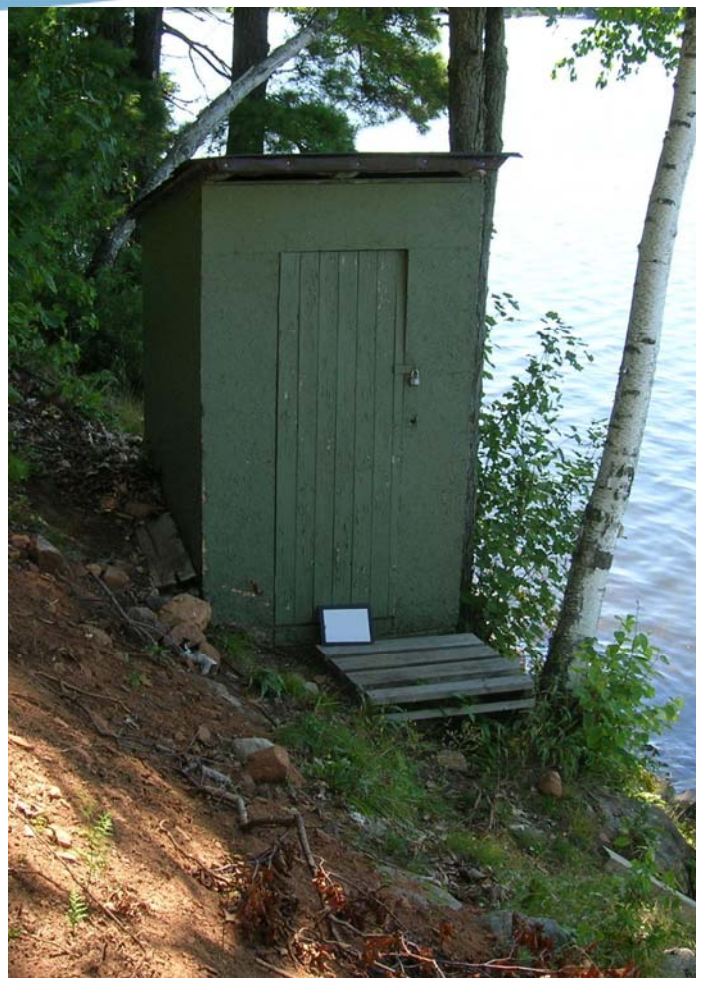
What Have We Done & What Have We Learned: A Local Perspective

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.

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SEPTIC SYSTEM OFFICE

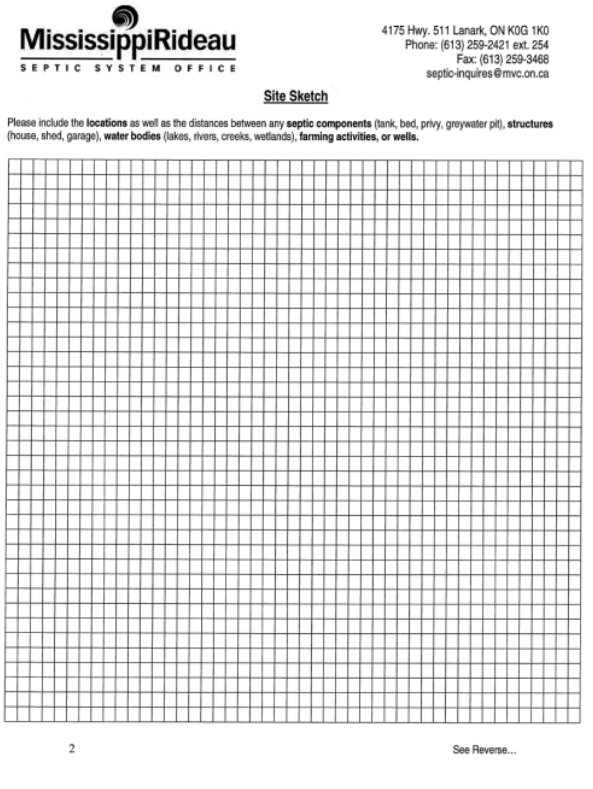
4175 Hwy. 511 Lanark, ON K0G 1K0
Phone: (613) 259-2421 ext. 254
Fax: (613) 259-3468
septic-inquires@mvc.on.ca

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» «CityProvinceCountry» «Postal_Code»	***Correction – New Mailing Address...***	
Telephone Number ( )	Alternate Number ( )	Email Address	
Re- Inspection Property Location	«Location»	Length of Ownership	Lake Name «Lake»
		Property Size	Shore Length
Roll Number	«Assessment_Roll_Number»		
Property Use	Residential ☐ Cottage/Seasonal ☐ Commercial ☐ Farm ☐ Other ☐		
Directions to Property		**Do you require assistance locating/excavating your tank?*** Yes ☐ No ☐	
General Location of Tank		***There is a maximum charge of $40 for this service**	
Septic System Type	Class 1 ☐ Privy; Class 2 ☐ Greywater pit; Class 3 ☐ Cesspool; Class 4 ☐ Septic Tank & Leaching Field; Class 5 ☐ Holding Tank		
Tank Information	Concrete ☐ Plastic ☐ Fiberglass ☐ Metal ☐	Sewage Pump Yes ☐ No ☐ Separate Pump Tank Yes ☐ No ☐	
Date of Last Pump out		Pump Out Frequency	
Greywater Pit Structure	Earth ☐ Rock ☐ Wood ☐	Other-	
Privy Pit Structure	Earth ☐ Rock ☐ Wood ☐	Other-	
Date System(s) Installed		Date System(s) Approved	
Water Source	Drilled ☐ Dug ☐ Lake ☐ Imported ☐	Drinking Water Treatment Yes ☐ No ☐	Type of Treatment

1 See Reverse...



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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.**

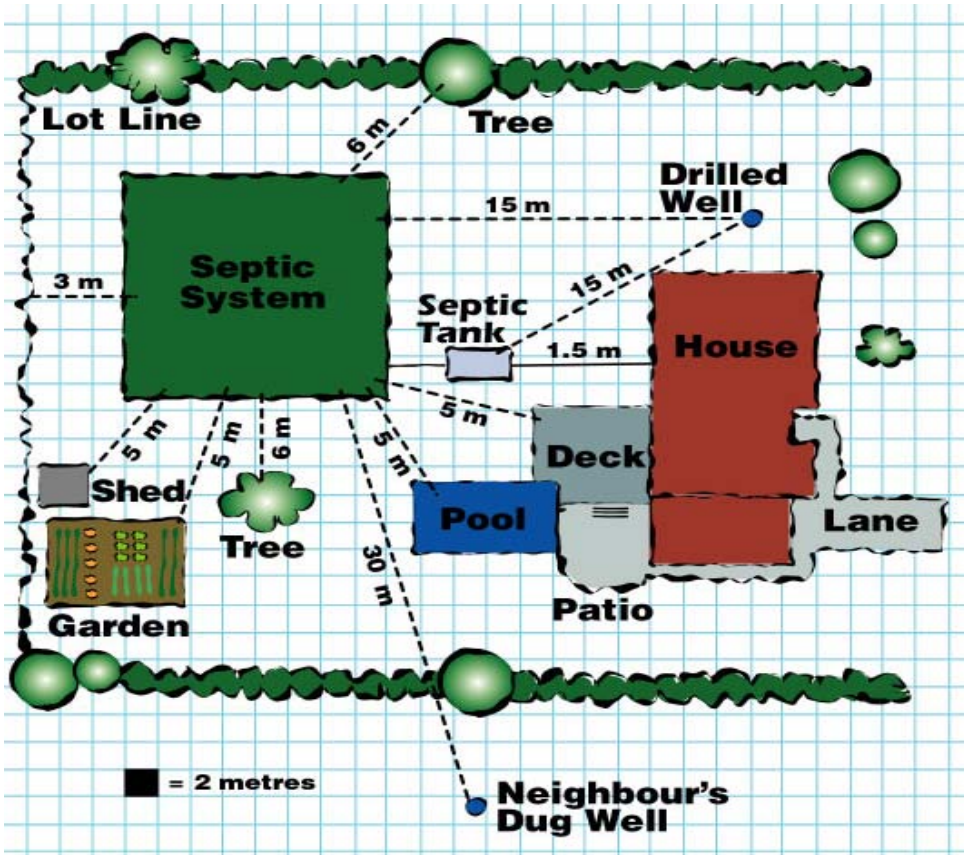
2 See Reverse...

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.

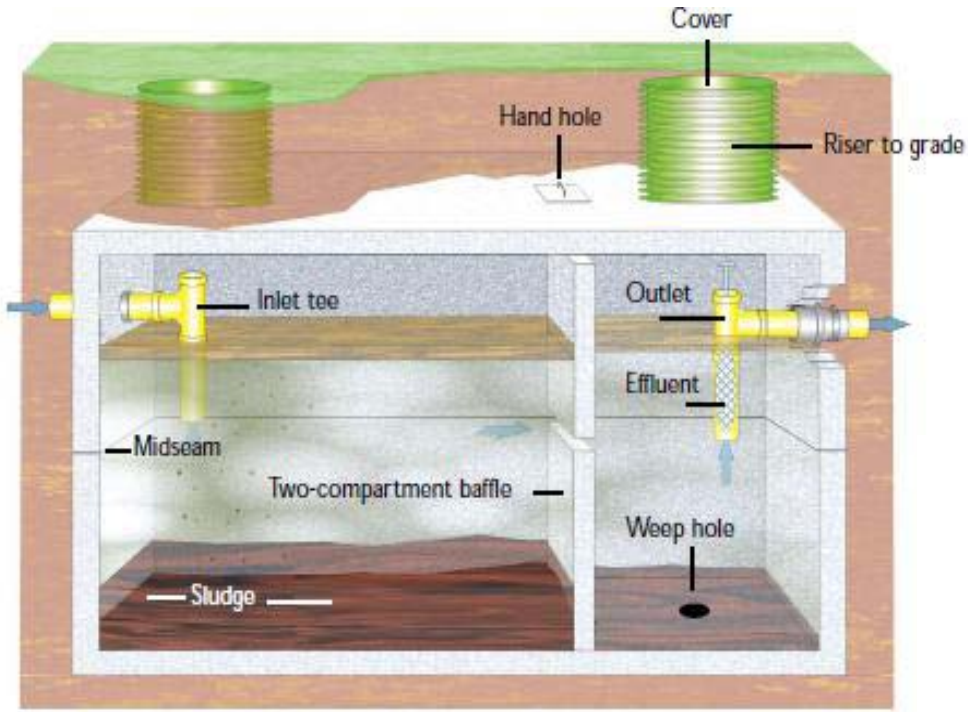
Program Procedure:
Inspection

- 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.

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Existing Onsite Wastewater System Inspection Report

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

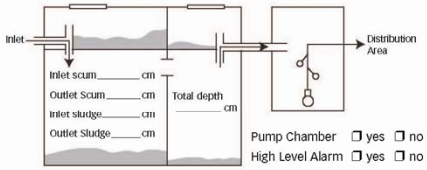
System Class ❒ Class 1 (Privy/Composting Toilet) ❒ Class 2 (GW Pit) ❒ Class 3 ❒ Class 4 ❒ Class 5

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

Class 2
Permit Available ❒ yes ❒ no
Draining to surface ❒ yes ❒ no
Approximate size _____
Approximate depth of soil _____

Class 5
Pumping agreement ❒ yes ❒ no

❒ Concrete ❒ Metal ❒ Plastic ❒ Fiberglass
Size _____
Inlet baffle ❒ yes ❒ no ❒ repair required
Outlet baffle ❒ yes ❒ no ❒ repair required



Pump Chamber ❒ yes ❒ no
High Level Alarm ❒ yes ❒ no

Treatment Unit Manufacturer Model _____
Maintenance Agreement ❒ yes ❒ no

Distribution System
❒ Trench ❒ Filter Media
❒ Area Bed ❒ Unknown
Side slopes stable ❒ yes ❒ no
Erosion concerns ❒ yes ❒ no
Soft spongy ground ❒ yes ❒ no
Effluent at surface ❒ yes ❒ no
Amount of cover _____ cm

Clearance Distances

Tank to water	m	Pipe to water	m
Tank to well	m	Pipe to well	m
Tank to house	m	Pipe to house	m
Tank to line	m	Pipe to line	m
Privy to water	m	G.W. to line	m
Privy 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

Contact: Jamie Saunders, MRSSO Septic Inspector, jsaunders@mvc.on.ca, 613-259-2421 ext. 254

March 2009

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%
Average:	52%	29%	52%

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 is 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
No Concern	41%	57%	27%	41%
Remedial Work	44%	37%	59%	47%
System Replacement	2%	1%	3%	2%
More Information	13%	5%	11%	10%

Rideau Lakes	2009	2010	2011	Average
No Concern	51%	53%	32%	45%
Remedial Work	42%	32%	62%	45%
System Replacement	3%	4%	1%	3%
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
TOTAL:	149

*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**

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Thank You For Your Time