

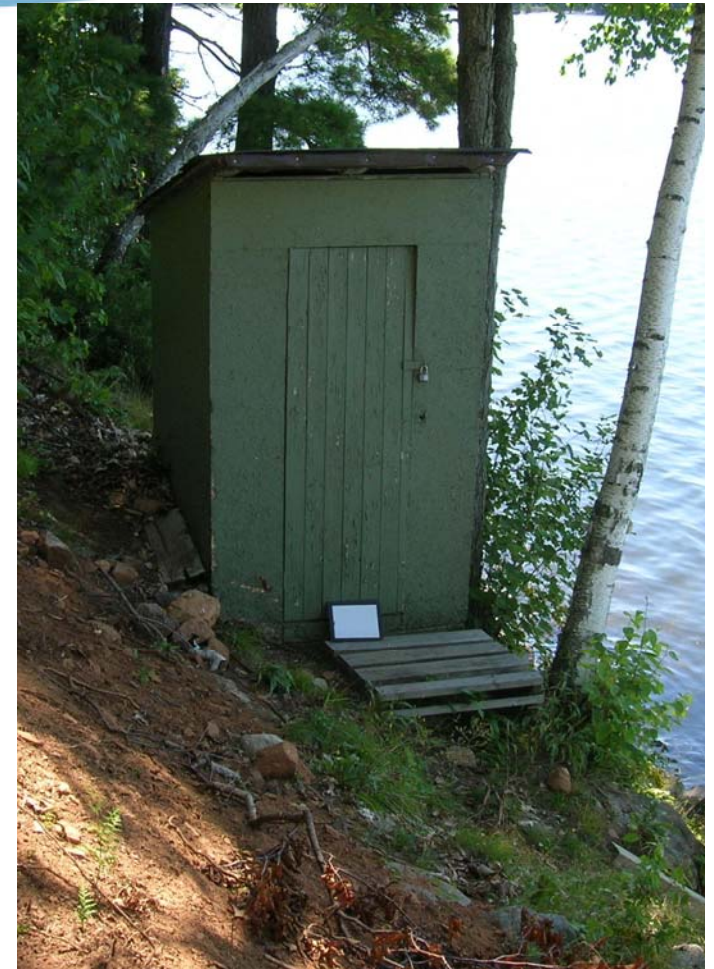


# What Have We Done & What Have We Learned: A Local Perspective

*Eric Kohlsmith, Inspector  
Mississippi Rideau Septic System  
Office – MVC/RVCA*

# Mississippi Rideau Septic System Office: Overview

- Partnership between the Rideau Valley and Mississippi Valley Conservation Authorities.
- Since 2004, the MRSSO has been inspecting the installation of new and replacement sewage systems for Tay Valley Township.
- Conducted Septic Re-Inspection programs in Tay Valley, Drummond North Elmsley (Otty Lake), Rideau Lakes, and North Frontenac and Central Frontenac.





# Mississippi Rideau Septic System Office: Overview

- ◆ Five qualified inspectors registered with the Ministry.
- ◆ Instructors with the Ontario Rural Wastewater Center
- ◆ Combined staff experience of over 50 years
- ◆ Workload/year:
  - ◆ 60 Sewage system permits
  - ◆ 30 Planning comments
  - ◆ 400 – 500 Re-inspections each year.



# History of Voluntary Inspections:

- ◆ Voluntary programs initiated by lake associations.
  - ◆ Surveys conducted by summer students, including visual inspections.
  - ◆ Record of a “Cottage Pollution Control Program” on Farren Lake in 1995.
  - ◆ 2000 and 2001, the Tay Valley Township Sewage System Re-inspection Program was conducted on Christie Lake. This pilot project, overseen by McIntosh Perry Consulting Engineers, was initiated on Christie Lake due to concerns of the Cottager’s Association.
- ◆ 2005-Present, the MRSSO (then Tay Valley Septic System Office) implemented the following program procedure:
  - ◆ Property Selection
  - ◆ Property Owner Package
  - ◆ Inspection
  - ◆ Follow-up

# Program Procedure: Questionnaire

- The first step in participation is completing and returning the questionnaire.
- The questionnaire can be faxed, emailed or mailed by post.



4175 Hwy. 511 Lanark, ON K0G 1K0  
Phone: (613) 259-2421 ext. 254  
Fax: (613) 259-3468  
septic-inquires@mvc.on.ca

### Questionnaire

Please fill out as much information as possible, **as best as you can**, and return to the above address. Old septic or well records are excellent resources for the more technical questions. Mark any applicable boxes. If you select **Other** please specify. Please use the space noted as **'Correction'** to correct any of the supplied information. On the reverse, please identify location septic system and other property features.

Property Owner	«Owners»		Correction - New Property Owner, Spelling of Name...	
Mailing Address	«Mailing_Address_1» «Mailing_Address_2» «City/Province/Country» «Postal_Code»		Correction - New Mailing Address...	
Telephone Number ( ) ( )	Alternate Number ( ) ( )	Email Address		
Re-Inspection Property Location	«Location»		Length of Ownership	Lake Name
Roll Number	«Assessment_Roll_Number»		Property Size	Shore Length
Property Use	Residential <input type="checkbox"/>	Cottage/Seasonal <input type="checkbox"/>	Commercial <input type="checkbox"/>	Farm <input type="checkbox"/> Other <input type="checkbox"/>
Directions to Property	Do you require assistance locating/excavating your tank? Yes <input type="checkbox"/> No <input type="checkbox"/>			
General Location of Tank	* There is a maximum charge of \$40 for this service			
Septic System Type	Class 1 <input type="checkbox"/> Pit	Class 2 <input type="checkbox"/> Greywater pit	Class 3 <input type="checkbox"/> Cesspool	Class 4 <input type="checkbox"/> Septic Tank & Leaching Field
Tank Information	Concrete <input type="checkbox"/>	Plastic <input type="checkbox"/>	Fiberglass <input type="checkbox"/>	Metal <input type="checkbox"/>
Date of Last Pump out	Pump Out Frequency		Sewage Pump	Yes <input type="checkbox"/> No <input type="checkbox"/>
Greywater Pit Structure	Earth <input type="checkbox"/>	Rock <input type="checkbox"/>	Wood <input type="checkbox"/>	Other- <input type="checkbox"/>
Pit/Pit Structure	Earth <input type="checkbox"/>	Rock <input type="checkbox"/>	Wood <input type="checkbox"/>	Other- <input type="checkbox"/>
Date System(s) Installed	Date System(s) Approved		Separate Pump Tank	Yes <input type="checkbox"/> No <input type="checkbox"/>
Water Source	Drilled <input type="checkbox"/>	Dug <input type="checkbox"/>	Lake <input type="checkbox"/>	Imported <input type="checkbox"/>
	Drinking Water Treatment	Yes <input type="checkbox"/> No <input type="checkbox"/>	Type of Treatment	

1

See Reverse...



4175 Hwy. 511 Lanark, ON K0G 1K0  
Phone: (613) 259-2421 ext. 254  
Fax: (613) 259-3468  
septic-inquires@mvc.on.ca

### Site Sketch

Please include the **locations** as well as the distances between any **septic components** (tank, bed, privy, greywater pit), **structures** (house, shed, garage), **water bodies** (lakes, rivers, creeks, wetlands), **farming activities, or wells.**

2

See Reverse...

# Program Procedure: Appointments

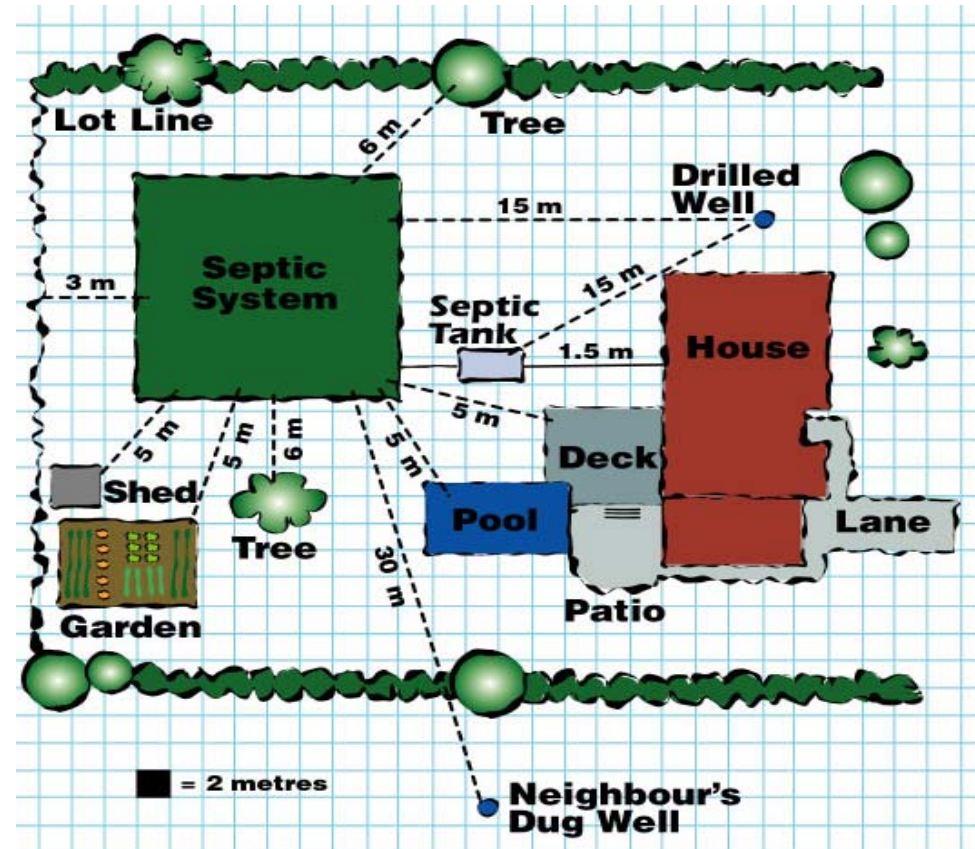
- Appointments are not required, but can be made on a first come, first served basis.
- It is beneficial to have property owners on-site.





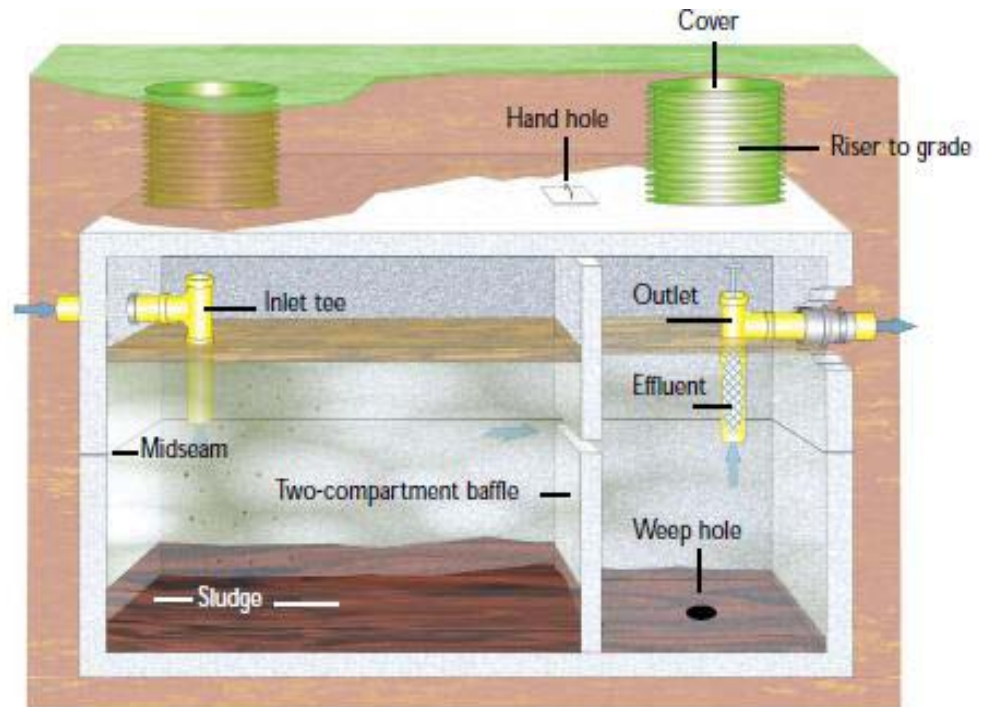
# Program Procedure: Inspection

- Identify sewage system(s) and components
- Measurement of separation distances to key lot features
- Septic tank inspection
- Visual inspection of bed
- GPS co-ordinates of sewage system components
- Photo of sewage system



# Program Procedure: Septic Tank

- Inspection takes place between pump-outs.
- Sludge and scum measurements are taken.
- Estimation of tank volume is recorded.
- Overall condition of tank recorded.





# Program Procedure: Report

- A carbon copy of the septic re-inspection report will be left on-site with the property owner or in a sealed door hanger bag.

Address \_\_\_\_\_ Date \_\_\_\_\_

Assessment Roll # \_\_\_\_\_

Property Owner \_\_\_\_\_ Insp. # \_\_\_\_\_ Lake \_\_\_\_\_

Mailing Address \_\_\_\_\_  Cottage  House  Farm  Business

Civic Address \_\_\_\_\_ Questionnaire Returned  yes  no

City \_\_\_\_\_ Postal Code \_\_\_\_\_ Owner Present  yes  no

**Water Source**  Dug Well  Drilled Well  Lake  Imported  Unknown  
 Pipe from Wastewater Source  no concern  exposed  repair required

**System Class**  Class 1 (Privy/Composting Toilet)  Class 2 (GW Pit)  Class 3  Class 4  Class 5

**Class 1**  
 Composting Toilet  yes  no  recommended  
 Structure  good  repair required  replace  
 Venting  good  repair required  
 Drainage  good  repair required

Concrete  Metal  Plastic  Fiberglass  
 Size \_\_\_\_\_  
 Inlet baffle  yes  no  repair required  
 Outlet baffle  yes  no  repair required

**Class 2**  
 Permit Available  yes  no  
 Draining to surface  yes  no  
 Approximate size \_\_\_\_\_  
 Approximate depth of soil \_\_\_\_\_

**Class 5**  
 Pumping agreement  yes  no

Pump Chamber  yes  no  
 High Level Alarm  yes  no

**Treatment Unit** Manufacturer \_\_\_\_\_ Model \_\_\_\_\_  
 Maintenance Agreement  yes  no

<b>Distribution System</b>	<b>Clearance Distances</b>
<input type="checkbox"/> Trench <input type="checkbox"/> Filter Media	Tank to water _____ m
<input type="checkbox"/> Area Bed <input type="checkbox"/> Unknown	Tank to well _____ m
Side slopes stable <input type="checkbox"/> yes <input type="checkbox"/> no	Tank to house _____ m
Erosion concerns <input type="checkbox"/> yes <input type="checkbox"/> no	Tank to line _____ m
Soft spongy ground <input type="checkbox"/> yes <input type="checkbox"/> no	Privy to water _____ m
Effluent at surface <input type="checkbox"/> yes <input type="checkbox"/> no	Privy to line _____ m
Amount of cover _____ cm	Pipe to water _____ m
	Pipe to well _____ m
	Pipe to house _____ m
	Pipe to line _____ m
	G.W. to line _____ m
	G.W. to water _____ m

**GPS**

Tank: X _____   Y _____	Privy: X _____   Y _____
Bed: X _____   Y _____	G.W.: X _____   Y _____
	Well: X _____   Y _____

NO CONCERNS  SYSTEM REPLACEMENT REQUIRED  EFFLUENT FILTER RECOMMENDED  
 REMEDIAL WORK REQUIRED  MORE INFORMATION REQUIRED

**Comments**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# History of Voluntary Inspections:

- ◆ Voluntary program based on *section 15.9* of the *Building Code Act*:

## *Inspection of unsafe buildings*

*15.9 (1) An inspector may enter upon land and into buildings at any reasonable time without a warrant for the purpose of inspecting a building to determine,*

*(a) whether the building is unsafe; or ...*

## *Sewage systems*

*(3) ... a sewage system is unsafe if it is not maintained or operated in accordance with this Act and the **building code**.*

*2002, c. 9, s. 26.*

- ◆ Other Voluntary Re-Inspection Programs within the MVC/RVCA watershed:
  - ◆ 2006 – North Frontenac
  - ◆ 2007 – Rideau Lakes
  - ◆ 2009 – Drummond/North Elmsley (2008 administered by LGL Health Unit)
  - ◆ 2011 – Central Frontenac

# Participation:

Percentage of property owners who volunteer for re-inspection

Year	Tay Valley	Rideau Lakes	North Frontenac
2007	57%	22%	65%
2008	51%	36%	57%
2009	45%	32%	49%
2010	58%	48%	57%
2011	47%	28%	30%
<b>Average:</b>	<b>52%</b>	<b>29%</b>	<b>52%</b>



# Results:

## Types of remediation required

- ◆ **No Concern** – At the time of inspection there were no operational and/or maintenance issues identified.
- ◆ **Remedial Work Required** – At the time of inspection operational and/or maintenance issues were identified, but generally do not require a permit to remedy.
- ◆ **System Replacement Required** – At the time of inspection it was determined that the on-site system was not being maintained or operated properly and was posing or could pose a risk to human health or the environment.
- ◆ **More Information Required** – At the time of inspection one or more questions arose regarding the class of system, location of components, water source, pumping, maintenance and/or operation of the system.

# Results: with percentages

Tay Valley	2009	2010	2011	Average	Rideau Lakes	2009	2010	2011	Average
No Concern	41%	57%	27%	41%	No Concern	51%	53%	32%	45%
Remedial Work	44%	37%	59%	47%	Remedial Work	42%	32%	62%	45%
System Replacement	2%	1%	3%	2%	System Replacement	3%	4%	1%	3%
More Information	13%	5%	11%	10%	More Information	4%	11%	5%	7%

North Frontenac	2009	2010	2011	Average
No Concern	43%	54%	29%	42%
Remedial Work	46%	32%	52%	44%
System Replacement	6%	6%	7%	6%
More Information	5%	8%	10%	8%

# Results: Remedial Work

Sample from Tay Valley 2011 report:

Pump-out required	48
Non-compliant septic tank	1
Non-compliant greywater disposal	10
Baffles require maintenance (broken/missing)	14
Effluent above/below operating level of tank	7
High Level Alarm	23
Roots to be removed from system	7
Lush Vegetation – bed area	8
Non-compliant privy	7
Tank Corrosion	24
<b>TOTAL:</b>	<b>149</b>

\*note, some systems have more than one maintenance issue.



# Common Issues



**Inadequate Privies**



**Greywater Discharged  
to Surface**

# Common Issues



**Concrete Corrosion**



**Tank Corrosion**



# Common Issues



**Lush Vegetation on Bed**



**Root Penetration**



# Less Common Issues



**Effluent Pooling Over Bed**



**Homemade  
Non-Permitted  
Systems**

# Lessons Learned:

## Important Tool, Voluntary Inadequate ...

- ◆ Property Owner Involvement
  - ◆ Scheduling appointments
  - ◆ Notification of intent to inspect (1 week)
  - ◆ Septic tank excavation
- ◆ Information Package
  - ◆ Clear program intentions - voluntary
  - ◆ Identify what is expected of the property owner and what can be expected of the MRSSO



# Lessons Learned:

## Important Tool, Voluntary Inadequate ...

- ◆ Questionnaire
  - ◆ Clear questions
  - ◆ Pre-fill sections (i.e. roll number)
  - ◆ Provide different ways to return
    - electronic version?
- ◆ Inspection Report
  - ◆ Easy to read
  - ◆ Check boxes vs. written comments
  - ◆ Diagrams
  - ◆ Carbon copies





# Lessons Learned:

## Important Tool, Voluntary Inadequate ...

- ◆ Voluntary Program
  - ◆ Promotes stewardship
  - ◆ Educates owners who participate
  - ◆ **Does not include all properties**





Thank You  
For Your  
Time