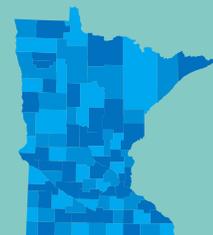


April 2018

2017 SSTS Annual Report

Subsurface Sewage Treatment Systems in Minnesota



Author

Cody Robinson

Contributors/acknowledgements

Minnesota Pollution Control Agency (MPCA) Subsurface Sewage Treatment Systems (SSTS) staff would like to thank each of the local governmental units that provided accurate information regarding their local SSTS programs for the SSTS Annual Report. Without accurate data, there would be no way to summarize SSTS activities and the accomplishments made in Minnesota.

Thanks to Barb Olafson, Brandon Montgomery, Aaron Jensen, Nick Haig, and Gene Soderbeck for their support, contributions, and peer review of the content within this report.

Photo credit

MPCA photos

The MPCA is reducing printing and mailing costs by using the Internet to distribute reports and information to wider audience. Visit our website for more information.

MPCA reports are printed on 100% post-consumer recycled content paper manufactured without chlorine or chlorine derivatives.

Minnesota Pollution Control Agency

520 Lafayette Road North | Saint Paul, MN 55155-4194 |

651-296-6300 | 800-657-3864 | Or use your preferred relay service. | Info.pca@state.mn.us

This report is available in alternative formats upon request, and online at www.pca.state.mn.us.

Document number: wq-wwists1-58

Contents

Acronyms and definitions	ii
Executive summary	1
Annual report responses	3
Number of subsurface sewage treatment systems	4
Design approvals	5
Soil verification	6
Systems by type.....	9
SSTS reported by type.....	10
Other establishment (non-residential) systems reported by type in 2017	11
Type IV systems	12
Total number of systems with operating permits.....	15
Reported number of SSTS by wastewater flow volume	15
New and replacement SSTS	16
Number of sewage tanks installed in 2017	17
Tracking maintenance pumping of septic systems	18
Property transfer-compliance inspection requirements	19
Existing SSTS compliance inspections	19
Number of noncompliant properties connected to centralized sewer, abandoned, removed, or bought out	22
SSTS compliance trends	23
Summary and conclusions	27
Appendix A	28
Appendix A1.....	28
Appendix B	31
Appendix B1	31
Appendix B2	33
Appendix B3	34
Appendix C	34

Figures

Figure 1. Map showing the locations of county, city, township and other known local SSTS programs in 2017.	3
Figure 2. Design approvals by LGUs before permitting subsurface sewage treatment systems construction.	5
Figure 3. A hand auger tool is used during a soil observation to determine the depth to the limiting layer by identifying distinct redoximorphic concentrations and depletions in the soil profile. There must be at least three feet between the bottom of an SSTS distribution system to the depth these features occur.	6
Figure 4. Soil verification timing reported by LGUs in 2017.	7
Figure 5. Timing of soil verification located throughout the state color-coded by county in 2017.	8
Figure 6. The type and number of systems installed for residential systems in 2017.	11
Figure 7. The type and number of systems installed for other establishments in 2017.	12
Figure 8. Type IV system being installed using a registered proprietary treatment product in St. Louis County.	13
Figure 9. Map showing counties where Type IV systems were installed in 2017.	14
Figure 10. The number of LGUs that reported the issuance of operating permits.	15
Figure 11. Number of new and replacement systems installed over 16 years, from 2002-2017.	16
Figure 12. A 1,000-gallon concrete septic tank being set into place at a residence in Minnesota.	17
Figure 13. Distribution of LGUs who track pumping of septic systems.	18
Figure 14. A load of septage is sampled and tested for pH before it is land applied.	18
Figure 15. SSTS compliance inspections for property transfers reported by LGUs.	19
Figure 16. The number of compliance inspections for existing systems reported in 2017.	20
Figure 17. *Compliance inspections listed as a percentage of total systems in each county.	21
Figure 18. Summary information for systems connected to central sewer, systems abandoned or removed, and systems reported as buyouts in 2017. Total number reported was 664 systems in 2017.	22
Figure 19. Summary information for new and replacement SSTS, systems connected to central sewer, systems abandoned or removed, and systems reported as buyouts in 2017.	23
Figure 20. SSTS compliance best estimates reported by LGUs over 10 years – compliant systems.	24
Figure 21. SSTS best estimates reported by LGUs over 10 years – FTPGW.	25
Figure 22. SSTS best estimates reported by LGUs over 10 years – ITPHS.	25
Figure 23. All maintenance hole covers that are found to be unsecured, weak, or damaged are considered to be an ITPHS and are required by Minnesota Statute to be upgraded, replaced, or their use discontinued within 10 months of receipt of a Notice of Noncompliance.	26

Tables

Table 1. 2017 SSTS annual reporting rate from 218 LGUs.	4
Table 2. Statistics on the reported number of SSTS and construction permits reported by LGUs in 2017.	5
Table 3. Compilation of number of systems permitted by type reported by LGUs in 2017.	10
Table 4. Systems installed as reported by flow volume in 2017.	16
Table 5. Number of sewage tanks reported installed in 2017.	17
Table 6. Number of compliance inspections, existing systems, reported LGUs in 2017.	19

Acronyms and definitions

ALS	Alternative Local Standards
FTPGW	Failing to protect groundwater
ITPHS	Imminent threat to public health and safety
LGU	Local governmental unit
MPCA	Minnesota Pollution Control Agency
POS	Point of sale
SSTS	Subsurface sewage treatment system
TCPA	Township Cooperation Planning Association

Executive summary

In 2017, 211 Local Governmental Units (LGUs) submitted a Subsurface Sewage Treatment System (SSTS) Annual Report to the Minnesota Pollution Control Agency (MPCA). The 211 reporting programs consisted of 86 counties, 83 cities, 39 townships, and 3 other permitting authorities. Just over 537,000 SSTS were reported across Minnesota, representing an estimated 36.8 billion gallons of wastewater treated by SSTS per year. In 2017, LGUs issued 10,906 SSTS construction permits with the greatest number issued by St. Louis County (706).

The majority of SSTS installed in 2017 were for residential homes (10,504); however, there were 402 systems constructed for other establishments. Most systems installed in 2017 were Type I systems, including 4,437 mounds and 518 at-grades. There were 1,555 Type II systems, 858 Type III systems, 144 Type IV systems, and four Type V systems installed in 2017. For more detailed descriptions of system types, see page nine of this report. A total of 30 SSTS were constructed for flows between 2,500 and 10,000 gallons per day (gpd) with seven of those systems constructed for flows greater than 5,000 gpd. The total number of installed sewage tanks reported by LGUs in 2017 was 14,146.

Of the 10,906 SSTS installed in 2017, 6,197 were replacement systems. Replacement systems represent existing sewage “disposal systems” that are replaced due to either failing to protect groundwater (FTPGW), or if the system is an imminent threat to public health and safety (ITPHS) as identified through inspections resulting from various local triggers such as: point-of-sale (POS), land use permits, building permits, conditional use permits, variances, and complaints. The volume of wastewater generated for these systems brought into compliance is estimated around 424 million gallons per year. Seventy-eight LGUs, 14 of which are counties, reported that they track maintenance activities for septic systems. Regarding property transfer requirements, 167 LGUs (60 counties) reported having a POS inspection trigger.

Of the reported 537,354 existing systems in Minnesota, 15,250 systems or 2.8% of existing systems were evaluated for compliance in 2017. There were eight counties that reported more than 500 compliance inspections in 2017. Crow Wing County reported the highest number, with 934 compliance inspections. LGUs reported 158 structures were connected to a centralized sewer and 497 structures had their SSTS abandoned or removed in 2017. A grand total of 11,570 systems statewide were new or replacement systems, connected to a centralized sewer, abandoned or removed, or bought out in 2017.

Trends observed since 2002 suggest improvements in rural wastewater treatment. Since 2002, LGUs have issued 187,766 SSTS construction permits (over 96,000 of these systems were replacement systems). This means over one-third (35%) of Minnesota’s 537,354 septic systems are less than 16 years old. The number of estimated compliant systems has increased over the past ten years, from 334,500 systems in 2007 to 434,068 systems in 2017.

Introduction

Each year, LGUs with SSTS programs are required to complete a report documenting their SSTS activities. Local SSTS programs occur at four governmental levels: 1) county, 2) city, 3) township, and 4) other or special purpose units (i.e., Water Management District, Joint Powers Board). Minn. R. ch. 7082.0040 specifies the content of the SSTS Annual Reports and requires them be submitted by February 1 each year for the previous calendar year.

The MPCA sent out the annual report questionnaires electronically in December 2017 to each known local SSTS program by email. Known LGUs received the 2017 Annual Report instructions and an individual questionnaire in a web-based questionnaire format.

The purpose of the SSTS Annual Report is to: 1) obtain detailed information about each SSTS program and 2) summarize relevant information into a statewide annual report. The annual report is also used to help track the number of sewage tanks installed to ensure payment of the \$25 tank fee by licensed SSTS installers. Tank fees were approved by the Legislature in 2003 to help fund SSTS compliance efforts in the state.

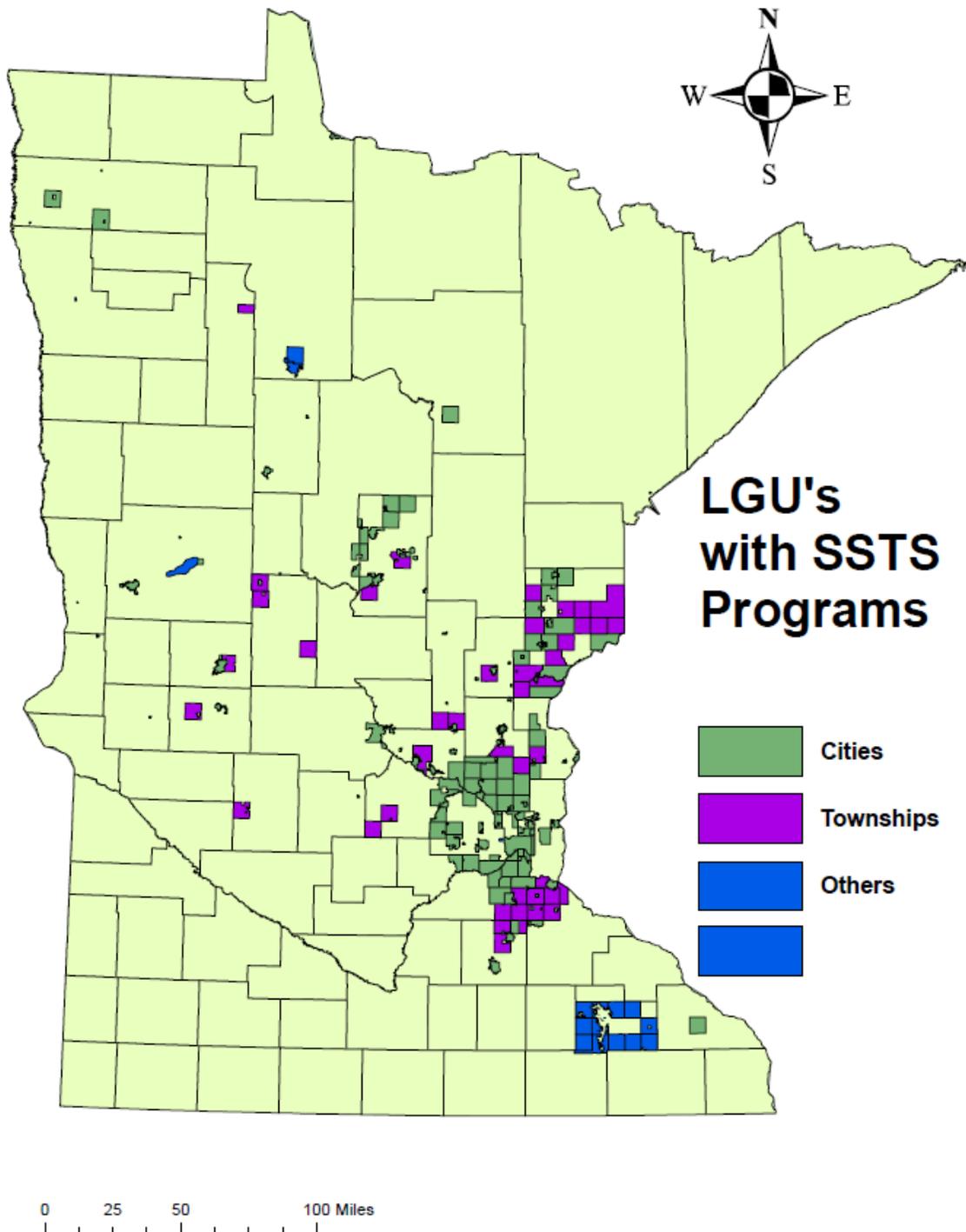
This report generally models the format used in the 2014, 2015, and 2016 Annual Reports and includes a broad analysis of SSTS trends over the past 16 years. The analysis is based on information provided by the reporting LGUs in their annual reports. Some of the data is “hard” data, such as the reported number and types of permits issued. Other data is considered “soft” data, such as the reported best estimates provided to determine SSTS compliance rates and, sometimes, the total number of SSTS in each jurisdiction.

Seven annual reports from known local programs were not received in 2017. The reports not received included two cities, four townships, and one other SSTS program. Fourteen LGUs reported having zero SSTS within their jurisdiction, despite having an SSTS permitting program and permitting SSTS in 2017. Of the reporting LGUs, 97% indicated they approve SSTS designs before issuing construction permits, which is required by rule. The six jurisdictions that reported not reviewing designs were contacted to discuss rule requirements. There were 11 LGUs who reported not verifying soils for SSTS suitability at any time during permitting or during system construction. These LGUs were contacted and informed of the requirements for verifying soils.

Annual report responses

Out of 218 known SSTS programs, 211 LGUs submitted an annual report 2017. All counties, except Ramsey County, submitted an annual report. Ramsey County is not required to submit an annual report due to their entire jurisdiction being served by city and township LGU programs. A map showing locations of known SSTS programs is shown in [Figure 1](#).

Figure 1. Map showing the locations of county, city, township and other known local SSTS programs in 2017.



There were 86 counties, 83 cities, 39 townships, and three other permitting authorities that make up the 211 reporting programs in 2017. The permitting authorities include Bemidji Joint Powers Board, Otter Tail Water Management District, and the Olmsted Township Cooperation Planning Association (TCPA). The annual report response rate by LGU type is shown in [Table 1](#).

Table 1. 2017 SSTS annual reporting rate from 218 LGUs.

	County	City	Township	Other	Total
LGUs Contacted	86	85	43	4	218
LGUs Reported	86	83	39	3	211
LGUs Not reporting	0	2	4	1	7

The exact number of local SSTS programs is unknown. At this time, there appears to be about 218 individual SSTS programs in Minnesota. The number of county programs remains the same at 86; however, the number of city and township programs varies from year to year and the size of the different SSTS programs varies as well. The annual report return rate fluctuates over the years, along with the quality of reported data. County staff, in some jurisdictions, are unsure of who the local city or township contact is for each of the local SSTS programs in their counties. Furthermore, city and township programs with “contract inspection services” can change from year to year, so it can be difficult to know who the contact person is to ensure the annual report can be sent to the right entity or individual.

In December 2017, requests for annual report data were sent electronically to each of the previously identified SSTS administrators who provided an email contact. For LGUs that did not provide an email contact, a number of phone calls were made to obtain information necessary to send a report electronically. The overall response rate decreased from the previous year. We received 219 reports received out of 222 known SSTS programs in 2016 and 211 reports out of 218 known programs in 2017. This was somewhat anticipated with the web-based reporting software requiring completed reports from each LGU. Continued follow-up with the seven non-reporting LGUs and future correspondence is planned to improve response rates next year.

Number of subsurface sewage treatment systems

In 2017, 211 LGUs reported a total of 537,354 SSTS in Minnesota. There were 10,906 construction permits issued for both new or replacement systems and 770 SSTS repairs for a grand total of 11,676 SSTS related permits. Over a period of 16 years, from 2002 to 2017, LGUs reported that over 187,766 construction permits were issued ([Table 2](#)).

The highest number of SSTS was reported in St. Louis County (37,067); the fewest number of SSTS was reported in Swift County [(21) note – Swift County provided a response inconsistent with 2016. They will be contacted to verify accuracy in total SSTS reporting]. The highest number of septic system construction permits issued in 2017 was in St. Louis County (706); Grant and Chippewa counties came in with the fewest number of construction permits (0). Township, city, and other jurisdiction report data were added to their respective counties to tabulate this information.

Appendix A1 contains a county-by-county list of the following information: 1) total number of SSTS reported, 2) number of construction permits issued in 2017, 3) number of construction permits issued over a period of 16 years, 4) number of compliance inspections of existing SSTS conducted countywide

(private inspector and LGUs), 5) percent of total SSTS inspected, and 6) counties with compliance inspections for property transfer.

[Appendix B1](#) contains a list of cities, by county, with known SSTS programs. [Appendix B2](#) contains a list of townships, by county, with known SSTS programs. [Appendix B3](#) contains a list of other permitting authorities, by county, with known SSTS programs.

Table 2. Statistics on the reported number of SSTS and construction permits reported by LGUs in 2017.

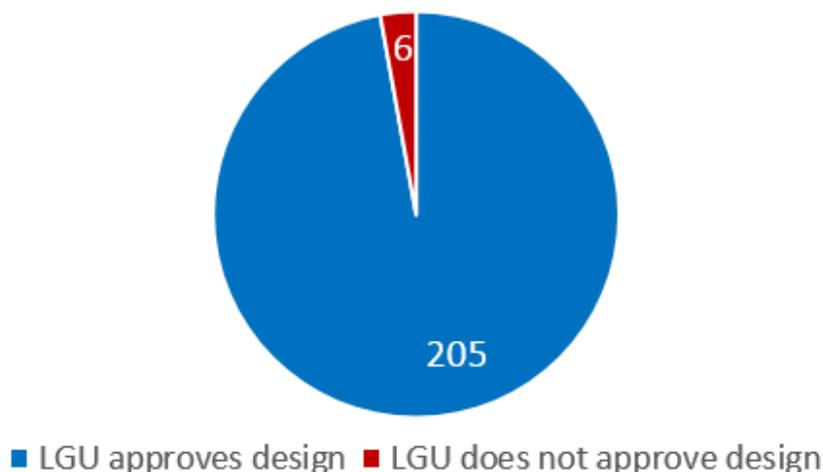
	Total number of SSTS reported in 2017	SSTS permits issued in 2017 (includes construction and repair permits)	Construction permits 2002-2017
Total number SSTS reported	537,354	11,676	187,766
Highest county SSTS number	37,067	706	10,033
Lowest county SSTS number	21	0	158

Design approvals

The MPCA asks LGUs if they approve SSTS designs before issuing a construction permit. There were 211 responses to this question; 205 (97%) LGUs said they do review designs before issuing construction permits; six (3%) LGUs said they do not review designs ([Figure 2](#)). Those jurisdictions that self-reported not reviewing designs have been contacted and the rule requirements discussed with them.

Figure 2. Design approvals by LGUs before permitting subsurface sewage treatment systems construction.

Does the LGU approve SSTS designs before a permit is issued?



Soil verification

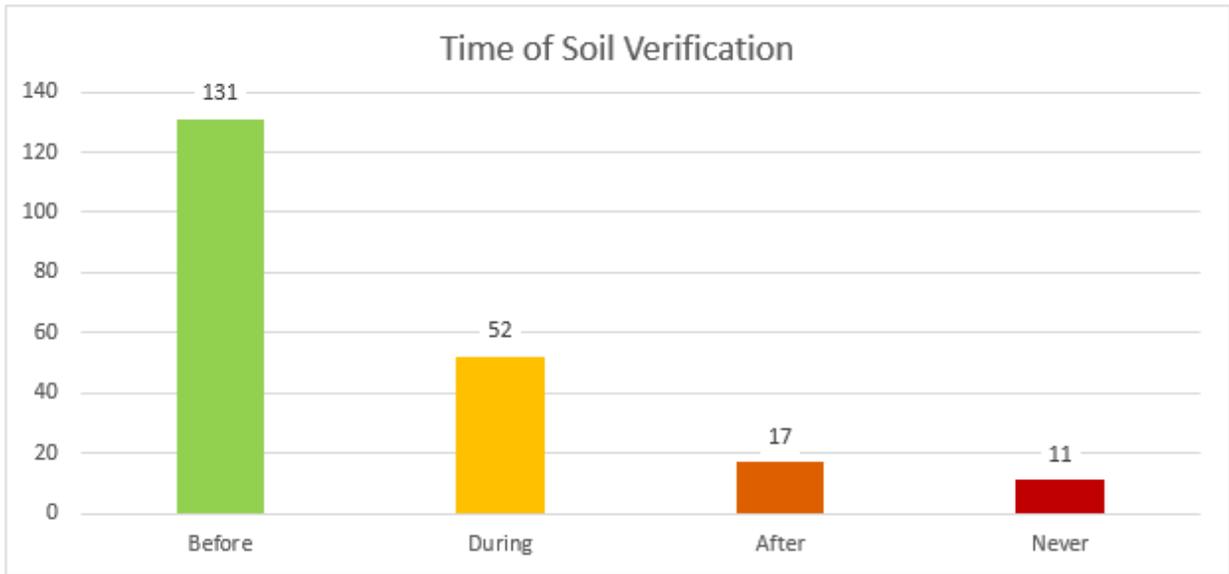
In 2017, there were 200 (95%) LGUs that reported verifying soils at some time before, during, or after system construction. [Figure 3](#) shows an example of a tool that may be used to verify soils. There were 131 (62%) LGUs that reported verifying soils before construction and 52 (25%) LGUs reported verifying soils during construction. Seventeen LGUs reported verifying soils after construction (six counties). Eleven (5%) LGUs (four counties) reported they do not verify soils at any time before, during, or after system construction. [Figure 4](#) provides a breakdown of when LGUs are verifying soils. Those jurisdictions not verifying soils were contacted and the requirements of Minn. R. ch. 7082.0500 discussed with them.

Figure 3. A hand auger tool is used during a soil observation to determine the depth to the limiting layer by identifying distinct redoximorphic concentrations and depletions in the soil profile. There must be at least three feet between the bottom of an SSTS distribution system to the depth these features occur.



[Figure 5](#) below shows the time of soil verification per county throughout the state.

Figure 4. Soil verification timing reported by LGUs in 2017.



Systems by type

The following section describes each of the types of SSTS.

Type I Systems are mounds, at-grades, trenches, or beds built in accordance with the prescriptive requirements of Minn. R. chs. 7080-7081

- Specific prescriptive requirements in Minn. R. chs. 7080 and 7081
- Requires a management plan
- Has been termed “standard systems”
- Designed by a basic, intermediate, or an advanced designer – based on flow

Type II Systems are holding tanks, privies, or SSTS in floodplain areas

- Employed to fit non-standard site conditions (e.g., floodplains) or special dwelling and “other establishment” situations (privy or holding tanks)
- Requires a management plan
- Has been termed “alternative systems”
- Designed by a basic, intermediate, or an advanced designer – based on flow

Type III Systems are systems that do not have one foot of natural soil, are determined to have disturbed soils, or have limited space for a soil dispersal area, among other potential deviations

- Deviates from certain allowable Type I prescriptive standards when needed
- Employed to fit non-standard soil and site conditions or organically limited design without the use of pretreatment
- Requires a management plan; operating permit is recommended
- Has been termed “other systems”
- Designed by a basic, intermediate, or an advanced designer – based on flow

Type IV Systems are systems, which employ a pre- or post-treatment addition and can have a reduced infiltration area and vertical separation

- Follows Type I prescriptive design requirements when site conditions allow
- Deviates from Type I prescriptive standards due to the use of a registered pretreatment product
- Employed to:
 - Reduce the vertical separation distance requirement
 - Reduce the absorption area
 - Extend the life of the soil system
 - Reduce waste strength
- Higher operation and maintenance requirements than a type I – III
- Requires a management plan
- Requires an operating permit and service provider
- Designed by an intermediate or advanced designer – based on flow

Type V Systems are systems designed by a professional engineer that deviate from the prescriptive requirements of a Type I system

- Does not need to follow prescriptive design standards
- Must meet environmental and safety performance outcomes
- Components not following Type I – IV design standards authorized by a professional engineer

- Employed to use registered and/or non-registered treatment and dispersal products
- Requires a management plan
- Requires an operating permit and service provider
- Designed by an advanced designer and signed off by a professional engineer or appropriately licensed professional

SSTS reported by type

The types of systems reported being installed are shown in [Table 3](#). The majority of SSTS reported by type were residential (10,341) with 444 systems constructed for other establishments. All five types of systems are included in these figures (Type I, Type II, Type III, Type IV, and Type V).

The majority of the systems installed were Type I systems; 4,437 mounds, 518 at-grade, 1,038 rock trench, and 1,661 seepage/pressure beds. Type I proprietary distribution media was installed as 832 chamber systems and 23 EZflow systems. This breakdown adds up for a total of 8,509 Type I systems.

There were also 1,270 Type II systems, 858 Type III systems, 144 Type IV systems, and four Type V systems installed.

Table 3. Compilation of number of systems permitted by type reported by LGUs in 2017.

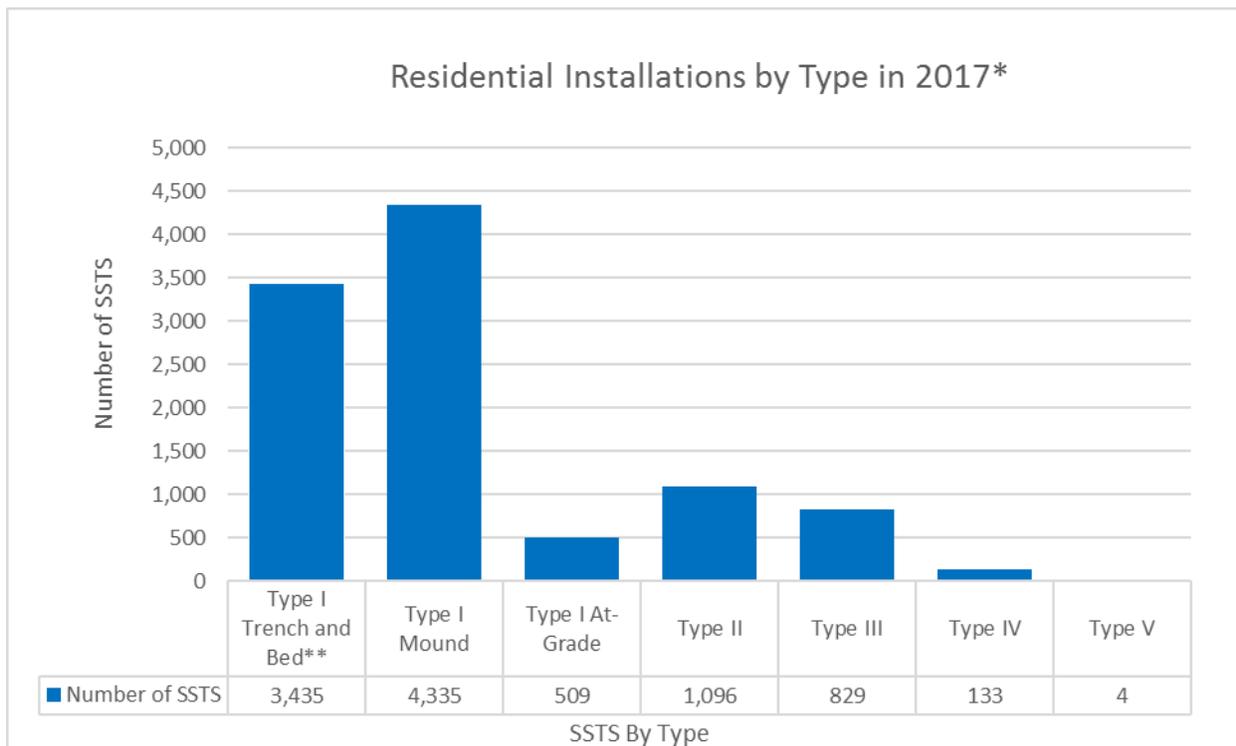
System Type	System Subtype	Residential	Other Establishment	Grand Total	% Change From 2016
Type I	At-Grade	509	9	518	+ 14%
	Chamber Trench	801	31	832	- 4%
	EZ Flow Trench	22	1	23	- 33%
	Mound	4,335	102	4,437	+ 2%
	Rock Trench	994	44	1,038	- 12%
	Seepage or Pressure Beds	1,618	43	1,661	+ 6%
Type II		1,096	174	1,270	+ 10%
Type III		829	29	858	+ 16%
Type IV		133	11	144	+ 23%
Type V		4	0	4	- 20%
Grand Total		10,341	444	10,785	+ 3%

Note: The grand total number of permits issued with this dataset is inconsistent with the overall number of residential and other establishment construction permits issued. This is due to inconsistencies among reporting LGUs (121 systems less than as reported by system flow). This data should only be used for identifying trends and proportional analysis.

Residential systems reported by type in 2017

The total SSTS installed as reported by type in 2017 for residential applications are shown in [Figure 6](#). 33% of the total residential systems (10,341) reported by type were Type I Trenches and Beds (3,435). About 42% of the systems (4,335) were Type I Mounds and 5% of the systems (509) were At-Grades. There were 8% Type III systems (829). The Type IV and Type V systems, combined, were just over 1% of the total number of systems installed in 2017.

Figure 6. The type and number of systems installed for residential systems in 2017.



* The total number of residential systems reported by type in 2017 for was 10,341 systems.

** The Type I Trench and Bed Systems included 823 Type I systems reported to have used proprietary distribution media products.

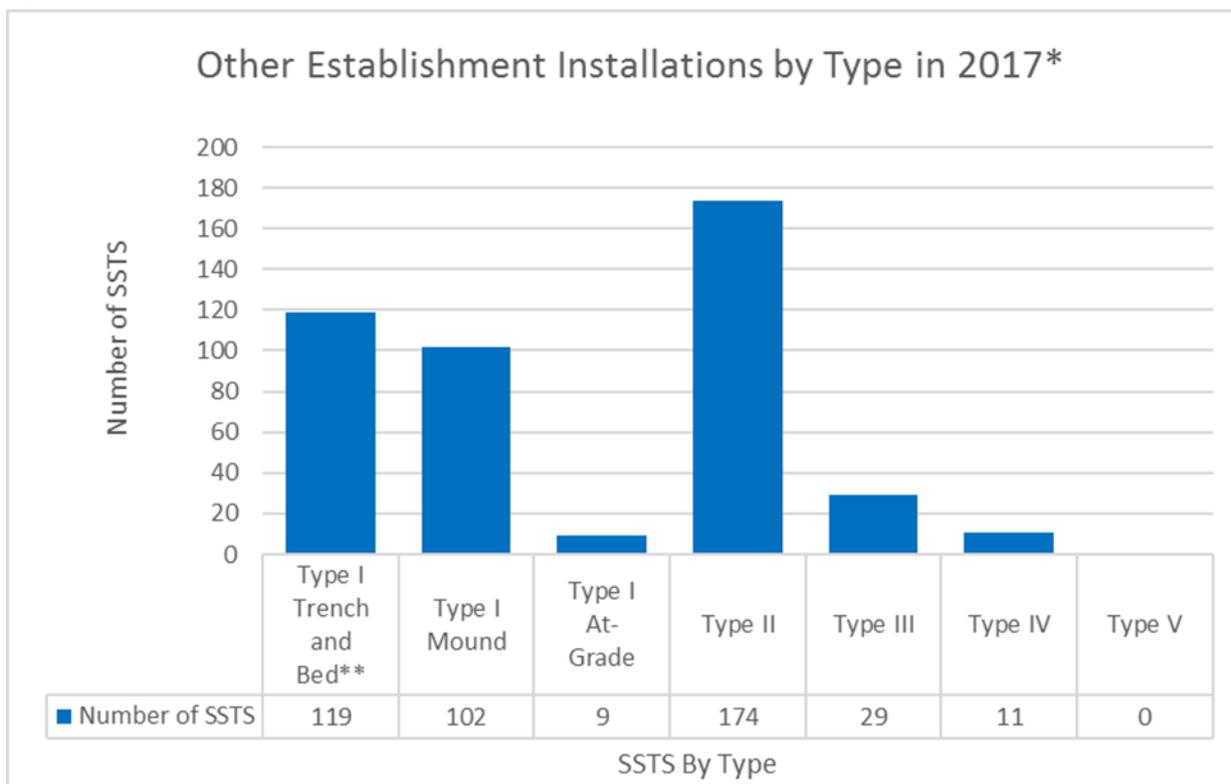
Other establishment (non-residential) systems reported by type in 2017

The total SSTS installed as reported by type in 2017 for other establishments are shown in [Figure 7](#). 27% of the total other establishment systems (444) installed in 2017 were Type I Trenches and Beds (119). Similarly, about 23% of the systems were Type I Mounds (102), and 39% of the systems (174) were Type II holding tanks. Just over 2% were Type IV (11), and there were zero Type V other establishment systems in 2017.

* The total number of systems installed in 2017 for other establishments was 444 systems.

** The Type I Trench and Bed Systems included 32 systems reported to have used a proprietary distribution media product.

Figure 7. The type and number of systems installed for other establishments in 2017.



Type IV systems

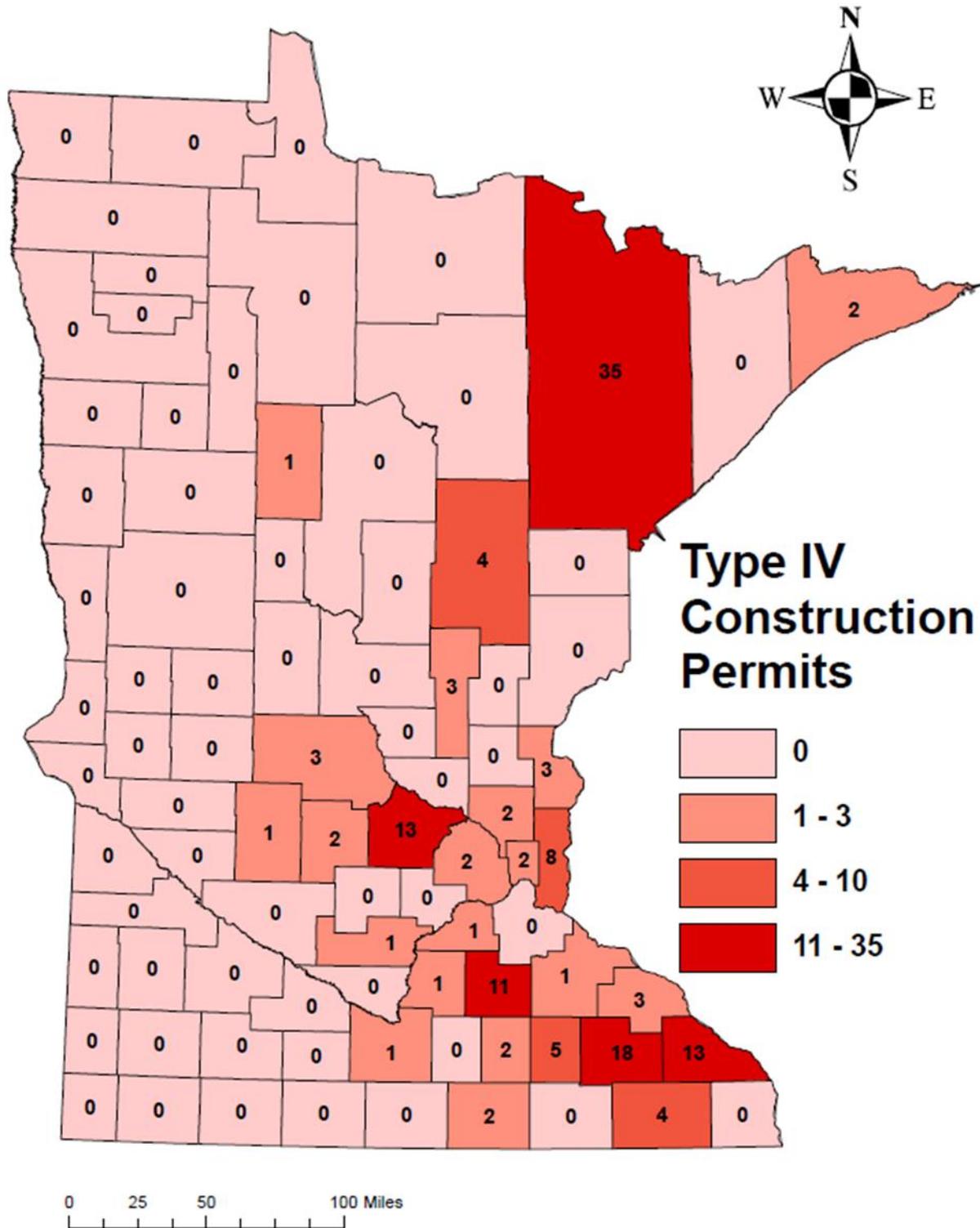
There were a total of 144 Type IV systems constructed in 2017. Type IV systems were used for 133 residential systems and 11 other establishments. Residential Type IV systems were installed in 24 counties and five cities. The 11 Type IV systems for other establishments were installed in eight counties and one other LGU.

An example of a Type IV system using a registered proprietary treatment product for a new dwelling is shown in [Figure 8](#). St. Louis County had the greatest number of Type IV systems with 35 systems installed in 2017. The general locations of the Type IV systems installed by county are shown in [Figure 9](#).

Figure 8. Type IV system being installed using a registered proprietary treatment product in St. Louis County.



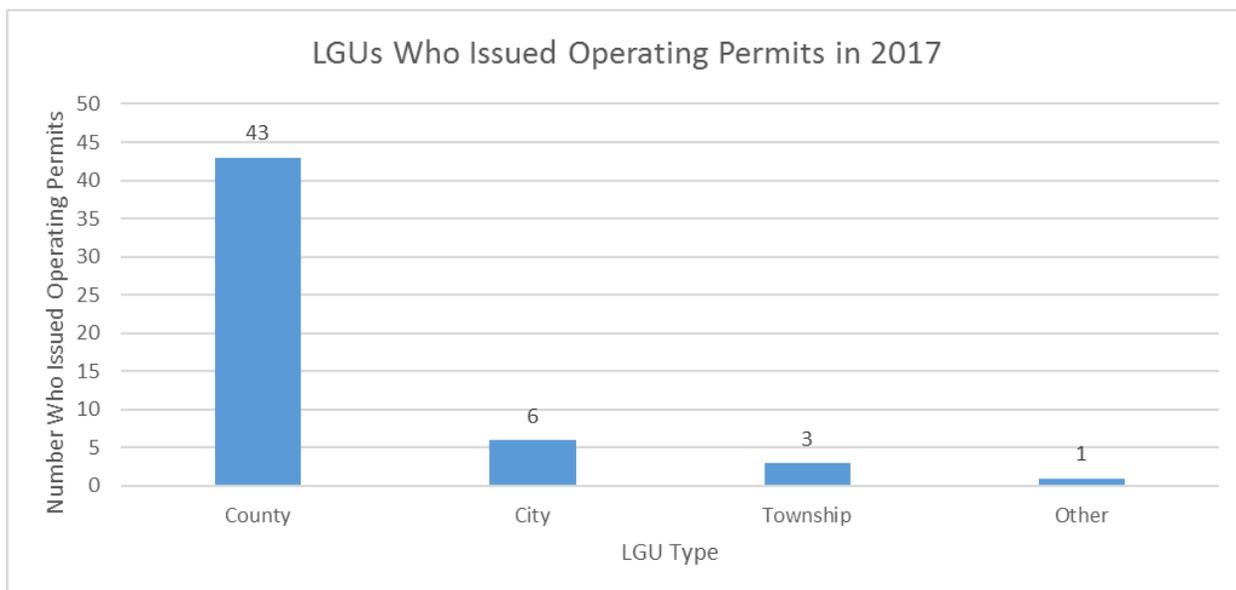
Figure 9. Map showing counties where Type IV systems were installed in 2017.



Total number of systems with operating permits

Operating permits are site-specific regulatory documents that are put in place to outline various parameters for maintenance, monitoring, and other service functions for a variety of SSTS types. There were 496 operating permits issued in 2017 for both residential and other establishments systems with the majority of these permits (285) being issued for Type II Holding Tanks. The total operating permits issued represents a 4% decrease from 2016 (516). Forty-three counties, six cities, three townships, and one other LGU reported they have issued operating permits in 2017 ([Figure 10](#)). St. Louis County reported issuing the highest amount with 146 operating permits.

Figure 10. The number of LGUs that reported the issuance of operating permits.



Reported number of SSTS by wastewater flow volume

The reported number of SSTS installed for other establishments and residential applications by wastewater flow volume is presented in [Table 4](#). For other establishments with flows less than 2,500 gpd, there were 255 new systems and 135 replacement systems. For larger other establishments, eight systems with flows between 2,500 and 4,999 gpd were constructed and four systems with flows between 5,000 and 10,000 gpd were constructed.

For residential applications, over 99% of the constructed systems were designed for flows less than 2,500 gpd. There were 4,442 new systems and 6,044 replacement systems reported in that range. There were six new residential systems for design flows between 2,500 and 4,999 gpd and one new system for design flows greater than 5,000 gpd. There were nine replacement systems reported for residential systems with flows between 2,500 and 4,999 gpd and two residential replacement systems reported for flows over 5,000 gpd.

In summary, there were a total of 10,876 SSTS designed and constructed for wastewater flows between 1 and 2,499 gpd, 23 for flows between 2,500 and 5,000 gpd, and seven systems exhibiting design flows over 5,000 gpd.

Table 4. Systems installed as reported by flow volume in 2017.

Flow Volume	Residential		Other Establishments		Grand Total
	New	Replacement	New	Replacement	
1-2499 gpd	4,442	6,044	255	135	10,876
2500-4999 gpd	6	9	4	4	23
5000-10000 gpd	1	2	1	3	7
Grand Total	4,449	6,055	260	142	10,906

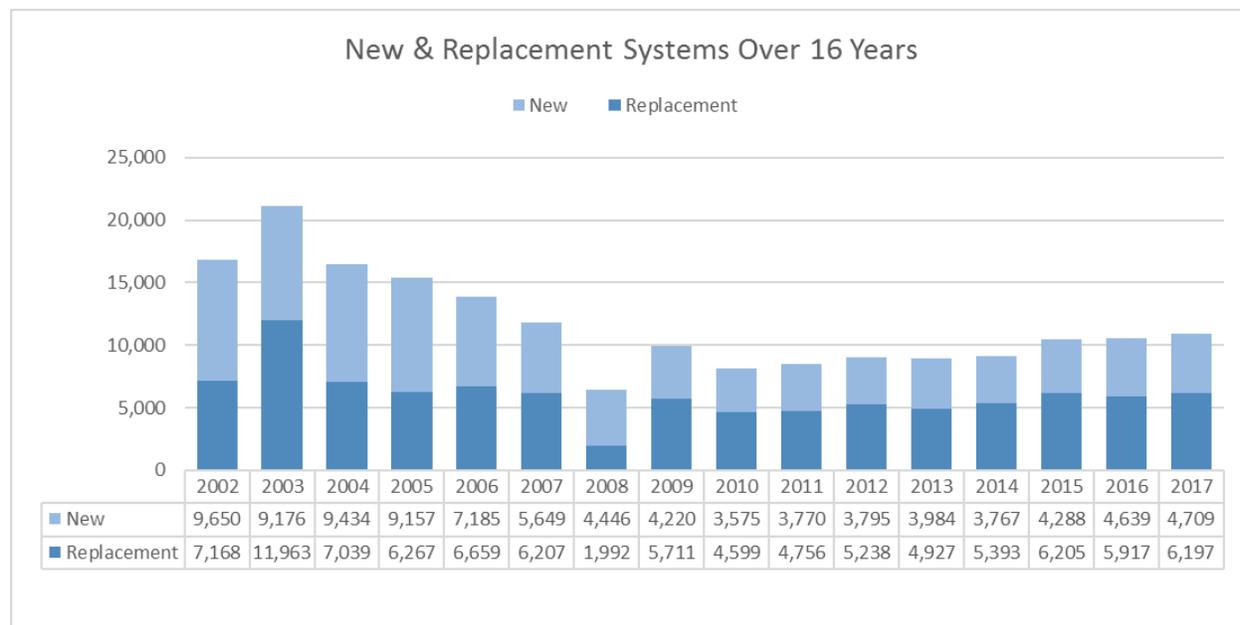
New and replacement SSTS

New and replacement systems installed in 2017, and over the past 16 years, are shown in [Figure 11](#). LGUs reported that 4,709 (43%) new systems and 6,197 (57%) replacements were installed in 2017. Replacement systems included both residential systems (year-round and seasonal) and systems used by other establishments (e.g., restaurants and resorts).

Replacement systems represent existing sewage “disposal systems” that are replaced due to a system either failing to protect groundwater, or if the system poses an ITPHS. These systems are typically identified through various local triggers such as: POS, land use permits, building permits, conditional use permits, variances, and complaints.

The volume of wastewater generated at these 6,197 replacement systems is significant, estimated to be over 424 million gallons per year (assuming 2.5 person/permit; 75 gal/person; 365 days/year). Based on the reported estimates, counties, cities, townships, and special purpose units of government, collectively, are playing a significant role in assuring noncompliant systems are upgraded or replaced.

Figure 11. Number of new and replacement systems installed over 16 years, from 2002-2017.



Since 2002, LGUs have issued 187,766 construction permits. This means over one-third (35%) of Minnesota’s 537,354 septic systems are less than 16 years old.

Number of sewage tanks installed in 2017

The total number of installed sewage tanks reported by LGUs was 14,440 ([Table 5](#)).

LGUs reported that licensed SSTS installers put in 14,146 sewage tanks, plus tanks from the installation of 294 performance systems, for a total of 14,440.

Table 5. Number of sewage tanks reported installed in 2017.

System description*	Installer	Highest Amount from Single Installer
Standard Sewage Tanks	14,146	220
Performance Based Sewage Tanks	294	29
Total	14,440	

* Minn. Stat. § 115.551 states that the installer shall submit a form showing the number of tanks installed by January 30 each year. The MPCA will then invoice the installers the final tank fee, which is \$25 for each tank installed. For performance-based systems, the tank fee is limited to a \$25 per household system installation.

Figure 12. A 1,000-gallon concrete septic tank being set into place at a residence in Minnesota.



Tracking maintenance pumping of septic systems

Seventy-eight LGUs reported that they track the maintenance of septic systems ([Figure 13](#)). Approximately 60% of the reporting LGUs were city programs (50). The high proportion of cities versus the rest of reporting LGUs can be attributed to entities such as the Met Council requiring maintenance tracking in the metro area. Additionally, there were 17 counties, 16 townships, and one “other” (Otter Tail Water Management District) reporting septic system maintenance tracking. [Figure 14](#) shows a maintainer following required procedures necessary for land application – a common way to dispose of septage from septic tanks.

Figure 13. Distribution of LGUs who track pumping of septic systems.

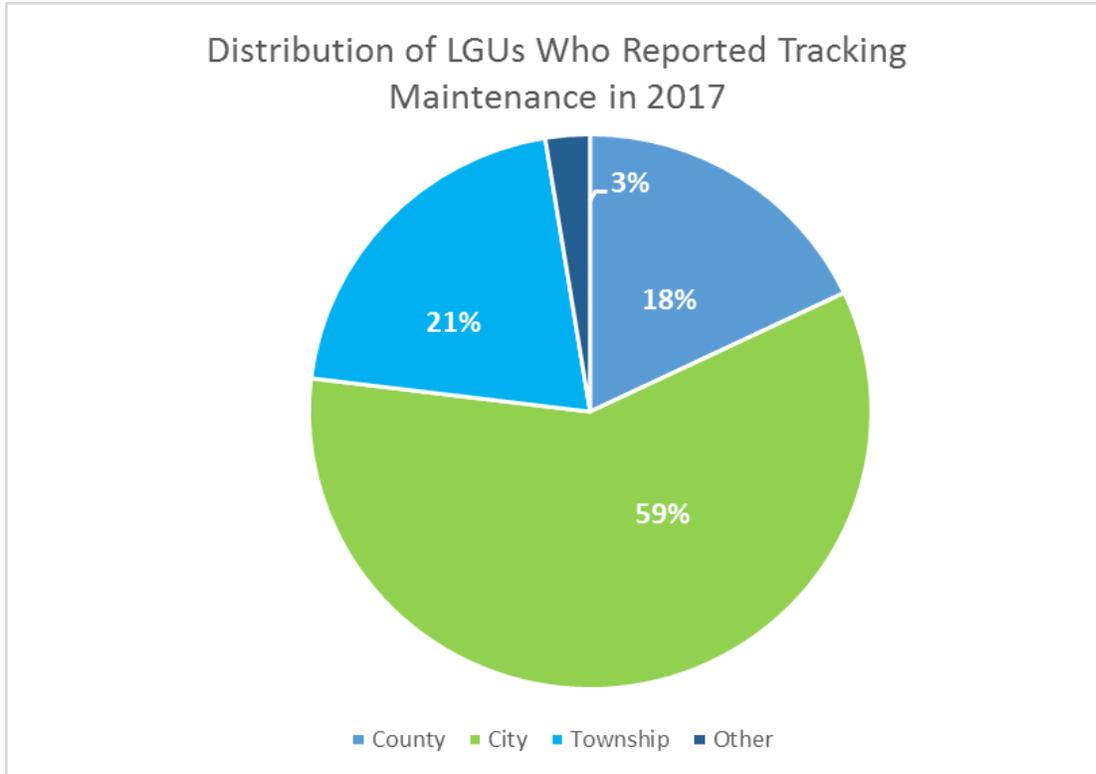


Figure 14. A load of septage is sampled and tested for pH before it is land applied.

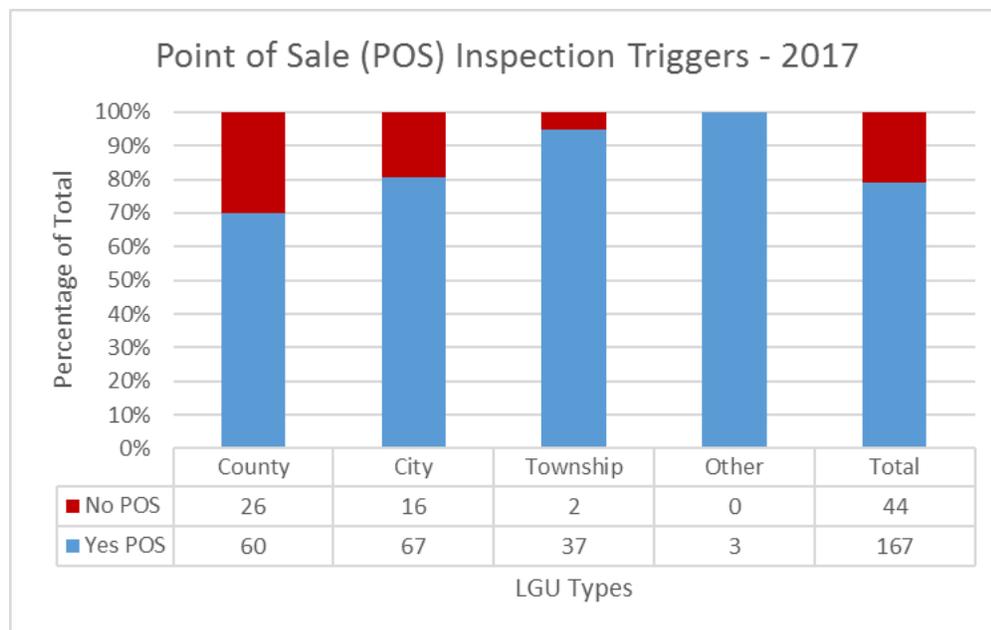


Property transfer-compliance inspection requirements

There are currently no state-level requirements that LGUs must have a POS compliance inspection trigger in their programs; however, many LGUs have indicated that this is the most effective trigger for identifying failing systems. LGUs were asked if they require compliance inspections at the time of property transfer; a total of 211 LGUs responded ([Figure 15](#)). Of the responses, 167 LGUs said they have a property transfer program and 44 LGUs said they do not.

Sixty counties (70%), 67 cities (79%), 37 townships (95%), and three other LGUs (100%) indicated they have a property transfer program in 2017.

Figure 15. SSTS compliance inspections for property transfers reported by LGUs.



Existing SSTS compliance inspections

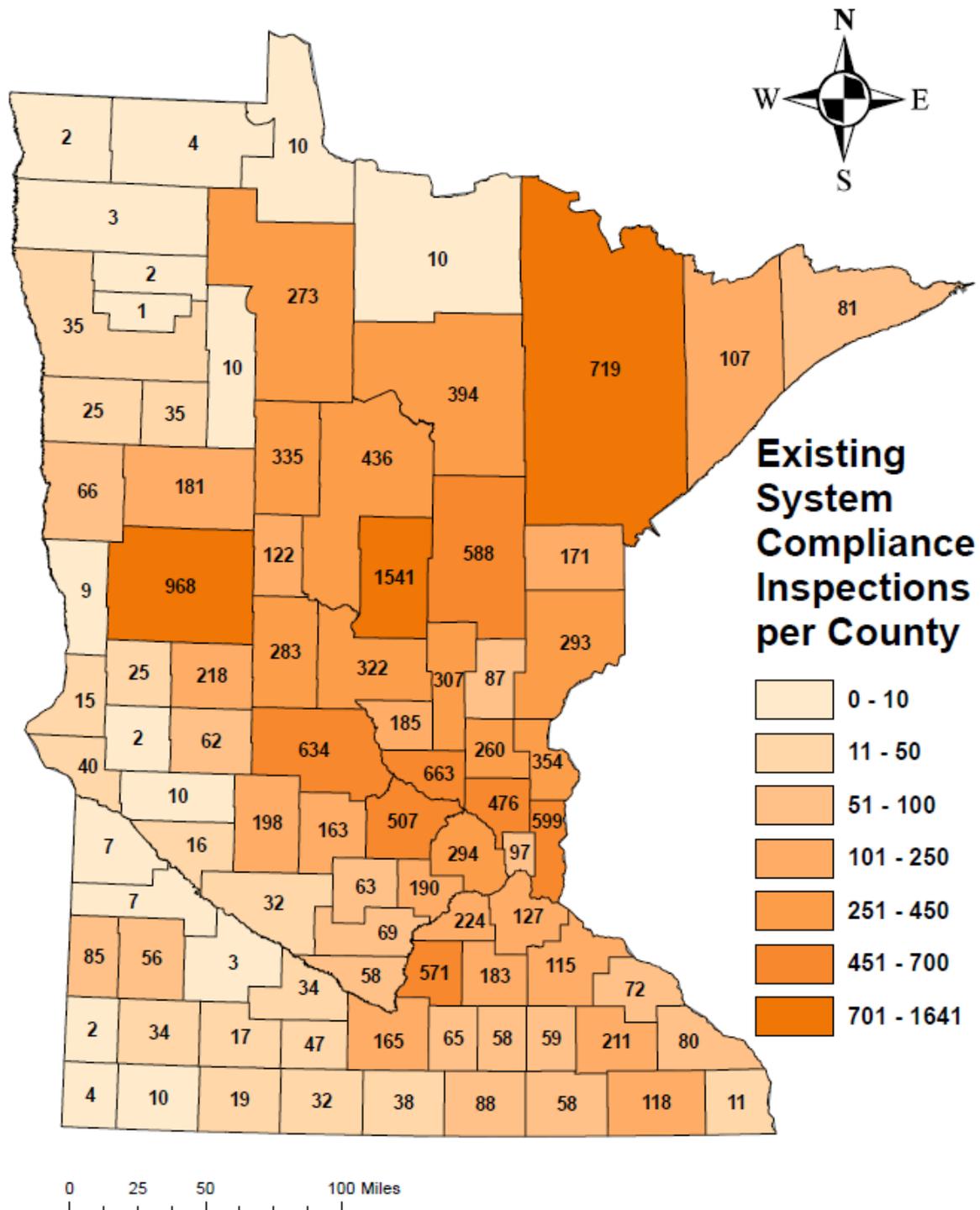
The number of compliance inspections of existing systems reported by LGUs in 2017 is shown in [Table 6](#). There were 15,250 compliance inspections of existing systems reported by local SSTS programs representing a 2.7% increase from 2016 (14,847). A total of 12,899 compliance inspections of existing SSTS were reported by counties. Cities reported 1,741 and townships reported 335. The three other LGUs reported 275 compliance inspections conducted in 2017.

Table 6. Number of compliance inspections, existing systems, reported LGUs in 2017.

Local unit of government	Number of compliance inspections of existing systems	Percentage of total compliance inspections
County	12,899	86.4%
City	1,741	9.3%
Township	335	2.4%
Other	275	1.9%
Total	15,250	100%

Out of the total 537,354 SSTS reported in Minnesota in 2017, approximately 2.8% of the existing septic systems were reported to have been inspected last year. Inspections are an important part of addressing existing systems that pose an environmental or human health risk. Local governments include inspection triggers in their ordinances, such as at the time of property transfer or when a building permit is sought, to create a mechanism for verifying system conformance and correcting nonconforming systems within the timeframes specified through state statute or local ordinance.

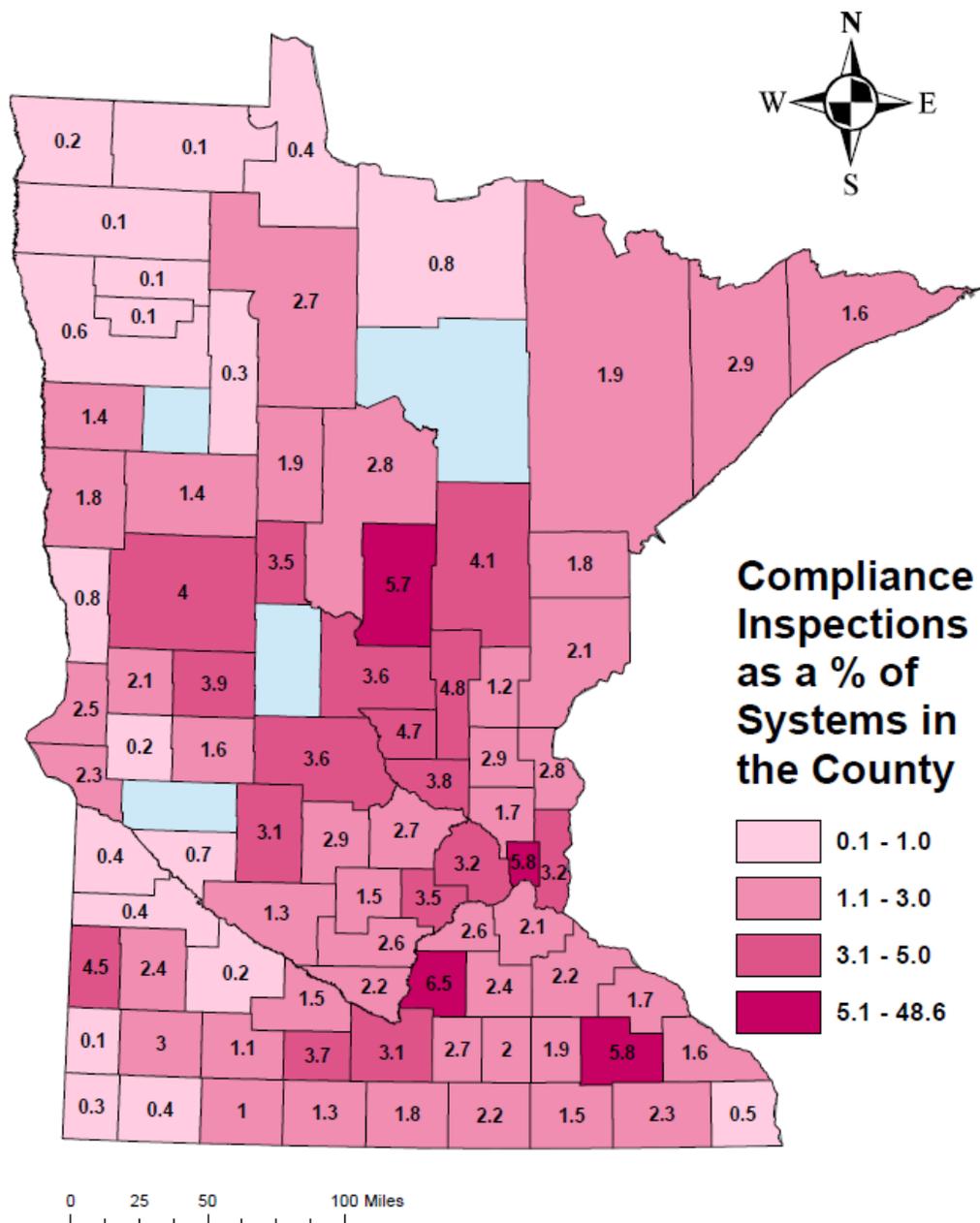
Figure 16. The number of compliance inspections for existing systems reported in 2017.



[Figure 16](#) shows the number of existing system compliance inspections reported for each county. These numbers reflect the total inspections as reported by all LGUs located within each respective jurisdiction.

In terms of individual LGUs (not consolidated by county) Crow Wing County reported the highest number of compliance inspections at 934. The next four highest reporting counties were: Otter Tail County at 886 compliance inspections, St. Louis County at 719 compliance inspections, Stearns County with 634 and Sherburne with 602 compliance inspections. [Figure 17](#) illustrates the number of existing system compliance inspections completed as a percentage of the total number of systems that were reported by LGUs within each county.

Figure 17. *Compliance inspections listed as a percentage of total systems in each county.



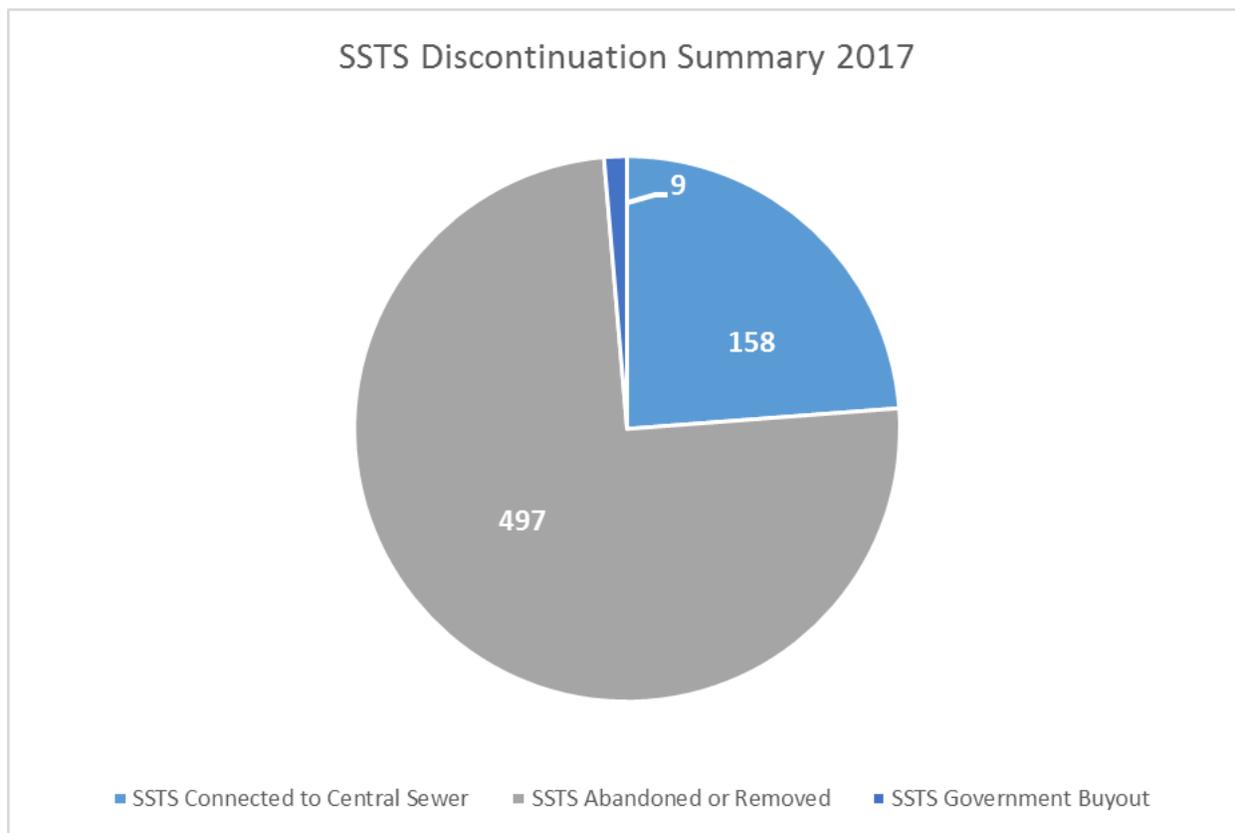
*Swift, Todd, and Itasca counties were removed from this map due to inconsistently low reported figures for total SSTS in 2017. They will be contacted to verify reporting accuracy. Mahanomen County was removed due to reporting zero total SSTS.

Number of noncompliant properties connected to centralized sewer, abandoned, removed, or bought out

The information related to noncompliant properties with SSTS that were discontinued through 1) connection to a central sewer, 2) an abandonment or removal, or 3) a government buyout program is shown in [Figure 18](#). A total of 664 systems were reported by LGUs as discontinued though one of these three mechanisms representing a 4% decrease from 2016 (695).

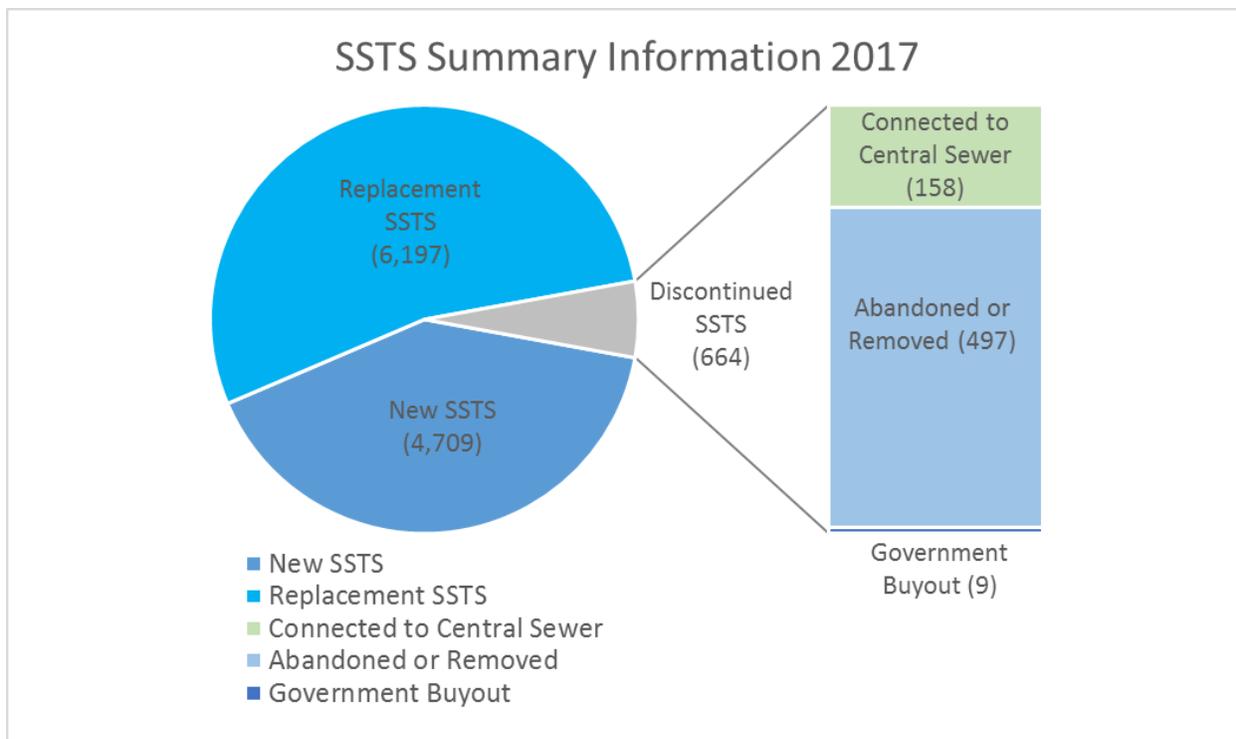
Of the 664 systems, 158 structures were reportedly connected to a centralized sewer system. There were 497 structures reported abandoned or removed in 2017. Lastly, nine structures were discontinued through a government buyout.

Figure 18. Summary information for systems connected to central sewer, systems abandoned or removed, and systems reported as buyouts in 2017. Total number reported was 664 systems in 2017.



A summary of new SSTS, replacement SSTS, connections to central sewer, abandoned systems and buyouts are graphically displayed in [Figure 19](#). The total number reported by LGUs for these five categories was 11,570 systems.

Figure 19. Summary information for new and replacement SSTS, systems connected to central sewer, systems abandoned or removed, and systems reported as buyouts in 2017.



SSTS compliance trends

Each LGU was asked to provide their *best estimates* of SSTS compliance information as part of the 2017 Annual Report. This included the following information:

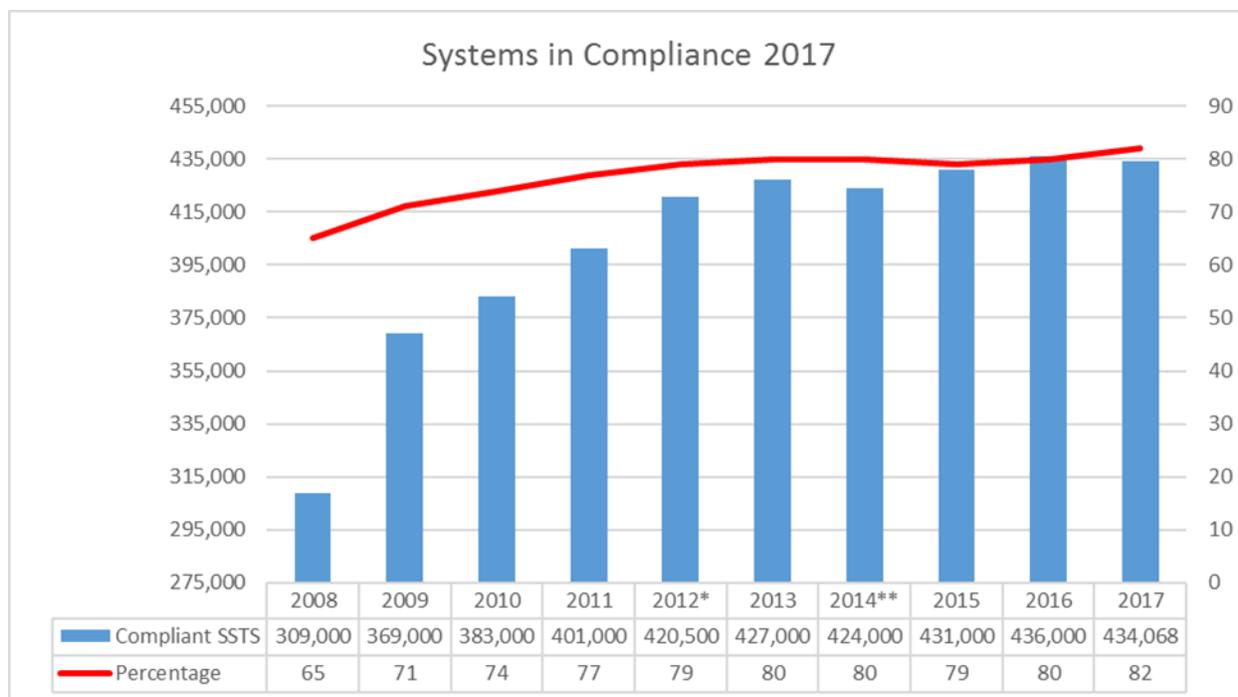
- Total number of SSTS in their jurisdiction
- Number of SSTS estimated to be in compliance
- Number of SSTS estimated to be an imminent threat to public health and safety
- Number of SSTS estimated to be failing to protect groundwater

[Figures 20, 21, and 22](#) provide annual estimates of SSTS compliance status for a period of eight years, from 2007 to 2017.

LGU estimates of SSTS compliance are likely based upon their tracking of submitted compliance inspections through various triggers that require a SSTS inspection and then calculating a compliance rate.

The estimated percentage of compliant SSTS has increased from 65% in 2008 to 82% in 2017. The number of estimated compliant systems has increased over the past 10 years, from 309,000 systems in 2008 to 434,068 systems in 2017; an increase of 125,068 systems (Figure 20).

Figure 20. SSTS compliance best estimates reported by LGUs over 10 years – compliant systems.

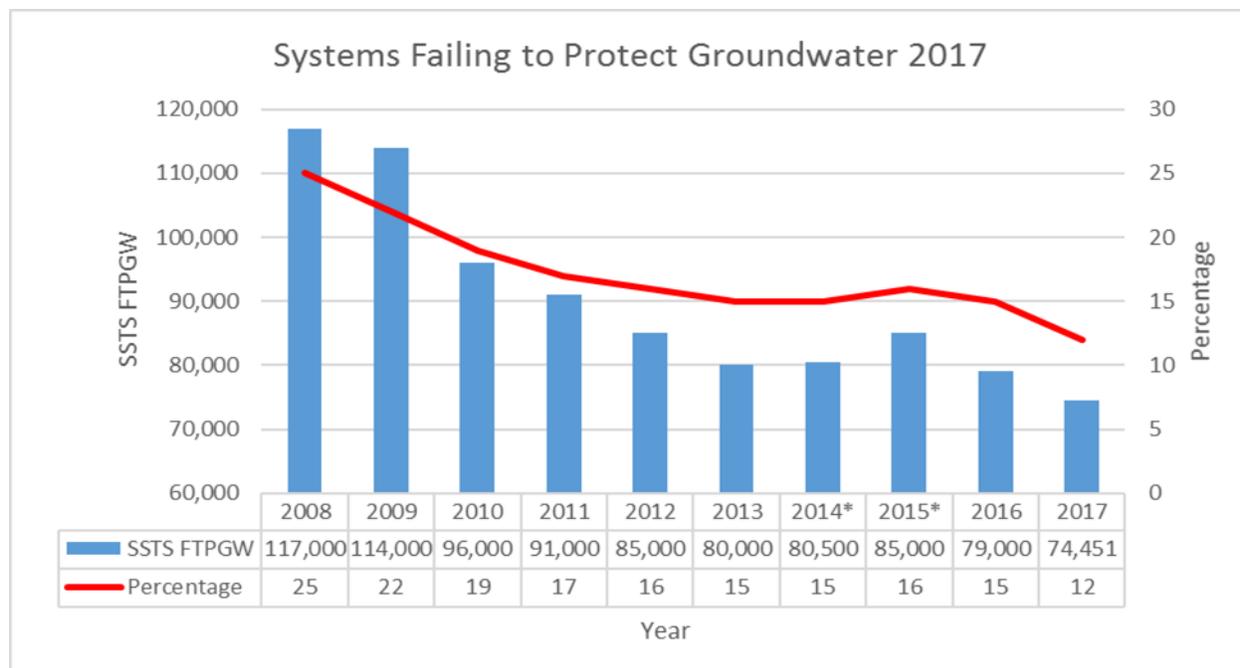


* In 2012, total SSTS data was estimated for Hennepin County and the TCPA in Olmsted County. This estimated data was not reported in 2012 by these two LGUs, but was derived from Metropolitan Council figures and US Census data. A total of 4,700 systems were estimated for Hennepin County and 5,444 systems were estimated for TCPA. For the purposes of this graph, those numbers were removed to reflect the actual estimated number of reported systems by LGUs in 2012. The 2013 number is based on the actual estimated number of reported systems.

** In 2014, the total overall number of systems in Minnesota decreased likely due to better LGU estimates. Many LGU's are developing databases, reviewing old files, completing inventories, and so on, which gives them a better position to provide more accurate totals for the annual report.

The estimated number of systems failing to protect groundwater (FTPGW) decreased over the past eight years, from 117,000 (25%) systems in 2008 to 74,451 (12%) systems in 2017; a decrease of 42,549 systems ([Figure 21](#)).

Figure 21. SSTS best estimates reported by LGUs over 10 years –FTPGW.



* In 2014 and 2015, the total overall number of systems classified as Failing to Protect Groundwater in Minnesota increased likely due to better LGU estimates. Many LGU’s are developing databases, reviewing old files, completing inventories, and so on, which gives them a better position to provide more accurate totals for the annual report.

Systems that have been identified as an ITPHS may include systems that back up inside the house, surfacing systems, unsecured or damaged maintenance hole covers (see [Figure 23](#)), and “straight pipes.” The estimated number of systems that would be considered to be an ITPHS have decreased over the past eight years, from an estimated 51,000 (11%) systems in 2007 to 26,746 (5%) systems in 2017; a decrease of 29,254 systems ([Figure 22](#)). Per state statute, ITPHS are to be eliminated within 10 months of receipt of a Notice of Noncompliance.

Figure 22. SSTS best estimates reported by LGUs over 10 years –ITPHS.

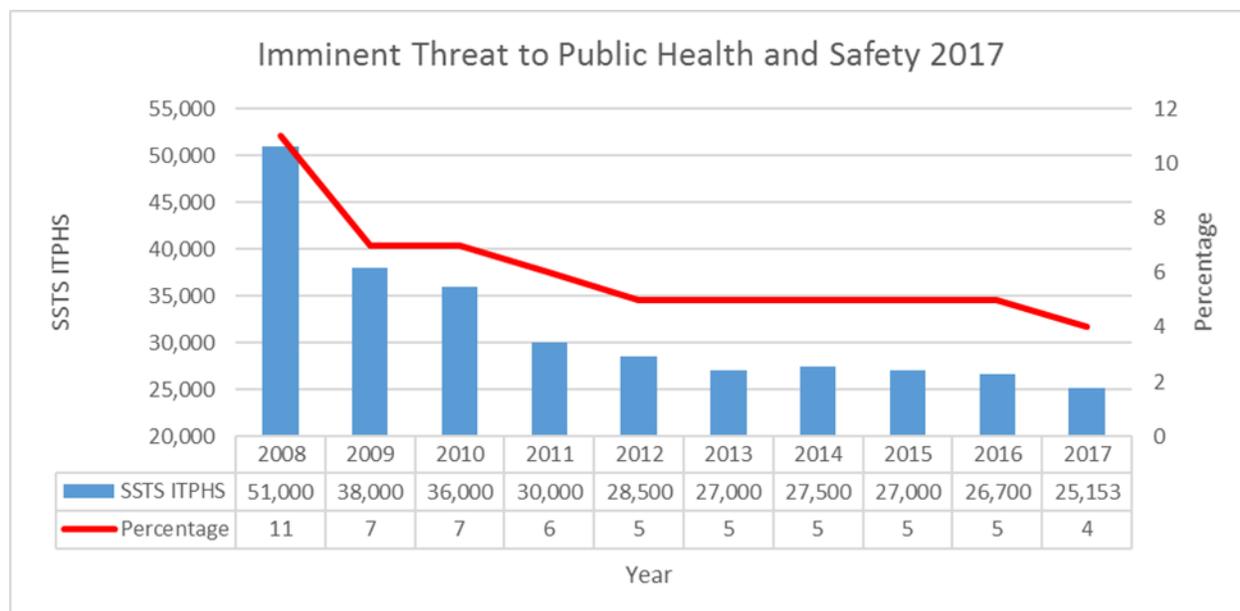


Figure 23. All maintenance hole covers that are found to be unsecured, weak, or damaged are considered to be an ITPHS and are required by Minnesota Statute to be upgraded, replaced, or their use discontinued within 10 months of receipt of a Notice of Noncompliance.



Summary and conclusions

There were 211 LGUs that submitted an SSTS Annual Report in 2017, including 86 counties, 83 cities, 39 townships, and 3 other permitting authorities. A total of 537,354 SSTS were reported in Minnesota, which represents 36.8 billion gallons of wastewater per year. The LGUs issued 10,906 construction permits for both new and replacement systems and 770 SSTS repair permits for a grand total of 11,676 SSTS permits. The total number of installed sewage tanks reported by LGUs from their annual reports was 14,440.

The majority of SSTS installed in 2017 were for residential homes (10,504); however, there were 402 systems constructed for other establishments. Most systems installed in 2017 were Type I systems, including 4,437 mounds and 518 at-grades. There were 1,555 Type II systems, 858 Type III systems, 144 Type IV systems, and four Type V systems installed in 2017.

LGUs reported 6,197 replacement systems were installed in 2017. The need to replace a system is usually identified through a compliance inspection “triggered” by a variety of events, such as: selling a home; applying for a land use permit, building or conditional use permit; applying for a variance; or receiving a complaint. The volume of wastewater generated at these 6,197 systems is significant, at approximately 424 million gallons per year.

LGUs reported 158 structures were connected to a centralized sewer and 497 structures were abandoned or removed in 2017. A grand total of 11,570 systems were new systems, replacement systems, connected to centralized sewer, abandoned or removed, or reported to be bought out in 2017.

Seventy-eight LGUs (14 counties) reported they track the maintenance of septic systems. Regarding property transfer requirements, 167 LGUs (60 counties) said they have a property transfer program. A total of 15,250 compliance inspections of existing septic systems were reported in 2017.

Since 2002, LGUs have issued 187,766 construction permits. This means that over one-third (35%) of Minnesota’s 537,354 septic systems are less than 16 years old. During this time, over 96,000 of these systems were replacement systems. The number of estimated compliant systems has increased over the years, from 334,500 systems in 2007, to 434,068 systems in 2017. This represents 29.7 billion gallons of wastewater treated by compliant SSTS in 2017.

Appendix A

Appendix A1

County program statistics on the number of SSTS within the county boundary, construction permits reported for new, replacement, and repair issued in 2017, number of construction permits over 15 years (2002-2017), number of compliance inspections of existing SSTSs conducted countywide (private inspector and LGU), percent of total SSTS inspected, and counties with compliance inspections for property transfer. This appendix is a grand total of county, city, township and other permitting authorities' data.

County	Total SSTS reported in 2017	Construction permits reported in 2017	Total construction permits issued 2002-2017	Number of compliance inspections of existing SSTSs conducted countywide (private inspector and LGU)	Percent of total SSTS inspected	Counties with compliance inspections for property transfer
Aitkin	14360	256	4388	588	4.1%	Yes
Anoka*	28843	479	7237	476	1.7%	No
Becker	12877	322	5311	181	1.4%	No
Beltrami	10233	282	3348	273	2.7%	Yes
Benton	3921	79	1698	185	4.7%	Yes
Big Stone	1716	24	484	40	2.3%	Yes
Blue Earth	5408	137	2285	165	3.1%	Yes
Brown	2330	53	951	34	1.5%	Yes
Carlton	9312	138	2256	171	1.8%	No
Carver*	5469	80	1732	190	3.5%	Yes
Cass*	15322	349	7859	436	2.8%	Yes
Chippewa	2177	0	518	16	0.7%	No
Chisago*	12520	241	3324	354	2.8%	Yes
Clay	3680	98	1449	66	1.8%	Yes
Clearwater	3508	37	641	10	0.3%	No
Cook	5131	135	2289	81	1.6%	No
Cottonwood	1524	62	571	17	1.1%	Yes
Crow Wing*	27154	422	8024	1541	5.7%	Yes
Dakota*	6195	186	2844	127	2.1%	Yes
Dodge	3032	61	1135	59	1.9%	Yes
Douglas*	5579	162	3297	218	3.9%	Yes
Faribault	2085	27	1254	38	1.8%	Yes
Fillmore	5144	103	1459	118	2.3%	Yes
Freeborn	3950	88	1760	88	2.2%	Yes
Goodhue	5289	121	1854	115	2.2%	Yes
Grant	1172	0	497	25	2.1%	Yes

County	Total SSTS reported in 2017	Construction permits reported in 2017	Total construction permits issued 2002-2017	Number of compliance inspections of existing SSTS conducted countywide (private inspector and LGU)	Percent of total SSTS inspected	Counties with compliance inspections for property transfer
Hennepin*	9155	142	2215	294	3.2%	No
Houston	2249	54	946	11	0.5%	No
Hubbard*	17753	267	4412	335	1.9%	No
Isanti*	9054	195	2628	260	2.9%	Yes
Itasca*	810	252	5447	394	48.6%	Yes
Jackson	1881	48	712	19	1.0%	Yes
Kanabec*	7171	80	1261	87	1.2%	Yes
Kandiyohi	6472	159	3000	198	3.1%	Yes
Kittson	980	9	154	2	0.2%	No
Koochiching	1221	11	722	10	0.8%	No
Lac qui Parle	1817	44	468	7	0.4%	Yes
Lake	3683	55	1456	107	2.9%	Yes
Lake of the Woods*	2829	51	2673	10	0.4%	No
Le Sueur	8755	221	2235	571	6.5%	Yes
Lincoln	1870	22	746	85	4.5%	Yes
Lyon	2300	44	839	56	2.4%	Yes
Mahnomen	‡	12	293	35		No
Marshall	2100	14	260	3	0.1%	No
Martin	2483	53	917	32	1.3%	Yes
McLeod	4182	123	1748	63	1.5%	Yes
Meeker	5605	126	2263	163	2.9%	Yes
Mille Lacs*	6459	163	2774	307	4.8%	Yes
Morrison	8841	177	4517	322	3.6%	Yes
Mower	3880	70	1390	58	1.5%	Yes
Murray	1143	15	698	34	3.0%	No
Nicollet	2678	53	1072	58	2.2%	Yes
Nobles	2420	34	577	10	0.4%	Yes
Norman	1730	12	212	25	1.4%	No
Olmsted*	3659	167	1968	211	5.8%	Yes
Otter Tail*	23930	680	7301	968	4.0%	Yes
Pennington	1709	38	319	2	0.1%	No
Pine*	13848	176	2954	293	2.1%	Yes
Pipestone	1471	21	451	2	0.1%	Yes
Polk	6025	82	1386	35	0.6%	No
Pope*	3871	79	1324	62	1.6%	Yes

County	Total SSTS reported in 2017	Construction permits reported in 2017	Total construction permits issued 2002-2017	Number of compliance inspections of existing SSTS conducted countywide (private inspector and LGU)	Percent of total SSTS inspected	Counties with compliance inspections for property transfer
Ramsey*	1666	16	310	97	5.8%	
Red Lake	873	15	164	1	0.1%	Yes
Redwood	1429	47	830	3	0.2%	No
Renville	2485	56	1094	32	1.3%	Yes
Rice*	7644	176	2328	183	2.4%	Yes
Rock	1333	26	412	4	0.3%	No
Roseau	3927	30	206	4	0.1%	No
Scott	8612	147	2380	224	2.6%	No
Sherburne*	17597	356	9494	663	3.8%	Yes
Sibley	2655	65	1017	69	2.6%	Yes
St. Louis	37067	706	10739	719	1.9%	Yes
Stearns	17425	320	7252	634	3.6%	Yes
Steele	2905	35	1129	58	2.0%	No
Stevens	1221	17	382	2	0.2%	No
Swift	21	21	438	10	47.6%	Yes
Todd*	815	121	3069	283	34.7%	Yes
Traverse*	594	13	224	15	2.5%	Yes
Wabasha	4316	65	1102	72	1.7%	No
Wadena	3524	99	1515	122	3.5%	Yes
Waseca	2375	52	933	65	2.7%	Yes
Washington*	18797	280	4115	599	3.2%	Yes
Watonwan	1274	29	490	47	3.7%	Yes
Wilkin*	1064	21	509	9	0.8%	Yes
Winona	4925	100	1529	80	1.6%	Yes
Wright*	19122	376	4753	507	2.7%	Yes
Yellow Medicine	1723	26	549	7	0.4%	No
Total	537354	10906	187766	15250	2.8%	Yes (60)

* Data was compiled from multiple jurisdictions within the county including city, township and other local SSTS programs.

‡ Mahnomen County reported 0 SSTS in their jurisdiction. This appears to be inaccurate given other reported values from the annual report (existing system compliance inspections and construction permits issued). They will be contacted to verify reporting accuracy in the future.

Appendix B

City programs – annual report information (partial or full)

Appendix B1

County Name Number of cities with SSTS programs	City Submitted Annual Report	City No Annual Report Submitted
Anoka County (13)	Andover City	Saint Francis City
	Anoka City	
	Blaine City	
	Circle Pines City	
	Columbus City	
	Coon Rapids City	
	East Bethel City	
	Ham Lake City	
	Lino Lakes City	
	Nowthen City	
	Oak Grove City	
	Ramsey City	
	Carver County (1)	Chanhassen City
Cass County (2)	East Gull Lake City	
	Lake Shore City	
Chisago County (5)	North Branch City	
	Shafer City	
	Stacy City	
	Taylor's Falls City	
	Wyoming City	
Crow Wing County (15)	Baxter City	
	Crosby City	
	Crosslake City	
	Cuyuna City	
	Deerwood City	
	Emily City	
	Fifty Lakes City	
	Garrison City	
	Ironton City	
	Jenkins City	
	Manhattan Beach City	
	Nisswa City	
	Pequot Lakes City	
	Riverton City	

County Name Number of cities with SSTS programs	City Submitted Annual Report	City No Annual Report Submitted
	Trommald City	
Dakota County (16)	Apple Valley City	
	Burnsville City	
	Coates City	
	Eagan City	
	Farmington City	
	Hampton City	
	Hastings City	
	Inver Grove Heights City	
	Lakeville City	
	Mendota Heights City	
	Miesville City	
	Rosemount City	
	South Saint Paul City	
	Sunfish Lake City	
	Vermillion City	
	West Saint Paul City	
Douglas County (1)	Alexandria City	
Hennepin County (6)	Dayton City	Eden Prairie City
	Independence City	
	Medina City	
	Orono City	
	Woodland City	
Hubbard County (1)	Park Rapids City	
Itasca County (1)	Cohasset City	
Kanabec County (1)	Mora City	
Lake of the Woods County (1)	Baudette City	
Mille Lacs County (1)	Princeton City	
Otter Tail County (1)	Ottertail City	
Pine County (2)	Pine City City	
	Rock Creek City	
Pope County (1)	Glenwood City	
Ramsey County (7)	Gem Lake City	
	Little Canada City	
	Maplewood City	
	North Oaks City	
	Saint Paul City	
	Shoreview City	
	White Bear Lake City	
Rice County (2)	Fari bault City	

County Name Number of cities with SSTS programs	City Submitted Annual Report	City No Annual Report Submitted
	Northfield City	
Sherburne County (3)	Becker City	
	Elk River City	
	Zimmerman City	
Washington County (1)	Dellwood City	
Wilkin County (1)	Doran City	
Wright County (3)	Hanover City	
	Otsego City	
	Saint Michael City	

Appendix B2

Township programs – annual report information

County Name Number of townships with SSTS programs	Township Submitted annual report	Township No annual report submitted
Anoka County (1)	Linwood Township	
Chisago County (1)	Lent Township	
Crow Wing County (2)	Crow Wing Township	
	Irondale Township	
Dakota County (11)	Castle Rock Township	
	Douglas Township	
	Empire Township	
	Eureka Township	
	Greenvale Township	
	Hampton Township	
	Marshan Township	
	Nininger Township	
	Ravenna Township	
	Sciota Township	
Vermillion Township		
Douglas County (1)	Alexandria Township	
Isanti County (1)		Athens Township
Kanabec County (1)		Arthur Township
Kandiyohi County (1)	Saint Johns Township	
Mille Lacs County (2)	Greenbush Township	
	Princeton Township	
Pine County (14)	Arlone Township	Pine City Township
	Arna Township	Pokegema Township
	Bremen Township	

County Name Number of townships with SSTS programs	Township Submitted annual report	Township No annual report submitted
	Clover Township	
	Danforth Township	
	Dell Grove Township	
	Fleming Township	
	Munch Township	
	New Dosey Township	
	Partridge Township	
	Royalton Township	
	Wilma Township	
Ramsey County (1)	White Bear Township	
Rice County (1)	Bridgewater Township	
Sherburne County (1)	Becker Township	
Todd County (3)	Bertha Township	
	Bruce Township	
	Stowe Prairie Township	
Wright County (2)	Middleville Township	
	Stockholm Township	

Appendix B3

Other special purpose programs – annual report information

County name Number of other Governmental Units	Jurisdiction Submitted annual report	Jurisdiction No annual report submitted
Beltrami County (1)	Bemidji Joint Powers Board	
Olmsted County (1)	TCPA	
Otter Tail (1)	Otter Tail Water Management District	
Other (1)		University of Minnesota

Appendix C

List of 2017 SSTS Annual Report questions

General program information – Yes or No answer

- a. Alternative Local Standards (ALS) for existing systems?
 - i. ALS are standards that are less restrictive than Minn. R. chs. 7080-7083, do not confuse them with the old system category of ‘Alternative Systems’ (floodplains, holding tanks, privies).
- b. ALS new or replacement SSTS using a minimum of two foot of separation in allowable areas of the LGU?
- c. ALS new or replacement SSTS using 2006 Rules?

- d. Do you track SSTS maintenance/pumping?
- e. Do you have jurisdiction-wide compliance inspections for property transfer?
- f. Do you approve SSTS design before issuing permit?
- g. When in your permitting process do you verify soils?

2. Residential SSTS by system type – Write number of permits issued for each category

- a. # permits issued for Type I/Rock Trenches
- b. # permits issued for Type I/EZ flow
- c. # permits issued for Type I/Chamber Trenches
- d. # permits issued for Type I/Seepage or Pressure Beds
- e. # permits issued for Type I/Mounds
- f. # permits issued for Type I/At-Grades
- g. # permits issued for Type II/Privies, Holding Tanks, and Floodplain Areas
 - i. # Holding tank operating permits issued
 - a) The number of holding tank operating permits should be the same as the number of holding tanks entered in Type II/Privies, Holding Tanks, and Floodplain Areas above if the LGU issues operating permits for holding tanks
- h. # permits issued for Type III
- i. # permits issued for Type IV/Registered Product Systems
 - i. # Type IV Operating Permits issued
- j. # permits issued for Type V
 - i. # Type V Operating Permits issued

Note – If you have ‘tank only’ installations (ex: drainfield is compliant but tank needed replacement) please enter this in the ‘Repair’ column and note as such on the spreadsheet.

3. Residential SSTS by flow volume – Write number of permits issued for each category

- a. New systems 1-2499 gpd
- b. New systems 2500-4999 gpd
- c. New systems 5000-10000 gpd
- d. Replacement systems 1-2499 gpd
- e. Replacement systems 2500-4999 gpd
- f. Replacement systems 5000-10000 gpd

4. Other establishment SSTS by system type – Write number of permits issued for each category

- a. # permits issued for Type I/Rock Trenches
- b. # permits issued for Type I/EZ flow
- c. # permits issued for Type I/Chamber Trenches
- d. # permits issued for Type I/Seepage or Pressure Beds
- e. # permits issued for Type I/Mounds
- f. # permits issued for Type I/At-grades
- g. # permits issued for Type II/Privies, Holding Tanks, and Floodplain Areas
 - i. # Holding tank operating permits issued

- a) The number of holding tank operating permits should be the same as the number of holding tanks entered in Type II/Privies, Holding Tanks, and Floodplain Areas above if the LGU issues operating permits for holding tanks
- h. # permits issued for Type III
- i. # permits issued for Type IV/Registered Product Systems
 - i. # Type IV Operating Permits issued
- j. # permits issued for Type V
 - i. # Type V Operating Permits issued

Note – If you have ‘tank only’ installations (ex: drainfield is compliant but tank needed replacement) please enter this in the ‘Repair’ column and note as such on the spreadsheet.

5. Other establishment SSTS by flow volume – Write number of permits issued for each category

- a. New systems 1-2499 gpd
- b. New systems 2500-4999 gpd
- c. New systems 5000-10000 gpd
- d. Replacement systems 1-2499 gpd
- e. Replacement systems 2500-4999 gpd
- f. Replacement systems 5000-10000 gpd

6. Permits issued for SSTS repairs – Write number of permits issued for each category

Complete this part only if you issue repair permits or if you have ‘tank only’ installations

- a. Residential SSTS repairs
- b. Other establishment SSTS repairs

7. Jurisdiction-wide SSTS questions – Write number for each category

- a. # Fulltime dwellings with SSTS
- b. # Seasonal dwellings with SSTS
- c. # Cluster SSTS
 - i. # Dwellings served by Cluster SSTS
- d. # other establishments with SSTS

8. SSTS compliance – Write whole numbers only, do not use a decimal or use the percent sign. For example, if your answer is <1%, enter 1

- a. Percentage of failing systems within jurisdiction
- b. Percentage of imminent systems within jurisdiction
- c. Percentage of compliant SSTS within jurisdiction
- d. Total percentage SSTS – You do not enter anything here, the spreadsheet will calculate this answer
 - i. This should total 100, if it does not check your answers to a, c, and/or e and adjust accordingly

9. The number of compliance inspections of existing SSTSs conducted in their jurisdiction

10. The number of noncompliant properties connected to centralized sewer

11. The number of noncompliant properties mitigated by abandonment or removal of a dwelling

12. The number of noncompliant properties mitigated through government buyout

13. Inspector information

- a. Name of department head

- b. Name of Trained Administrator
- c. Name and email address of SSTS contact
- d. Inspector(s) name(s) and;
 - i. License numbers if inspections are contracted out to a licensed SSTS inspection business
 - ii. Certification numbers if inspections are done in-house by LGU staff certified as SSTS inspectors

14. Tank Installation Report

- a. Installer name
- b. Installer license number
- c. Number of septic tanks installed
 - i. This includes pump/lift tanks and holding tanks
- d. Number of Performance/Type V systems installed
 - i. Minn. Stat. § 115.551 limits the number of septic tanks for Performance/Type V systems to one per household
- e. Number of tanks installed by homeowners (if allowed in your jurisdiction)
 - i. Name of homeowner
 - ii. Address