

VIDEO 9: SOIL VERIFICATION, CONSTRUCTION INSPECTION - MPCA SSTS ADMINISTRATIVE TRAINING

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2013

Introduction

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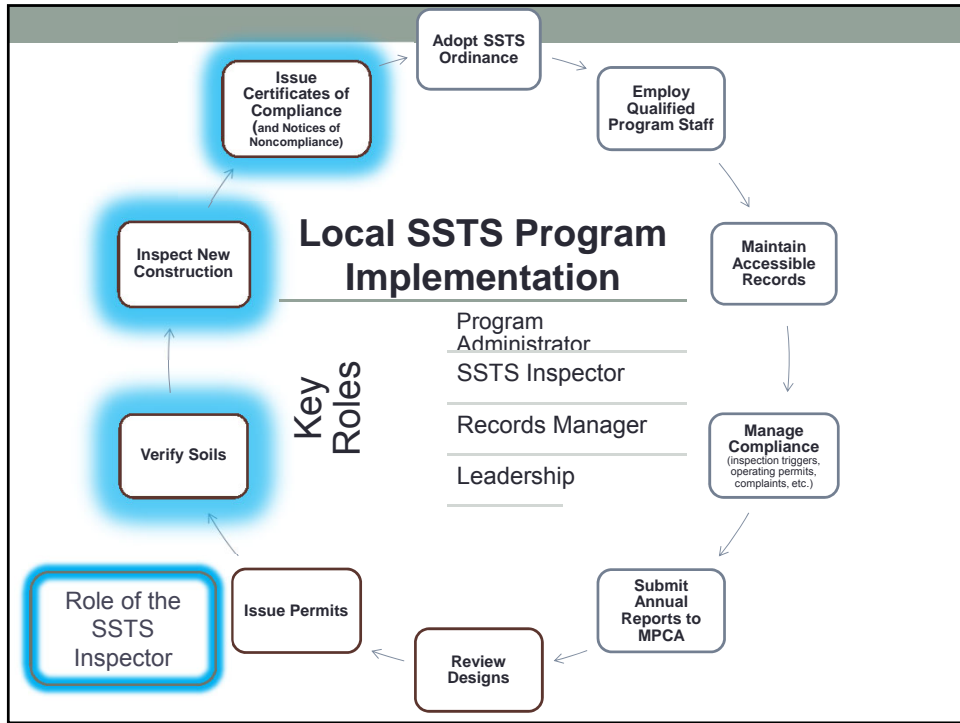
Talk 9 of 13

General Topic – Expectations of Local SSTS Programs

- Verify Soils
- Inspect New Construction
- Certificate of Compliance and Notice of Noncompliance

Learning Outcomes

- Understand the reason to verify soils as part of permitting and construction.
- Understand the importance of inspecting newly constructed systems.
- Understand that certificates are used to recognize SSTS compliance status.



SOIL VERIFICATION

Verify Soil Separation to Limiting Layer

Verify soils

- In-field verification of soils
 - to make sure design matches soil conditions
 - before a permit is issued or system constructed
- Rule allows for soils verification at any point before Certificate of Compliance is issued
- Designer submits soils evaluation
- Soil verification conducted by Qualified Employee with jurisdiction or by licensed inspection business authorized by LGU

The image shows a 'Field Soil Verification Form' from Rice County. The form includes fields for 'Proposed System to be Installed', 'Permit Number', 'Company Name', 'Inspector Name', and 'Date'. It also has sections for 'Soil Borings' and 'Bedrocking Layer' with checkboxes for 'Depth to periodically saturated soil or bedrock' and 'Depth to bedrock'. A note at the bottom states: 'This form must be filled out on the day the soil borings, test and installed and before the permit is issued.' There are lines for 'Inspector Signature', 'Rice County Inspector', and 'Date'.

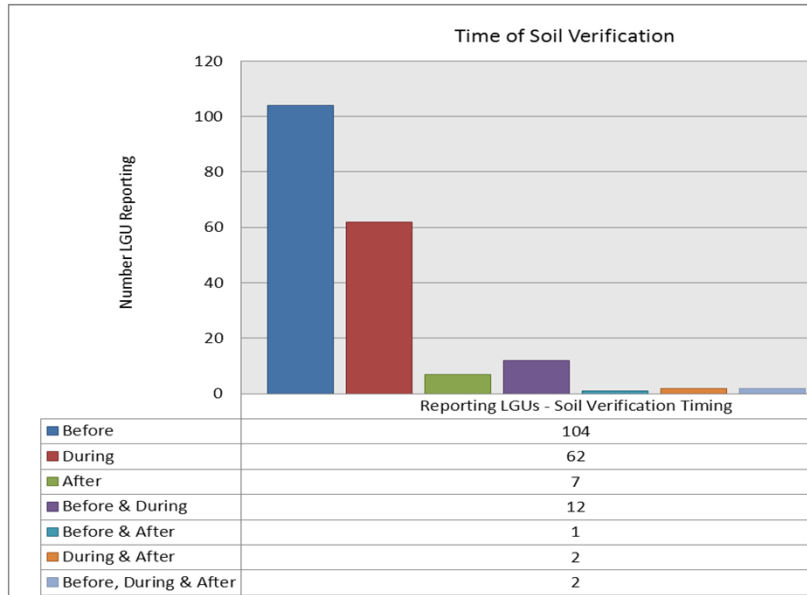


Verify soils

- Verify depth to periodically saturated soil or bedrock
- Proper amount of soil needed under the treatment system (vertical separation)
- Soil pits and soil borings both acceptable
- Record soil verification
 - Simple statement on designers soil boring logs
 - LGU form
 - Construction inspection form



2012 Annual report



NEW CONSTRUCTION INSPECTION

Elements to Include in an Inspection

Inspect new construction

- Ensure SSTS is constructed as designed and permitted
- Inspected by Qualified Employee with jurisdiction or by licensed inspection business authorized by LGU
- No conflict of interest
 - Can't design and approve same designs
 - Can't install and inspect same system
 - Independent of owner and installer
- People skills are important—work with:
 - Owners
 - Designers
 - Installers

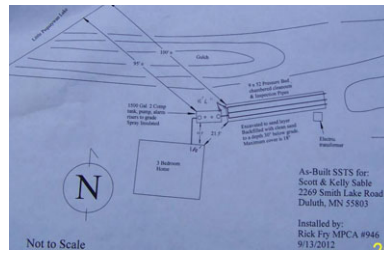


Inspect new construction

- Sewage tanks
- Pump tanks
- Piping
- Advanced treatment
- Soil treatment



Inspect new construction



Inspect new construction

- New SSTS construction inspection
 - New SSTS for existing homes
 - New SSTS for new homes
 - COC - valid for up to 5 years

- Existing SSTS inspection
 - Inspect existing SSTS
 - Sewage and pump tanks
 - Soil treatment system
 - Vertical separation
 - Tanks not leaking out
 - COC - valid for up to 3 years



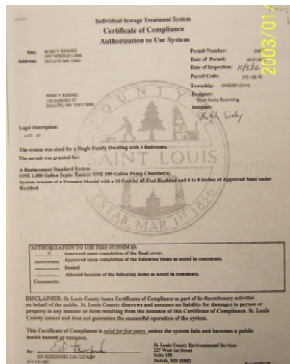
COC = Certificate of Compliance

DOCUMENTATION

Certificate of Compliance and Notice of Noncompliance

Certificate of compliance

- Certificates of Compliance (COC) = system's in compliance
- Issued at time of construction inspection
- Issued at time of inspection of an existing system, in use



Minnesota Pollution Control Agency
 Compliance Inspection Form
 Existing Subsurface Sewage Treatment Systems (SSSTS)

System Status

System status on date (month/year):

Compliant - Certificate of Compliance
 Noncompliant - Notice of Noncompliance

Reasons for noncompliance (check all that apply):

Inspect on Public Health (Compliance Component #1) - imminent threat to public health and safety
 Other Compliance Component (Compliance Component #2) - imminent threat to public health and safety
 Tank Integrity (Compliance Component #3) - Failing to permit groundwater
 Other Compliance Component (Compliance Component #4) - Failing to permit groundwater
 Other Compliance Component (Compliance #5) - Failing to permit groundwater
 Operating permit/monitoring plan requirements (Compliance Component #6) - Noncompliant

Property Information

Property address: _____ Parcel ID or land description: _____
 Property owner: _____ Owner's phone: _____
 Owner's representative: _____ Representative phone: _____
 Local regulatory authority: _____ Regulatory authority phone: _____
 Best Management Practices: _____
 Comments or recommendations: _____

Certification

I hereby certify that all of the necessary information has been gathered to determine the compliance status of this system. No information of this system performance has been set out to be unknown conditions during system construction, possible cause of the system, performance components, or facts not stated.

Inspector name: _____ License number: _____
 Inspector phone: _____ Phone number: _____

Necessary or Locally Required Attachments

Soil boring logs System site drawings Plans for best management practices information

Notice of noncompliance

- Notice of Noncompliance (NON) systems not in compliance
 - Can be issued at time of construction inspections
 - Typically issued when existing systems are inspected
 - Issued for system not meeting requirements
 - Timeframe specified for upgrade, repair, or replacement



Notice of noncompliance

- ITPHS (Imminent Threat to Public Health and Safety)
 - Example - sewage on surface; up to 10 months to upgrade
 - Chapter 7080 and Straight Pipe Law (115.55)



SUMMARY

Summary

- Soil verification performed before COC issued; reduces number of SSTs not meeting vertical separation (future problems).
- Construction inspection important to ensure systems are built to permitted specifications.
- Certificates of Compliance issued for applicable requirements
 - new systems valid for 5 years
 - existing systems valid for 3 years
- Notices of Noncompliance issued for systems not meeting requirements and the notice specifies what needs to be done.

APPLICATION FOR SEPTIC SYSTEM VARIANCE

OWNER:

NAME: _____ PHONE NUMBER: _____

PROJECT ADDRESS: _____

MAILING ADDRESS (if different than above): _____

TOWNSHIP AND SECTION: _____

RICE COUNTY MAP NUMBER: _____

LEGAL DESCRIPTION: __ (Please Submit a Copy of the Top Page of Your Abstract) _____

AFFECTED PROPERTY:

(Attach additional sheet if more than one property is affected.)

NAME: _____

ADDRESS: _____

TELEPHONE NUMBER: _____

RICE COUNTY MAP NUMBER: _____

SITE PLAN:

Please attach a site plan for the layout and the design of the proposed sewage treatment system. Include lot size, structures, wells, proposed setbacks and limiting factors (i.e.: slopes, wetlands, trees, and vegetation).

VARIANCE(S) REQUESTED:

Please list the variance(s) requested:

COPIES OF STATE APPROVALS, WHEN REQUESTED:

Please attach.

APPLICANT MUST PROVIDE WRITTEN EVIDENCE THAT THE EIGHT (8) CRITERIA FOR GRANTING THE SEPTIC VARIANCE(S) ARE MET WITH THIS APPLICATION BEFORE VARIANCE APPLICATION WILL BE ACCEPTED OR CONSIDERED. PLEASE SEE A CRITERIA FOR GRANTING A VARIANCE≅ (ON REVERSE SIDE OF THIS FORM).

(After preliminary review, additional information may be required)

Site Evaluator/Designer must be present at public hearing

COMMENTS REGARDING SEPTIC VARIANCE CRITERIA

DATE OF MEETING: _____

APPLICANT NAME: _____

Rice County Sewage and Wastewater Treatment Ordinance, No. 710. states:

712.8 VARIANCES

d. Criteria for Granting a Variance: A variance to the provisions of this Ordinance may be issued to provide relief to the owner where the ordinance imposes undue hardship or practical difficulties to the property owner. The following criteria must be met before a variance may be granted:

1. Variances shall only be permitted when they are in harmony with the general purposes and intent of this Ordinance and where there are practical difficulties or particular hardship when carrying out the strict letter of this Ordinance.

(Please explain:)

2. "Hardship" as used in connection with the granting of a variance means the property in question cannot be put to a reasonable use if used under the conditions allowed by this Ordinance. Economic considerations alone shall not constitute a hardship.

(Please explain:)

Attach additional sheet, if necessary

3. The plight of the owner is due to circumstances unique to the property not created by the owner, and the unique conditions affecting the property resulting of lot size, layout, shape, topography, soil conditions or other circumstances which the landowners have no control over.

(Please explain:)

4. The variance, if granted, will not alter the essential character of the locality or have a significant adverse effect on the surrounding properties.

(Please explain:)

5. The variance, if granted, will not have a significant adverse effect on the public health or safety or persons residing or working in the area adjacent to the property of the applicant and will not be materially detrimental to the public welfare or damaging to property or improvements in the area adjacent to the property of the applicant, and that granting of the variance will not adversely impact water quality.

(Please explain:)

Attach additional sheet, if necessary

6. The granting of the variance requested will not confer on the applicant any special privilege that is denied by this Ordinance to other property owners with similar circumstances in Rice County.

(Please explain:)

7. The literal interpretation of the provisions of this Ordinance would deprive the applicant of rights commonly enjoyed by other properties in the same district under the terms of this Ordinance.

(Please explain:)

8. The variance requested is the minimum variance which would alleviate the hardship.

(Please explain:)

Attach additional sheet, if necessary

Variance Request Statement from Affected Property Owners



Variance Requested by

Project Address

Rice County Map Number

City, State, Zip Code

I **DO / DO NOT** object to a _____
(Please circle)

*to be installed _____ feet from the Ordinary
High Water Level and/or property line, as outlined in the
variance request.*

Signature

Date

Name (Please print)

Phone Number

Mailing address

City

State

Zip Code

Variance Request Statement from Affected Leased Land/Property Owners



Variance Requested by

Project Address

Rice County Map Number

City, State, Zip Code

I **DO / DO NOT** object to a _____
(Please circle)

*to be installed _____ feet from the Ordinary
High Water Level and/or property line, as outlined in the
variance request.*

Signature

Date

Name (Please print)

Phone Number

Mailing address

City

State

Zip Code



Minnesota Pollution Control Agency
 520 Lafayette Road North
 St. Paul, MN 55155-4194

Compliance Inspection Form

Existing Subsurface Sewage Treatment Systems (SSTS)

Doc Type: Compliance and Enforcement

Inspection results based on Minnesota Pollution Control Agency (MPCA) requirements and attached forms – additional local requirements may also apply.

For local tracking purposes:

Submit completed form to Local Unit of Government (LUG) and system owner within 15 days

System Status

System status on date (mm/dd/yyyy): _____

Compliant – Certificate of Compliance
(Valid for 3 years from report date, unless shorter time frame outlined in Local Ordinance.)

Noncompliant – Notice of Noncompliance
(See Upgrade Requirements on page 3.)

Reason(s) for noncompliance (check all applicable)

- Impact on Public Health (Compliance Component #1) – *Imminent threat to public health and safety*
- Other Compliance Conditions (Compliance Component #3) – *Imminent threat to public health and safety*
- Tank Integrity (Compliance Component #2) – *Failing to protect groundwater*
- Other Compliance Conditions (Compliance Component #3) – *Failing to protect groundwater*
- Soil Separation (Compliance Component #4) – *Failing to protect groundwater*
- Operating permit/monitoring plan requirements (Compliance Component #5) – *Noncompliant*

Property Information

Parcel ID# or Sec/Twp/Range: _____

Property address: _____ Reason for inspection: _____

Property owner: _____ Owner's phone: _____

or
 Owner's representative: _____ Representative phone: _____

Local regulatory authority: _____ Regulatory authority phone: _____

Brief system description: _____

Comments or recommendations:

Certification

I hereby certify that all the necessary information has been gathered to determine the compliance status of this system. No determination of future system performance has been nor can be made due to unknown conditions during system construction, possible abuse of the system, inadequate maintenance, or future water usage.

Inspector name: _____ Certification number: _____

Business name: _____ License number: _____

Inspector signature: _____ Phone number: _____

Necessary or Locally Required Attachments

- Soil boring logs
- System/As-built drawing
- Forms per local ordinance
- Other information (list): _____

1. Impact on Public Health – Compliance component #1 of 5

Compliance criteria:

System discharges sewage to the ground surface.	<input type="checkbox"/> Yes <input type="checkbox"/> No
System discharges sewage to drain tile or surface waters.	<input type="checkbox"/> Yes <input type="checkbox"/> No
System causes sewage backup into dwelling or establishment.	<input type="checkbox"/> Yes <input type="checkbox"/> No

Any “yes” answer above indicates the system is an imminent threat to public health and safety.

Comments/Explanation:

Verification method(s):

- Searched for surface outlet
- Searched for seeping in yard/backup in home
- Excessive ponding in soil system/D-boxes
- Homeowner testimony (See Comments/Explanation)
- “Black soil” above soil dispersal system
- System requires “emergency” pumping
- Performed dye test
- Unable to verify (See Comments/Explanation)
- Other methods not listed (See Comments/Explanation)

2. Tank Integrity – Compliance component #2 of 5

Compliance criteria:

System consists of a seepage pit, cesspool, drywell, or leaching pit. <i>Seepage pits meeting 7080.2550 may be compliant if allowed in local ordinance.</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No
Sewage tank(s) leak below their designed operating depth. If yes, which sewage tank(s) leaks:	<input type="checkbox"/> Yes <input type="checkbox"/> No

Any “yes” answer above indicates the system is failing to protect groundwater.

Comments/Explanation:

Verification method(s):

- Probed tank(s) bottom
- Examined construction records
- Examined Tank Integrity Form (Attach)
- Observed liquid level below operating depth
- Examined empty (pumped) tanks(s)
- Probed outside tank(s) for “black soil”
- Unable to verify (See Comments/Explanation)
- Other methods not listed (See Comments/Explanation)

3. Other Compliance Conditions – Compliance component #3 of 5

- a. Maintenance hole covers are damaged, cracked, unsecured, or appear to be structurally unsound. Yes* No Unknown
 - b. Other issues (electrical hazards, etc.) to immediately and adversely impact public health or safety. Yes* No Unknown
- *System is an imminent threat to public health and safety.**

Explain:

- c. System is non-protective of ground water for other conditions as determined by inspector. Yes* No
- *System is failing to protect groundwater.**

Explain:

4. Soil Separation – Compliance component #4 of 5

Date of installation: _____ Unknown
 (mm/dd/yyyy)

Shoreland/Wellhead protection/Food beverage lodging? Yes No

Compliance criteria:

For systems built prior to April 1, 1996, and not located in Shoreland or Wellhead Protection Area or not serving a food, beverage or lodging establishment: Yes No

Drainfield has at least a two-foot vertical separation distance from periodically saturated soil or bedrock.

Non-performance systems built April 1, 1996, or later or for non-performance systems located in Shoreland or Wellhead Protection Areas or serving a food, beverage, or lodging establishment: Yes No

Drainfield has a three-foot vertical separation distance from periodically saturated soil or bedrock.*

“Experimental”, “Other”, or “Performance” systems built under pre-2008 Rules; Type IV or V systems built under 2008 Rules (7080.2350 or 7080.2400 (Advanced Inspector License required) Yes No

Drainfield meets the designed vertical separation distance from periodically saturated soil or bedrock.

Verification method(s):

Soil observation does not expire. Previous soil observations by two independent parties are sufficient, unless site conditions have been altered or local requirements differ.

- Conducted soil observation(s) (Attach boring logs)
- Two previous verifications (Attach boring logs)
- Not applicable (Holding tank(s), no drainfield)
- Unable to verify (See Comments/Explanation)
- Other (See Comments/Explanation)

Comments/Explanation:

Indicate depths or elevations

A. Bottom of distribution media	
B. Periodically saturated soil/bedrock	
C. System separation	
D. Required compliance separation*	

*May be reduced up to 15 percent if allowed by Local Ordinance.

Any “no” answer above indicates the system is failing to protect groundwater.

5. Operating Permit and Nitrogen BMP* – Compliance component #5 of 5 Not applicable

Is the system operated under an Operating Permit? Yes No **If “yes”, A below is required**

Is the system required to employ a Nitrogen BMP? Yes No **If “yes”, B below is required**

BMP = Best Management Practice(s) specified in the system design

If the answer to both questions is “no”, this section does not need to be completed.

Compliance criteria

- a. Operating Permit number: _____ Yes No
 Have the Operating Permit requirements been met?
- b. Is the required nitrogen BMP in place and properly functioning? Yes No

Any “no” answer indicates Noncompliance.

Upgrade Requirements (Minn. Stat. § 115.55) An imminent threat to public health and safety (ITPHS) must be upgraded, replaced, or its use discontinued within ten months of receipt of this notice or within a shorter period if required by local ordinance. If the system is failing to protect ground water, the system must be upgraded, replaced, or its use discontinued within the time required by local ordinance. If an existing system is not failing as defined in law, and has at least two feet of design soil separation, then the system need not be upgraded, repaired, replaced, or its use discontinued, notwithstanding any local ordinance that is more strict. This provision does not apply to systems in shoreland areas, Wellhead Protection Areas, or those used in connection with food, beverage, and lodging establishments as defined in law.



Compliance Inspections for New Subsurface Sewage Treatment Systems

This fact sheet provides information for homeowners, realtors and Local Government Units (LGUs) on Certificates of Compliance (COC) and Notices of Noncompliance (NON) for newly constructed or replacement Subsurface Sewage Treatment Systems (SSTS).

What is a compliance inspection?

A compliance inspection is an evaluation, investigation, inspection or other such process conducted for the purpose of issuing a COC or NON.

A COC indicates the system met the applicable compliance criteria on the day of the inspection; it does not guarantee future hydraulic performance, especially if the use changes or the flow increases over the amounts used by the current occupants.

A NON indicates the system components that do not meet applicable requirements and the time frame for upgrade, repair, or replacement before the final COC will be issued.

When are new or replacement SSTS compliance inspections required?

While a LGU may have additional requirements, there are three primary situations when a new or replacement SSTS compliance inspection is required:

- for all new construction and replacement of a SSTS

- in designated shoreland areas when any building permit or variance is requested
- if the LGU administers a permit for bedroom additions
 - The system must be inspected before the bedroom addition permit is issued.
 - This requirement may be temporarily waived if the permit application is made between November 1 and April 30.

If the permit application falls within these dates, the compliance inspection must be conducted by the following June 1, and a COC must be submitted to the LGU and property owner by the following September 30.

When are COCs and NONs issued?

For new construction or replacement SSTS, the COC is issued if the certified inspector has reasonable assurance the system was built according to applicable requirements specified in the construction permit. The COC is valid for five years from the date of issuance.

A NON is issued if the certified inspector finds the system is *not* constructed in compliance with applicable requirements. This notice specifies what must be done to bring the system into compliance.

Both documents must include a signed, certified statement stating the person conducting the inspection completed the work in accordance with applicable regulation.

Who can conduct the compliance inspection?

Compliance inspections must be conducted by:

- Minnesota Pollution Control Agency (MPCA) certified Inspector, Advanced Inspector, or Qualified Employees of a business with a MPCA Inspector or Advanced Inspector license; or
- State, county, city, or township employees with MPCA Inspector or Advanced Inspector registration.

For new SSTS construction and replacement inspections, the inspector must be independent of the SSTS owner and the installer.

What forms must an inspector use?

Any inspection form may be used for new construction and replacement systems. Typically, LGUs have developed their own forms.

What are the compliance criteria?

For new SSTS construction the system:

- must be designed to all applicable federal, state, and local regulations
- must prevent sewage or sewage effluent contact with humans, insects, or vermin
- must treat and disperse sewage or sewage effluent in a safe manner that adequately protects from physical injury or harm
- must maintain an unsaturated zone in the soil between the bottom of the soil treatment and dispersal system and the periodically saturated soil or bedrock during loading of effluent
- must not be designed in floodways
- must meet established setback distances

Additionally, any replacement components for an existing SSTS must meet technical standards and criteria for new construction according to the local ordinance.

Where do I find more information?

For additional SSTS information, please visit our Web site at www.pca.state.mn.us/programs/ists/ or call us at 651-296-6300, toll free 800-657-3864.