-527

AN ORDINANCE to abate water pollution caused by failing on-site sewage disposal systems; to minimize infiltration of seepage from septic systems into the storm water drainage system; to prescribe the powers and duties of the Wayne County Department of Public Health and its Environmental Health Section; to provide for the administration and enforcement of this Ordinance; and to establish penalties for its violation.

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More info: www.allianceofrougecommunities.com/septic.html

As a homeowner under the ordinance



Maintain your septic system to prevent failure.

Notify the health department of any known or suspected disposal system failure.

Remedy any disposal system failure.

More info: www.allianceofrougecommunities.com/septic.html

Building a house under the ordinance



A site/soil evaluation is required before building a home that is not served by a municipal or centralized sewage treatment facility.

The evaluation, also referred to as a “perk test”, is an assessment performed by the County Environmental Health Department.

The evaluation determines a site’s suitability for installing a new onsite sewage system.

County building inspectors require either proof of municipal sewer connection or a sewage permit before building permits can be issued.

The evaluation must be **completed and approved** before you can construct your sewage system.

More info: www.allianceofrougecommunities.com/septic.html

Selling a house under the ordinance



Have your disposal system evaluated by a registered evaluator.

Cooperate with the registered evaluator by providing pertinent information and paying the costs for the evaluation.

Obtain an authorization for sale or transfer prior to closing from the County Health Department

More info: www.allianceofrougecommunities.com/septic.html

What is included in a septic system evaluation



Identification of your septic tank and drainfield locations.

Pumping out of your septic tank at the time of evaluation.

Exposing the drainfield for inspection.

Determining if your disposal system is functioning satisfactorily, is in a state of failure or contains potential failure conditions.

The evaluation may also identify recommendations which may prevent premature failure of your disposal system.

Educational materials are provided as part of the evaluation.

More info: www.allianceofrougecommunities.com/septic.html

Disposal system evaluation report



A report must be provided to the owner within a certain number of days of the evaluation.

The registered evaluator must send the report to the health department within a certain time frame of evaluation and a minimum amount of days prior to closing on a sale of a house.

Disposal system evaluation reports are maintained by the County and are available to prospective buyers or other interested persons.

Reports are valid for certain number of months.

More info: www.allianceofrougecommunities.com/septic.html

Above and beyond



In your yard



With your vehicles



In your community



In your business

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More info: www.allianceofrougecommunities.com/septic.html

Questions & thank you!

How did we do? – please take our survey:

www.surveymonkey.com/r/septicsys



For more information on septic systems and to download a copy of the webinar slides visit:

www.allianceofrougecommunities.com/septic.html

If you would like septic system information mailed to you, please email your address to:

info@allianceofrougecommunities.com