2011 Annual Tracking Report for New Wastewater Facilities

Minnesota Pollution Control Agency

January 2012

Legislative Charge

Minn. Statutes § 115.447 Tracking Report For New Wastewater Facilities

Subd. 1. Annual report required. The Pollution Control Agency shall annually prepare a report tracking the location and capacity of each new wastewater treatment system requiring a national pollutant discharge elimination system or state disposal system permit built after May 1, 2000. The report shall also include the name of the owner, primary engineering firm that designed the facilities, the primary contractor that constructed the facilities, and any management company, other than the owner, that manages the facilities.

The annual report must also provide the total number of new systems built after that date. The commissioner shall submit the report to the legislative committees with jurisdiction over environmental policy and finance, and publish the report on the agency's Web site, by February 1 of each year.

Subd. 2. New facilities not meeting permit requirement: (a) The report required under subdivision 1 shall include the information required in paragraphs (b) and (c) for the first five years of operation of a new facility.

(b) For national pollutant discharge elimination system permitted facilities, provide a list of reported effluent violations that occurred during each calendar year. This list should include the effluent parameter violated; the violation date; and, if available, any known information regarding the causes of the reported limit violations.

(c) For state disposal system permitted facilities, provide a summary of conditions at the facilities which pose an imminent threat to public health and safety as defined in rules of the Pollution Control Agency, or a list of reported limit violations that occurred during each calendar year. This list should include the parameter violated; violation date; and, if available, any known information regarding the causes of the reported public health risk or limit violations.

HIST: 2000 c 492 art 1 s 43; 2006 c 244 s 1

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Minnesota Pollution Control Agency

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Executive Summary

Minn. Stat. § 115.447 (Statute) was passed in 2000, creating the requirement for the Minnesota Pollution Control Agency (MPCA) to submit an annual report identifying the total number of new wastewater treatment systems constructed after May 1, 2000. In 2006, the Minnesota Legislature required a number of new facility reporting details as well as a list of any effluent violations for the new facilities for an initial operating period of five (5) years.

This report lists the number of new systems put into service per year from 2000 to 2011 in a series of Tables (see Tables 1, 2, 4, 6, 8 and also Appendices I and II), and varies from a low number of two (2) per year up to a high number of 20 per year. Additional information items about each facility are also identified in each of these tables. Overall, a total of 104 new Minnesota permitted wastewater treatment systems have been constructed and put into operation since May 1, 2000.

This report also lists the parameter, the date, and any known information about violations for the new systems in a series of Tables (see Tables 3, 5, 7, 9, and A through H in Appendix III). The annual number of violations per set of new systems, has varied from a low number of zero (0) violations to a high number of 42 violations. Review of the violations data for these new facilities during these time periods indicates no clear trends in information. There appears to be no single type or cause of permit violations relating to specific facilities.

During 2011, only two (2) new systems were constructed and began operation. Neither of these new systems reported effluent violations or imminent threats to public health during the period they have been in operation.

General trends for 2011 are that the number of new systems, the average design flow per new system, and the average population equivalent served per system were lower than the past values reported.

Introduction

Minn. Stat. § 115.447 was passed in 2000, creating the requirement for the Minnesota Pollution Control Agency to submit an annual report identifying the total number of new wastewater treatment systems constructed after May 1, 2000. From 2001 through 2005, the MPCA prepared this annual report as required by the original statute language (see Appendix II for the 2005 Annual Report in this format).

In 2006, the Minnesota Legislature added a number of new report information elements to this statute. This was in response to reported problems with small communities properly treating wastewater and meeting their permit requirements. Subdivision 1 of the Statute was changed to require the MPCA to identify the design engineering firm, the primary construction contractor, and any management company (or contract operations firm) for each new facility. Subdivision 2 was added, and requires the MPCA to report the first five (5) years of monitoring information related to whether or not each new facility is meeting their permit requirements. The 2006 Statute additions have resulted in format modifications for the annual report, and in fact will likely cause the report appearance to slowly evolve over time as each subsequent year of compliance data is included. For example, the 2011 compliance data will not be reported for the 2006 new facilities.

This report will begin with a section on the new facilities for 2011.

2011 New Wastewater Systems Report

There have been a total of 104 new Minnesota permitted wastewater treatment systems constructed and put into operation since May 1, 2000. These new systems are serving communities, housing developments and locations that previously had no central wastewater collection and treatment system requiring either a National Pollutant Discharge Elimination System (NPDES) or State Disposal System (SDS) Permit.

Table 1 below shows that one (1) new SDS permitted wastewater system and one (1) new NPDES permitted wastewater system began operation in 2011. One of these two (2) systems contracts with an outside management company for operational services. Neither of these two (2) new systems reported effluent violations while in operation during 2011, and the one (1) new SDS permitted wastewater system did not report any imminent threats to public health during 2011.

Table 1: 2011 New Wastewater Systems

Permittee	County	Capacity (gallons per day)	Population Equivalent (a)	Permit Type	Owner	Primary Engineering Firm	Primary Contractor	Management Company	2011 NPDES or SDS Limit Violations
ISD 2142 - South Ridge School	St. Louis	8,475	113	SDS	ISD 2142	Short Elliot Hendrickson, Inc.	Utility Systems of America	NE Technical Services	No
MnDOT Heath Creek Rest Area	Rice	6,060	81	NPDES	MnDOT	MnDOT	Barnett Brothers	None	No
Total = 2		14,535	194						

(a) Population Equivalent – The population equivalent is calculated by dividing the design capacity by average per capita usage estimated at 75 gallons per day. The number does not necessarily match the U.S. census population of the community

2011 Update for the 2010 New Wastewater Systems

Table 2 shows one (1) new SDS permitted wastewater system and two (2) new NPDES permitted wastewater systems began operation in 2010. One of these three (3) systems contracts with an outside management company. Also, none of these new systems reported effluent violations while in operation during 2010, and the one (1) new SDS permitted wastewater system did not report any imminent threats to public health during 2010.

The 2011 update for Table 2 shows that one (1) SDS permitted wastewater system reported no effluent violations, and also did not report any imminent threats to public health during 2010. One (1) of the NPDES permitted wastewater systems reported no effluent violations during 2011, and one (1) of the NPDES permitted wastewater systems reported a total of two (2) effluent violations during 2011.

Table 3 shows the summary of the effluent violations for 2011. This table identifies the community, permit type, effluent parameter, violation date, and the known information regarding the causes of the reported violations. The statute language requires a violation date to be reported. In most cases permit effluent limitations are average or mean calculated values and the violation will not identify a specific individual date of when it occurred. The MPCA has identified the month and year of the violation in this table.

Table 2: 2010 New Wastewater Systems

Permittee	County	Capacity (gallons per day)	Population Equivalent (a)	Permit Type	Owner	Primary Engineering Firm	Primary Contractor	Management Company	2010 NPDES or SDS Limit Violations	2011 NPDES or SDS Limit Violations
Blomkest, City of and Svea, City of	Kandiyohi	40,000	533	NPDES	Blomkest/Svea Sewer Board	Liesch	R&R Excavating	None	No	No
Odin, City of and Ormsby, City of	Watonwan	31,450	419	NPDES	Odin/Ormsby	Bonestroo/I&S/Bolton and Menk (all equal)	Mathiowitz Construction	None	No	Yes
Tii Gavo	Washington	13,000	173	SDS	Superior Land Development LLC	Ayres Associates	Ellingson Companies	Pederson Management	No	No
Total = 3		84,450	1,126							

(a) Population Equivalent – The population equivalent is calculated by dividing the design capacity by average per capita usage estimated at 75 gallons per day. The number does not necessarily match the U.S. census population of the community.

Table 3: 2010 New Wastewater Systems – 2011 Violations List

Community	Permit Type	Parameter	Violation Date	Known Information Regarding Causes of Reported Limit Violations
Odin, City of and Ormsby, City of	NPDES	Fecal Coliform	Apr-11	Calendar Monthly Geometric Mean, #/100 mL. No UV, weather and lack of sunny days. Resolution pending.
Odin, City of and Ormsby, City of	NPDES	Fecal Coliform	May-11	Calendar Monthly Geometric Mean, #/100 mL. No UV, weather and lack of sunny days. Returned to compliance.
Total = 2				

2011 Update for the 2009 New Wastewater Systems

Table 4 shows one (1) new SDS permitted wastewater system and two (2) new NPDES permitted wastewater systems began operation in 2009. None of these three (3) systems contract with an outside management company. Also, none of these new systems reported effluent violations while in operation during 2009, and the one (1) new SDS permitted wastewater system did not report any imminent threats to public health during 2009.

Table 4 also shows that one (1) SDS permitted wastewater system reported no effluent violations, and this system did not report any imminent threats to public health during 2010. One (1) of the NPDES permitted wastewater systems reported no effluent violations during 2010, and one (1) of the NPDES permitted wastewater systems reported a total of four (4) effluent violations during 2010.

Table 4 has been updated to show that during 2011 that one (1) SDS permitted wastewater system reported no effluent violations, and also did not report any imminent threats to public health during 2011. One (1) of the NPDES permitted wastewater systems reported no effluent violations during 2011, and one (1) of the NPDES permitted wastewater systems reported a total of six (6) effluent violations during 2011.

Table 5 shows the summary of the effluent violations for 2011. Table A in Appendix III shows the 2010 violations list for the 2009 new systems. Each of these tables identify the community, permit type, effluent parameter, violation date, and the known information regarding the causes of the reported violations. The statute language requires a violation date to be reported. In most cases permit effluent limitations are average or mean calculated values and the violation will not identify a specific individual date of when it occurred. The MPCA has identified the month and year of the violation in each of these tables.

Table 4: 2009 New Wastewater Systems (with 2009, 2010 & 2011 violations)

Permittee	County	Capacity (gallons per day)	Population Equivalent (a)	Permit Type	Owner	Primary Engineering Firm	Primary Contractor	Management Company	2009 NPDES or SDS Limit Violations	2010 NPDES or SDS Limit Violations	2011 NPDES or SDS Limit Violations
Sturgeon Lake, City of	Pine	83,000	1,107	SDS	City of Sturgeon Lake	LHB, Inc.	Utility Systems of America	None	No	No	No
Urbank, City of	Ottertail	11,000	147	NPDES	City of Urbank	Widseth Smith Nolting & Associates, Inc.	Kober Excavating	None	No	No	No
Wolf Lake, City of	Becker	8,400	112	NPDES	City of Wolf Lake	Moore Engineering	Burski Excavating Inc.	None	No	Yes	Yes
Total = 3		102,400	1,365								

(a) Population Equivalent – The population equivalent is calculated by dividing the design capacity by average per capita usage estimated at 75 gallons per day. The number does not necessarily match the U.S. Census population of the community.

Table 5: 2009 New Wastewater Systems – 2011 Violations List

Community	Permit Type	Parameter	Violation Date	Known Information Regarding Causes of Reported Limit Violations
Wolf Lake, City of	NPDES	TSS	May-11	Calendar Monthly Average, mg/L. Cause unknown. Returned to compliance.
Wolf Lake, City of	NPDES	TSS Mass	May-11	Calendar Monthly Average, kg/day. Cause unknown. Returned to compliance.
Wolf Lake, City of	NPDES	TSS	Jul-11	Calendar Monthly Average, mg/L. Cause unknown. Returned to compliance.
Wolf Lake, City of	NPDES	TSS	Jul-11	Maximum Calendar Week Average, mg/L. Cause unknown. Returned to compliance.
Wolf Lake, City of	NPDES	TSS Mass	Sep-11	Calendar Monthly Average, kg/day. Cause unknown. Returned to compliance.
Wolf Lake, City of	NPDES	CBOD5 Mass	Nov-11	Calendar Monthly Average, mg/L. Cause unknown. Resolution pending.
Total = 6				

2011 Update for the 2008 New Wastewater Systems

Table 6 identifies the seven (7) new systems that were constructed and began operation during 2008. In 2008, one (1) of these systems reported effluent violations. This facility reported a total of eight (8) effluent limitation violations in 2008. The other six (6) NPDES permitted wastewater systems did not report any violations. There were zero (0) SDS permitted wastewater systems that began operation in 2008.

Table 6 shows during 2009 that three (3) of the NPDES permitted wastewater systems reported no effluent violations and four (4) of the NPDES permitted wastewater systems reported a total of 39 effluent violations.

Table 6 also shows the facilities reporting violations in 2010. The 2010 column shows that three (3) of the NPDES permitted wastewater systems reported no effluent violations and four (4) of the NPDES permitted wastewater systems reported a total of 23 effluent violations.

Table 6 has been updated to list the facilities reporting violations in 2011. The 2010 column shows that four (4) of the NPDES permitted wastewater systems reported no effluent violations and three (3) of the NPDES permitted wastewater systems reported a total of 42 effluent violations.

Table 7 shows the 2011 violations list for the 2008 new systems. Table B in Appendix III shows the 2010 violations list, Table C in Appendix III shows the 2009 violations list, and Table D in Appendix III shows the 2008 violations list for the 2008 new systems. Each of these tables identify the community, permit type, effluent parameter, violation date, and the known information regarding the causes of the reported violations. The statute language requires a violation date to be reported. In most cases permit effluent limitations are average or mean calculated values and the violation will not identify a specific individual date of when it occurred. The MPCA has identified the month and year of the violation in each of these tables.

Table 6: 2008 New Wastewater Systems (with 2008, 2009, 2010 & 2011 violations)

Community	County	Capacity (gallons per day)	Population Equivalent (a)	Permit Type	Owner	Primary Engineering Firm	Primary Contractor	Management Company	2008 NPDES or SDS Limit Violations	2009 NPDES or SDS Limit Violations	2010 NPDES or SDS Limit Violations	2011 NPDES or SDS Limit Violations
Bigelow, City of	Nobles	26,400	352	NPDES	City of Bigelow	Short Elliott Hendrickson, Inc.	Svoboda Excavating	None	No	No	Yes	No
Effie, City of	Itasca	21,000	280	NPDES	City of Effie	Liesch Assoicates	Wagner Construction	None	No	Yes	Yes	Yes
Hope- Somerset Township	Steele	10,170	136	NPDES	Hope- Somerset Township	Jacques Whitford NAWE	Heselton Construction	Bruce Frandel, Certified Operator	No	Yes	Yes	Yes
La Salle, City of	Watonwan	15,000	200	NPDES	City of LaSalle	Ayres Associates	Holtmeir Construction	Steve Carson, Certified Operator	No	Yes	No	No
Meriden Township	Steele	16,100	215	NPDES	Meriden Township	Jacques Whitford NAWE	Niles Weise	None	No	No	No	No
Springsteel Island Sanitary District	Roseau	25,000	333	NPDES	Lake Township	KBM, Inc	Wagner Construction	None	Yes	Yes	Yes	Yes
Walters, City of	Faribault	15,620	208	NPDES	City of Walters	Bonestroo	Hodgeman Drainage	None	No	No	No	No
Total = 7		129,290	1,724									

(a) Population Equivalent – The population equivalent is calculated by dividing the design capacity by average per capita usage estimated at 75 gallons per day. The number does not necessarily match the U.S. census population of the community.

Table 7: 2008 New Wastewater Systems – 2011 Violations List

Community	Permit Type	Parameter	Violation Date	Known Information Regarding Causes of Reported Limit Violations
Effie, City of	NPDES	CBOD5	Feb-11	Calendar Month Average, mg/L. Cause unknown. Resolution pending.
Effie, City of	NPDES	CBOD5 Percent Removal	Feb-11	Calendar Month Average, %. Cause unknown. Resolution pending.
Effie, City of	NPDES	CBOD5	Mar-11	Calendar Month Average, mg/L. Cause unknown. Resolution pending.
Effie, City of	NPDES	CBOD5 Percent Removal	Apr-11	Calendar Month Average, %. Cause unknown. Resolution pending.
Effie, City of	NPDES	TSS Percent Removal	Apr-11	Calendar Month Average, %. Cause unknown. Resolution pending.
Effie, City of	NPDES	Fecal Coliform	Apr-11	Calendar Monthly Geometric Mean, #/100 mL. Cause unknown. Resolution pending.
Effie, City of	NPDES	TSS Percent Removal	May-11	Calendar Month Average, %. Cause unknown. Resolution pending.
Effie, City of	NPDES	CBOD5	Jun-11	Calendar Month Average, mg/L. Cause unknown. Resolution pending.
Effie, City of	NPDES	CBOD5 Percent Removal	Jun-11	Calendar Month Average, %. Cause unknown. Resolution pending.
Effie, City of	NPDES	TSS Percent Removal	Jun-11	Calendar Month Average, %. Cause unknown. Resolution pending.
Effie, City of	NPDES	CBOD5	Aug-11	Calendar Month Average, mg/L. Cause unknown. Resolution pending.
Effie, City of	NPDES	CBOD5	Aug-11	Maximum Calendar Weekly Average, mg/L. Cause Unknown. Resolution pending.
Effie, City of	NPDES	CBOD5 Mass	Aug-11	Calendar Month Average, kg/day. Cause unknown. Resolution pending.
Effie, City of	NPDES	CBOD5 Percent Removal	Aug-11	Calendar Month Average, %. Cause unknown. Resolution pending.

Table 7 (continued): 2008 New Wastewater Systems – 2011 Violations List

Community	Permit Type	Parameter	Violation Date	Known Information Regarding Causes of Reported Limit Violations
Effie, City of	NPDES	TSS	Aug-11	Calendar Month Average, mg/L. Cause unknown. Resolution pending.
Effie, City of	NPDES	TSS	Aug-11	Maximum Calendar Weekly Average, mg/L. Cause unknown. Resolution pending.
Effie, City of	NPDES	TSS Percent Removal	Aug-11	Calendar Month Average, %. Cause unknown. Resolution pending.
Effie, City of	NPDES	CBOD5	Sep-11	Calendar Month Average, mg/L. Cause unknown. Resolution pending.
Effie, City of	NPDES	CBOD5	Sep-11	Maximum Calendar Weekly Average, mg/L. Cause unknown. Resolution pending.
Effie, City of	NPDES	CBOD5 Percent Removal	Sep-11	Calendar Month Average, %. Cause unknown. Resolution pending.
Effie, City of	NPDES	TSS Percent Removal	Sep-11	Calendar Month Average, %. Cause unknown. Resolution pending.
Effie, City of	NPDES	CBOD5	Nov-11	Calendar Month Average, mg/L. Cause unknown. Resolution pending.
Effie, City of	NPDES	CBOD5	Nov-11	Maximum Calendar Weekly Average, mg/L. Cause unknown. Resolution pending.
Effie, City of	NPDES	CBOD5 Percent Removal	Nov-11	Calendar Month Average, %. Cause unknown. Resolution pending.
Effie, City of	NPDES	TSS	Nov-11	Calendar Month Average, mg/L. Cause unknown. Resolution pending.
Effie, City of	NPDES	TSS	Nov-11	Maximum Calendar Weekly Average, mg/L. Cause unknown. Resolution pending.
Effie, City of	NPDES	TSS Percent Removal	Nov-11	Calendar Month Average, %. Cause unknown. Resolution pending.

Table 7 (continued): 2008 New Wastewater Systems – 2011 Violations List

Community	Permit Type	Parameter	Violation Date	Known Information Regarding Causes of Reported Limit Violations
Hope- Somerset Township	NPDES	TSS Percent Removal	Jul-11	Calendar Month Average, %. Cause unknown. Returned to compliance.
Hope- Somerset Township	NPDES	CBOD5	Aug-11	Calendar Month Average, mg/L. Dirty sampler line. Returned to compliance.
Hope- Somerset Township	NPDES	CBOD5	Aug-11	Maximum Calendar Weekly Average, mg/L. Dirty sampler line. Returned to compliance.
Hope- Somerset Township	NPDES	CBOD5 Percent Removal	Aug-11	Calendar Month Average, %. Dirty sampler line. Returned to compliance.
Hope- Somerset Township	NPDES	CBOD5 Percent Removal	Nov-11	Calendar Month Average, %. Cause unknown. Resolution pending.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Jan-11	Calendar Monthly Average, mg/L. Cause unknown. Resolution pending.
Springsteel Island Sanitary District	NPDES	TSS	Feb-11	Maximum Calendar Weekly Average, mg/L. Cause unknown. Resolution pending.
Springsteel Island Sanitary District	NPDES	TSS Percent Removal	Feb-11	Calendar Month Average, %. Cause unknown. Resolution pending.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Feb-11	Calendar Monthly Average, mg/L. Cause unknown. Resolution pending.
Springsteel Island Sanitary District	NPDES	TSS	Mar-11	Maximum Calendar Weekly Average, mg/L. Cause unknown. Resolution pending.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Apr-11	Calendar Monthly Average, mg/L. Cause unknown. Resolution pending.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	May-11	Calendar Monthly Average, mg/L. Cause unknown. Resolution pending.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Aug-11	Calendar Monthly Average, mg/L. Cause unknown. Resolution pending.
Springsteel Island Sanitary District	NPDES	TSS	Aug-11	Maximum Calendar Weekly Average, mg/L. Cause unknown. Resolution pending.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Oct-11	Calendar Monthly Average, mg/L. Cause unknown. Resolution pending.
Total = 42				

2011 Update to the 2007 New Wastewater Systems Report

Table 8 lists the 11 new systems that were constructed and began operation during 2007. This table includes four (4) new NPDES permitted wastewater systems, and none of these systems reported effluent violations during the period that they were in operation during 2007. In addition, seven (7) new SDS permitted wastewater systems began operation in 2007 and one (1) of these systems reported one (1) violation during 2007. The other six (6) new SDS permitted wastewater systems did not report any violations during 2007. None of the seven (7) new SDS permitted wastewater systems reported any imminent threats to public health during 2007.

Table 8 shows during 2008 one (1) of the NPDES permitted wastewater systems reported no effluent violations during 2008 and three (3) of the NPDES permitted wastewater systems reported a total of five (5) effluent violations. In addition, Table 8 indicates that five (5) of the SDS permitted wastewater systems reported no limit violations and none of the seven (7) SDS permitted wastewater systems reported any imminent threats to public health during 2008. Two (2) of the SDS permitted wastewater systems did report a total of three (3) limit violations during 2008.

During 2009, Table 8 shows two (2) of the NPDES permitted wastewater systems reported no effluent violations, and two (2) of the NPDES permitted wastewater systems reported a total of 11 effluent violations. In addition, five (5) of the SDS permitted wastewater systems reported no limit violations and none of the seven (7) SDS permitted wastewater systems reported any imminent threats to public health during 2009. Two (2) of the SDS permitted wastewater systems did report a total of four (4) limit violations during 2009.

Table 8 shows in 2010 that two (2) of the NPDES permitted wastewater systems reported no effluent violations, and two (2) of the NPDES permitted wastewater systems reported a total of 11 effluent violations. In addition, five (5) of the SDS permitted wastewater systems reported no limit violations and none of the seven (7) SDS permitted wastewater systems reported any imminent threats to public health during 2010. Two (2) of the SDS permitted wastewater systems did report a total of 12 limit violations during 2010.

Table 8 has been updated to show the reported violations for 2011. Three (3) of the NPDES permitted wastewater systems reported no violations, and one (1) of the NPDES permitted wastewater systems reported a total of four (4) effluent violations. In addition, six (6) of the SDS permitted wastewater systems reported no effluent limit violations and none of the seven (7) SDS permitted wastewater systems reported any imminent threats to public health during 2011. One (1) of the SDS permitted wastewater systems reported a total of two (2) limit violations during 2011.

Table 9 shows the 2011 violations list. Table E (in Appendix III) shows the 2010 violations list, Table F (in Appendix III) shows the 2009 violations list, Table G in Appendix III shows the 2008 violations list and Table H (in Appendix III) shows the 2007 violations list. Each of these tables identify the community, permit type, effluent parameter, violation date, and the known information regarding the causes of the reported violations. The statute language requires a violation date to be reported, in most cases permit effluent limitations are average or mean values and the violation will not identify a specific individual date of when it occurred. The MPCA has identified the month and year of the violation in each of these tables.

We have reviewed the five (5) years of operation data for the 2007 new systems, and identified the violations reported per year did slowly increase from 1 in 2007 to 23 in 2010, however the number of violations fell to six (6) for 2011. This will be analyzed in the reported effluent violations trends section of the report (see page 18). As a final note for the 2007 new systems, this 2011 update includes limit violations data for five (5) years (2007, 2008, 2009, 2010 and 2011), and completes the required reporting for this data by Minn. Statute § 115.447 subd. 2. The limit violations report for the 2007 new systems will not be included in future Annual Reports.

Table 8: 2007 New Wastewater Systems (with 2007, 2008, 2009, 2010 & 2011 Violations)

Community	County	Capacity (gallons per day)	Population Equivalent (a)	Permit Type	Owner	Primary Engineering Firm	Primary Contractor	Management Company	2007 NPDES or SDS Limit Violations	2008 NPDES or SDS Limit Violations	2009 NPDES or SDS Limit Violations	2010 NPDES or SDS Limit Violations	2011 NPDES or SDS Limit Violations
Audubon Development	Washington	13,000	173	SDS	MBM Development	Ayers Associates	Kober Excavating	Peterson Management	No	No	No	No	No
Conger, City of	Freeborn	20,730	276	NPDES	City of Conger	Ayres Associates	Contractors Edge Inc.	None	No	Yes	No	Yes	No
Diamond Lake Woods	Hennepin	13,500	180	SDS	Patrick DeWing	Jacques Whitford NAWE	Kober Excavating	Ecocheck	No	No	No	No	No
Evan, City of	Brown	12,800	171	NPDES	City of Evan	DeWild Grant Reckert and Associates	TNT Construction	None	No	Yes	Yes	No	No
Lake Shetek Sanitary District	Murray	232,000	3,093	NPDES	Lake Shetek Sanitary District	Bolton and Menk, Inc.	Dunnick Brothers	City of Currie	No	No	No	No	No
Rockpoint Church	Washington	14,000	187	SDS	Charles Palmer	Jacques Whitford NAWE	Kober Excavating	Ecocheck	No	Yes	No	No	No
Sanctuary	Washington	21,000	280	SDS	John Arkel	Jacques Whitford NAWE	Kober Excavating	Ecocheck	No	No	No	No	No
Tom's Harbor	Cass	11,832	158	SDS	Ralph Schmitz	Landecker	Kober Excavating	Harbor Shores LLC	No	No	Yes	Yes	Yes
Viking, City of	Marshall	10,500	140	NPDES	City of Viking	Liesch Associates	SJ Louis Construction	None	No	Yes	Yes	Yes	Yes
Villard, City of	Pope	34,300	457	SDS	City of Villard	Widseth Smith Nolting & Associates, Inc.	Riley Brothers Construction, Inc.	None	No	No	Yes	Yes	No
Whistling Valley Development, Phase 2	Washington	9,000	120	SDS	Anderson Sorenson Homes, Inc.	Jacques Whitford NAWE	Glenn Rehbein Excavating	Ecocheck	Yes	Yes	No	No	No
Total = 11		392,662	5,235										

(a) Population Equivalent – The population equivalent is calculated by dividing the design capacity by average per capita usage estimated at 75 gallons per day. The number does not necessarily match the U.S. Census population of the community.

Table 9: 2007 New Wastewater Systems – 2011 Violation List

Community	Permit Type	Parameter	Violation Date	Known Information Regarding Causes of Reported Limit Violations
Tom's Harbor	SDS	Total Nitrogen	Sep-11	12 Month Moving Average, mg/L. Likely due to low flow to system and difficulty maintaining denitrifying bacteria. Resolution pending.
Tom's Harbor	SDS	Total Nitrogen	Oct-11	12 Month Moving Average, mg/L. Likely due to low flow to system and difficulty maintaining denitrifying bacteria. Resolution pending.
Viking, City of	NPDES	CBOD5 Percent Removal	Apr-11	Calendar Monthly Average, %. Cause unknown. Returned to compliance.
Viking, City of	NPDES	TSS Percent Removal	Apr-11	Calendar Monthly Average, %. Cause unknown. Resolution pending.
Viking, City of	NPDES	CBOD5 Percent Removal	Jun-11	Calendar Monthly Average, %. Cause unknown. Resolution pending.
Viking, City of	NPDES	Fecal Coliform	Sep-11	Calendar Monthly Geometric Mean, #/100 ml. Cause unknown. Resolution pending.
Total = 6				

2011 Update to the 2006 New Wastewater Systems Report

Appendix I (at the end of the Annual Report) shows a table listing the 20 new systems that were constructed and began operation during 2006. This table includes information on four (4) new NPDES permitted wastewater systems, and 16 new SDS permitted wastewater systems began operation in 2006.

New Wastewater Facilities Analysis and Trends

2011 Analysis and Trends

The MPCA has been reporting to the Minnesota Legislature on new wastewater treatment systems since 2001 and has collected enough data to provide some analysis on the trends that have been observed. Beginning in the 2006 New Wastewater Facilities Report, we first reported on three* general observations (*this started as four trends – but the percentage of new land treatment systems was dropped from the 2010 report as no pattern or trend was being observed for that data any longer).

1. The number of new wastewater systems per year
2. The average wastewater treatment system design capacity per year, and
3. The average population served per new wastewater treatment system

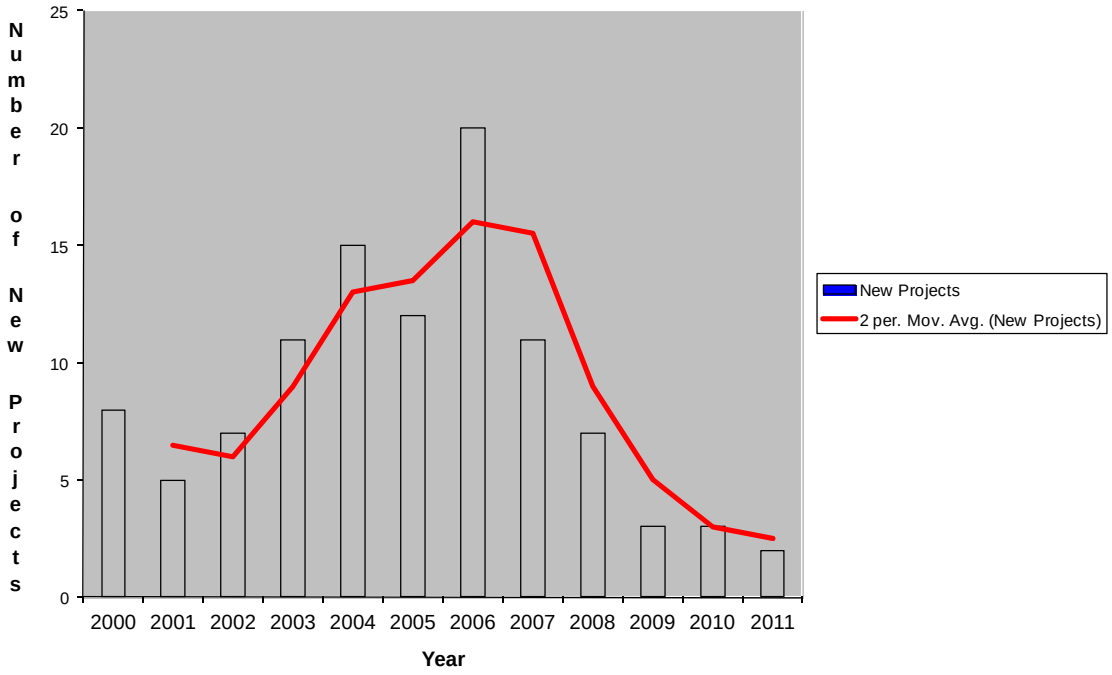
The trends analysis from 2006 through 2010, showed some shifts occurring in these three data categories. This report will look at these three sets of data, and will explain our analysis from the 2011 viewpoint.

The 2008, 2009 and 2010, reports also discussed a possible new emerging trend related to an increase in the number of effluent violations reported per year for the 2007 and 2008 new wastewater systems. This report will also discuss this emerging trend further.

Number of new wastewater systems per year

Figure 1 shows the number of new wastewater treatment systems per year from 2000 to 2011.The number of new systems per year generally increased from 8 new wastewater systems in 2000 to 20 new systems in 2006. This increasing trend through 2006 has been reversed in 2007 through 2011, with the number of new systems steadily decreasing down to 3 new systems for both 2009 and 2010, and hitting the lowest number of new systems ever with only 2 in 2011.

Figure 1: Number of New Wastewater Treatment Systems Per Year



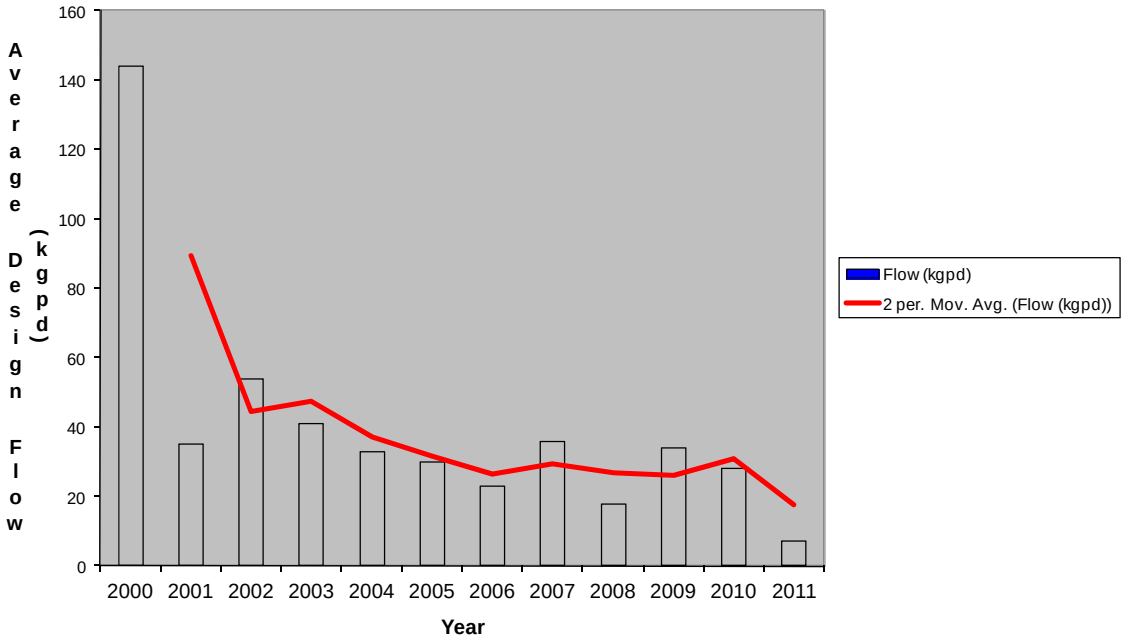
For this report, we are using a trend line that draws segments using the average of the previous two-year period. This trend line shows the generally increasing number of new systems constructed from 2000 through 2006, and also accurately depicts the current downward trend for the number of new systems reported from 2007 through 2011.

This downward trend in the number of new facilities appears to be related directly to the ongoing economic downturn which has affected new housing construction in Minnesota. This is illustrated by information in earlier Tables 1,2 and 4 that show there was only one new privately-owned housing, development-related wastewater system that was constructed and began operation in 2008 through 2011. In contrast, 14 new privately-owned housing, development-related wastewater systems were constructed and began operation in 2006 (see Appendix I), and five (5) new privately-owned housing, development-related wastewater systems were constructed and began operation in 2007 (see Table 8).

Average design capacity per system

Figure 2 shows the average design capacity or design flow per system from 2000 to 2011. The average design capacity per system data from 2000 to 2006 showed a general decrease from 144 kgpd (or 144,000 gallons per day) to a new low of 7 kgpd for 2011.

Figure 2: New Wastewater Treatment Systems - Facility Average Design Flow (kgpd)

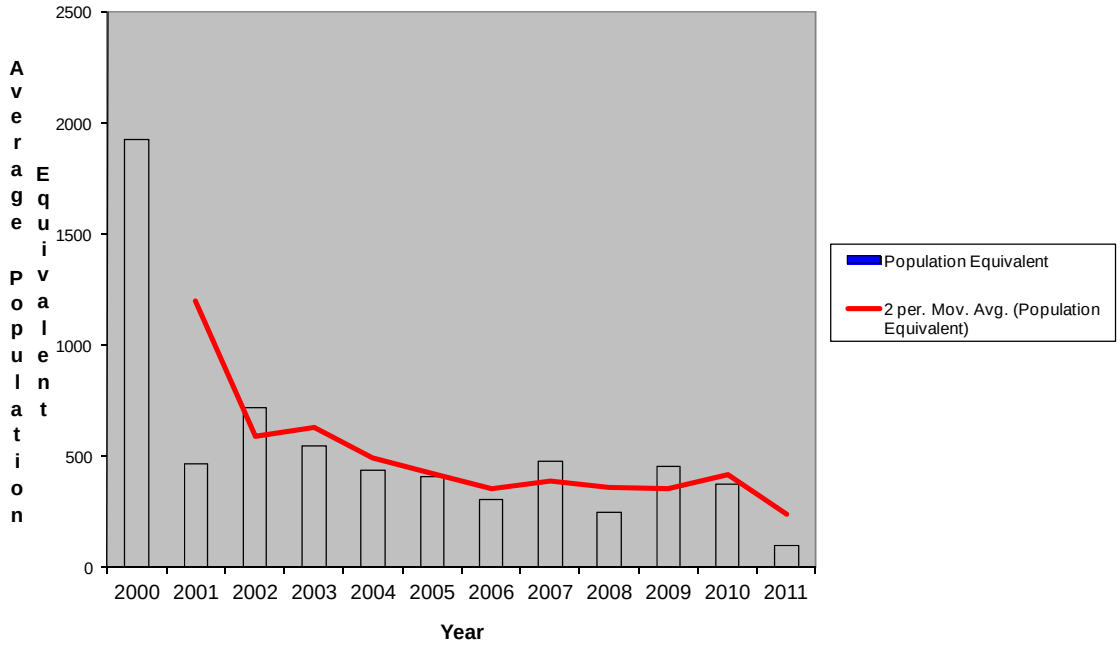


The average design capacity per system data for the time period from 2003 to 2010 generally averaged about 20 to 40 kgpd. This is represented on the graph with 6 of the 8 data bars in this range for that time period, and 2003 was at 41 kgpd. We have chosen to use the trend line that draws segments for the average of the previous two-year period for this data set also. This trend line was selected because it shows a general downward trend for the average design flow per system from 2000 to 2006, and also shows the trend line for the average design flow per system calculated values flattening from 2006 to 2011 (a slight drop is shown for 2011).

Average population served per new treatment system

Figure 3 shows the average population served per new treatment system per year from 2000 to 2011. In 2011 the average population served was 97 (to allow for comparison, the 2010 the average population was 375, and in 2009 the average population was 455).

Figure 3: New Wastewater Treatment Systems - New Facilities Average Population Equivalent Served



The average population equivalent per new wastewater treatment system dropped to the lowest ever reported value in 2011. We have chosen to use the trend line that draws segments for the average of the previous two-year period to analyze this data set also. The trend line shows a similar pattern to Figure 2, with a sharp decrease shown in the data from 2000 to 2006, and then a flattening of the values over the time period from 2007 to 2010. This may be showing the population equivalent being served per system is settling in just below a population equivalent of just under approximately 500, despite the very low number of 97 in 2011.

Reported Effluent Violation trends analysis

As discussed earlier, this report lists the parameter, date, and any known information about violations for the new systems in a series of Tables (see Tables 3, 5, 7, 9, and A through H in Appendix III). The annual number of violations per set of new systems, has varied from a low number of zero (0) violations to a high number of 42 violations. Figures 4, 5, and 6 are an attempt to look for trends in violation numbers over time. These three (3) figures correspond to the 11, 7, and 3 new systems which started on 2007, 2008, and 2009, respectively. In looking for possible "violation" trends, we chose to review systems with at least three (3) years of data. Any violations occurring in 2006 or earlier are not reviewed in this report as it was not required data by Statute. Results of this trends analysis are inconclusive. There appears to be no single consistent trend in violations related to the violation type, system type, or cause of permit violations. Violations ranged from reporting errors to specific limit exceedances. In general, corrections have been implemented for reported violations or resolutions are under investigation/pending. No known risks to public health or the environment exist.

Figure 4: 2007 New Systems - Number of Violations Per Year

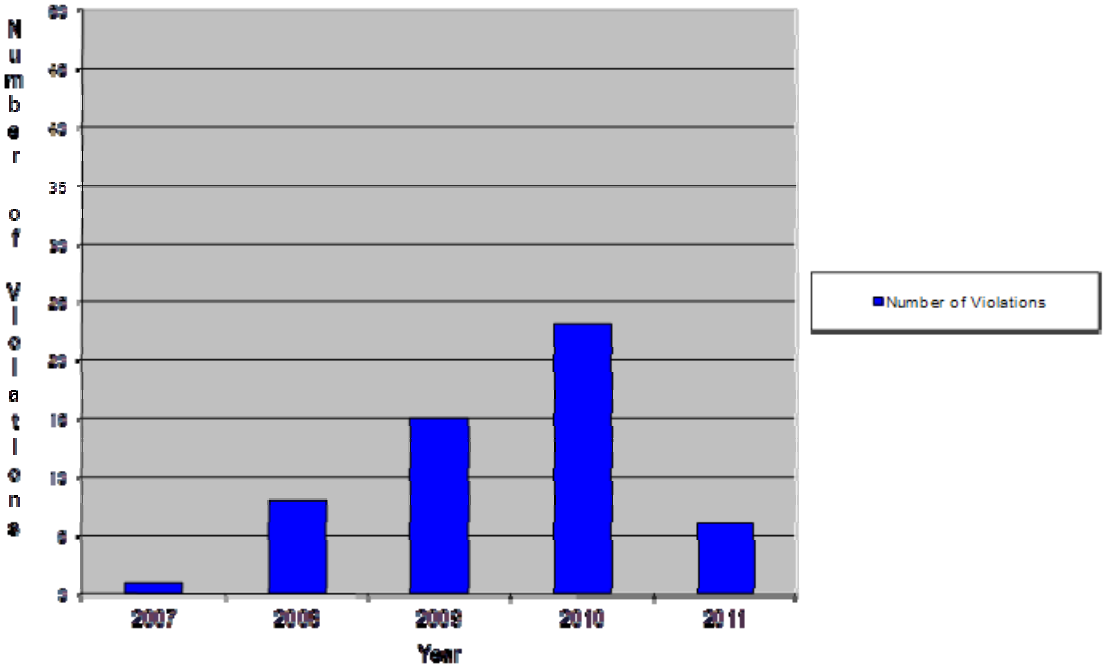


Figure 5: 2008 New Systems - Number of Violations Per Year

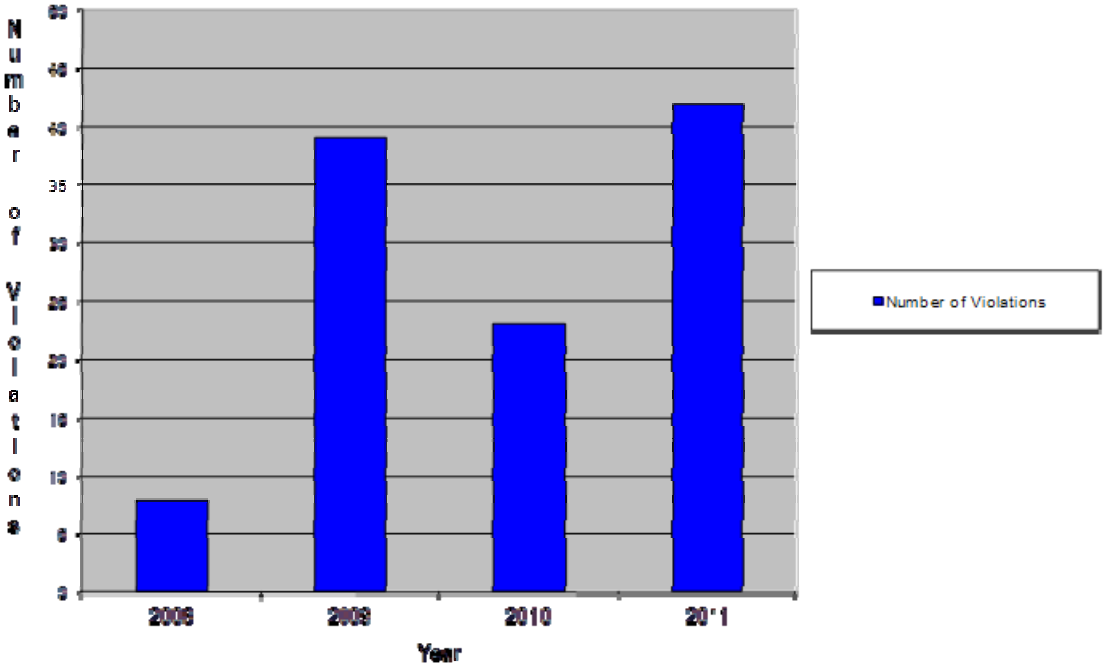
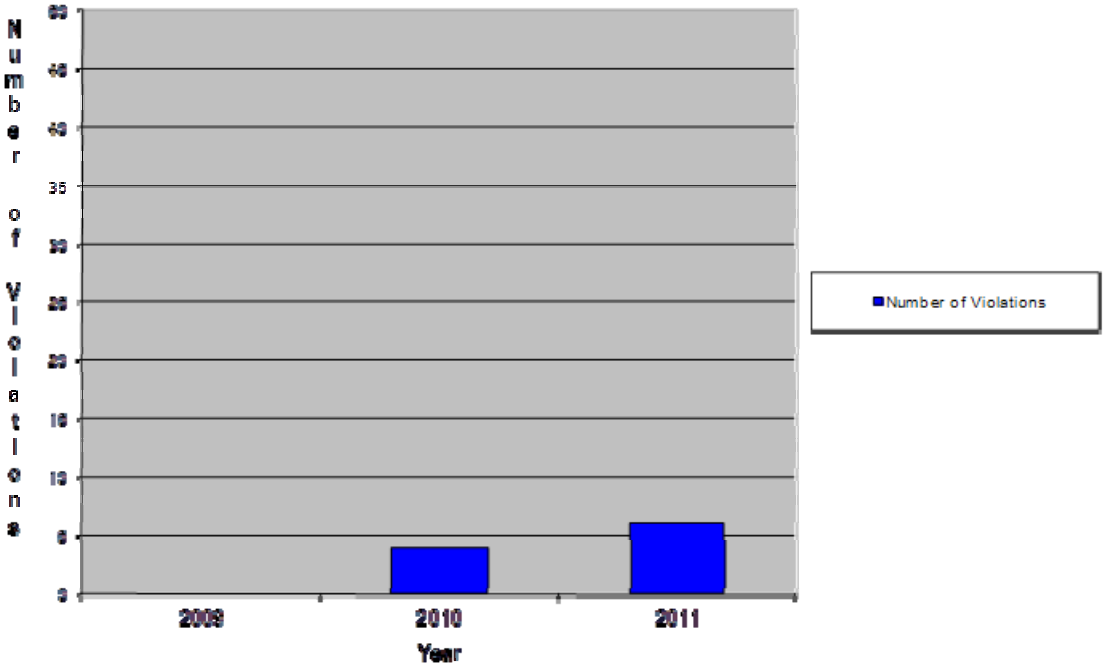


Figure 8: 2009 New Systems - Number of Violations Per Year



Conclusions

The 2006 changes to Minn. Stat. § 115.477 required new information to be reported by the MPCA beginning with the 2006 Annual Report. The 2011 Annual Report continues to report this new information and as a result, the format for the annual report continues to evolve.

The MPCA has observed and reported on general trends in the reported data, beginning in the 2006 Report. From 2000 to 2006, an increasing number of new wastewater treatment systems were being constructed each year with these systems decreasing in capacity (or design flow) and serving smaller populations. In 2007, each of these trends were moderately reversed with fewer new systems being constructed, and the systems average design flow and populations served slightly increasing. By 2008, the number of new systems, the systems average design flow, and populations served, were all decreasing or lower. For 2009, the number of new systems decreased again, but the population equivalent served was slightly higher. In 2010, the number of new systems has remained the same, and systems average design flow and populations served were slightly lower. For 2011, the number of new systems, the systems average design flow and populations served were all the lowest value recorded in each category since reporting began in 2001.

The lower number of new systems seems to be mainly attributed to fewer private housing development wastewater treatment systems being constructed. This continues to be a reasonable conclusion as the economic news reports in Minnesota are that the number of new houses being constructed is down even further and the housing sales market is down. In general, the size (capacity) and population served per system is still reflecting that the MPCA is issuing new permits to small wastewater system projects (for population equivalents of approximately less than 500) and that the MPCA continues to work with a growing number of smaller communities (or new developing areas) to provide their first wastewater treatment system.

During the 2011 period, neither of the two (2) new systems reported permit limit violations and the one (1) new SDS permitted wastewater system did not report any imminent threats to public health. Results of a "reporting violations" trends analysis are inconclusive. There appears to be no single consistent trend in violations related to the violation type, system type, or cause of permit violations. No known significant risks to public health or the environment exist as a result of these violations.

Appendices

Appendix I: 2006 New Wastewater Systems

Community	County	Capacity (gallons per day)	Population Equivalent (a)	Permit Type	Owner	Primary Engineering Firm	Primary Contractor	Management Company
Cambridge Isanti Middle School	Isanti	10,176	136	SDS	ISD 911	North American Wetland Engineering	Kober Excavating	EcoCheck
Camp Victory	Wabasha	27,000	360	NPDES	Camp Victory Ministries	Arden Environmental Engineering	Ellingson Companies	Bonestroo
Credit River Township - Stonebridge	Scott	14,400	192	SDS	Credit River Township	Halling Engineering	K.A. Witt Construction, Inc.	EcoCheck
Credit River Township - Territory, Phase 7	Scott	15,300	204	SDS	Credit River Township	Halling Engineering	K.A. Witt Construction, Inc.	EcoCheck
Edgewood Estates Second	Dodge	24,252	323	SDS	Bigelow Enterprises	Massey Land Surveying and Engineering	Swenke Construction	Curt Reetz, Certified Opeartor
Emily, City of	Crow Wing	41,600	555	SDS	City of Emily	Short Elliott Hendrickson Inc	Hammerlund Construction	None
Farms of Lake Elmo	Washington	10,000	133	SDS	M & K Development	Ayers Associates	J.R. Ferche	EcoCheck
Gary, City of	Norman	27,800	371	NPDES	City of Gary	Widseth Smith Nolting & Associates, Inc.	R.J. Zavoral and Sons, Inc.	None
Hammond, City of	Wabasha	23,000	307	NPDES	City of Hammond	Ayres Associates	Ellingson Companies	Peoples Service
Lake Volney Estates	Le Sueur	11,993	160	SDS	Brian Kocina	I&S Engineers & Architects, Inc	Fessel Environmental Service Inc	None
Meadows of Whisper Creek	Hennepin	20,000	267	NPDES	Greenfield Development, LLC	RLK Kuusisto	Ashbrook, Inc.	Veolia Water
Miller Farms Cluster Development	Washington	32,000	427	SDS	Derrick Construction Co.	Ayers Associates	Kober Excavating	None
Nordwall Estates	Sherburne	34,200	456	SDS	Gregg Nordwall	John Oliver and Associates	West Branch Construction	None
Preserve at Birch Lake	Chisago	34,425	459	SDS	SMC Land Development, LLC	North American Wetland Engineering	J.R. Ferche	EcoCheck
River Park	Olmsted	31,250	417	SDS	Journey Developing, Inc.	McGhie & Betts Inc	Jech Construction	McGhie & Betts Inc
Riverwood Hills Septic Drainfield Site	Olmsted	23,081	308	SDS	Fitzpatrick Construction	McGhie & Betts Inc	Fitzpatrick Construction	McGhie & Betts Inc
Tapestry	Washington	25,125	335	SDS	St. Croix Farms, LLC	Wenck Associates	Kober Excavating	Advanced Septic Solutions Inc.
Trophy Lake Estates III	Chisago	16,700	223	SDS	Trophy Lake Estates	North American Wetland Engineering	Ferguson Brothers Excavating	Septic Check
Waters Edge @ Leech Lake LLC	Cass	14,100	188	SDS	Wayne Overby	Ecos Engineering	Royal Oaks Construction Inc.	None
Windsor Meadows	Sherburne	14,850	198	SDS	Alan Gilyard 10-24 Development LLC	Bogart, Pederson, & Associates, Inc.	Meadowvale Construction, Inc.	EcoCheck
Total = 20		451,252	6,017					

(a) Population Equivalent – The population equivalent is calculated by dividing the design capacity by average per capita usage estimated at 75 gallons per day. The number does not necessarily match the U.S. census population of the community.

Appendix II: 2005 Annual Tracking Report for New Wastewater Facilities for Years 2000 – 2005) Minn. Stat. § 115.447

2005 – The following **12** wastewater treatment facilities were put into service during calendar year 2005 in communities that previously had no central collection and treatment:

Community	County	Capacity (gallons/day)	Pop Equiv.*	Permit Type
Big Sandy Lodge & Resort	Aitkin	25,070	334	SDS
Clearwater Harbor Sewage Treatment Facility	Stearns	28,000	373	SDS
Clontarf, City of	Swift	23,500	313	NPDES
Credit River Township - Territory	Scott	13,500	180	SDS
Frontenac Heritage Acres 3rd Addition	Goodhue	19,875	265	SDS
Garvin, City of	Lyon	21,500	286	NPDES
Highland Farms	Sherburne	14,000	186	SDS
Otsego (West), City of	Wright	72,000	960	NPDES
Prinsburg, City of	Kandiyohi	40,875	545	NPDES
Thumper Pond Development	Otter Tail	49,100	654	SDS
Windsor Oaks of Elk River	Sherburne	12,363	164	SDS
Whispering Ridge Cluster Development	Sherburne	45,450	606	SDS
		365,233	4,866	

2004 – The following **15** wastewater treatment facilities were put into service during calendar year 2004 in communities that previously had no central collection and treatment:

Community	County	Capacity (gallons/day)	Pop Equiv.*	Permit Type
Aspen Hills (Star City Builder)	Sherburne	19,500	260	NPDES
Avoca, City of and Iona, City of	Murray	74,000	986	NPDES
Cedar Mills, City of	Meeker	9,150	122	NPDES
Crane Lake, City of	St. Louis	52,390	698	NPDES
Crosslake, City of	Crow Wing	150,000	2,000	NPDES
Delft Sanitary District	Cottonwood	5,700	76	NPDES
Dehli, City of	Redwood	14,400	192	NPDES
Hidden Haven (Schlichting Development, Inc.)	Sherburne	22,500	300	SDS
Lakes of Fairhaven (Sienna Corporation)	Stearns	15,525	207	SDS
Lutsen Resort (Lutsen Resort Company)	Cook	25,500	340	SDS
Nerstrand, City of	Rice	48,000	640	NPDES
Revere, City of	Redwood	17,900	238	NPDES
Roscoe, City of	Stearns	15,955	212	SDS
Woods at Eagle Lake (Scott Breuer Const., Inc.)	Sherburne	13,838	184	SDS
Wyldewood Acres	Washington	9,000	120	SDS
		493,358	6,575	

2003 – The following **11** wastewater treatment facilities were put into service during calendar year 2003 in communities that previously had no central collection and treatment:

Community	County	Capacity (gallons/day)	Pop Equiv.*	Permit Type
Benton Utilities	Benton	150,000	2,000	NPDES
Country Meadows/Cmark Builders	Sherburne	17,100	228	SDS
Delavan, City of	Faribault	54,000	720	NPDES
Lansing Township	Mower	26,000	347	NPDES
Lismore Hutterian Brethren	Big Stone	13,000	173	SDS
Monterey Heights/Rolling Oaks	Scott	23,400	312	SDS
Sergeant , City of	Mower	10,600	141	NPDES
Town & Country Aspen Hills Development	Sherburne	19,500	260	NPDES
Turtle Run South	Anoka	85,000	1,133	SDS
Whistling Valley	Washington	11,000	147	SDS
Windsor Park 3rd Addition	Sherburne	39,600	528	SDS
		449,200	5,989	

2002 – The following **7** wastewater treatment facilities were put into service during calendar year 2002 in communities that previously had no central collection and treatment:

Community	County	Capacity (gallons/day)	Pop Equiv.*	Permit Type
Dumont, City of	Traverse	14,900	199	NPDES
Farwell-Kensington	Douglas	76,300	1,017	NPDES
Greenfield, City of	Hennepin	200,000	2,667	NPDES
Lewisville, City of	Watonwan	37,700	503	NPDES
Lutsen (Superior National Golf Properties)	Cook	21,000	280	SDS
Tamarack, City of	Aitkin	7,000	93	NPDES
Woodstock, City of	Pipestone	18,500	247	NPDES
		375,400	5,006	

2001 – The following five (**5)** wastewater treatment facilities were put into service during calendar year 2001 in communities that previously had no central collection and treatment:

Community	County	Capacity (gallons/day)	Pop Equiv.*	Permit Type
Andover Elementary School (ISD # 11)	Anoka	15,000	200	SDS
Bejou, City of	Mahnomen	17,700	236	SDS
Carriage Station (Lake Elmo)	Washington	44,000	587	SDS
Big Stone Hutterite Colony (near Graceville)	Big Stone	10,400	139	NPDES
Turtle Run South (Oak Grove)	Anoka	86,300	1,151	SDS
		173,400	2,313	

2000 – The following **8** wastewater treatment facilities were put into service from May 1st to December 31st of calendar year 2000, in communities that previously had no central collection and treatment (the May 1st start date for calendar year 2000 is as stipulated in Minn. Stat. § 115.447):

Community	County	Capacity (gallons/day)	Pop Equiv.*	Permit Type
Birchwood Terrace (mobile home park)	Chisago	21,000	280	SDS
Fields of St. Croix Phase 2 (Lake Elmo)	Washington	31,000	413	SDS
Hanover, City of	Hennepin/Wright	645,000	8,600	NPDES
Hidden River (near South Haven)	Wright	17,000	227	SDS
Jackson Meadows (Marine on St. Croix)	Washington	5,500	73	SDS
Kilkenny, City of	Le Sueur	23,000	307	NPDES
Otsego (East), City of	Wright	400,000	5,333	NPDES
Palisade, City of	Aitkin	13,000	173	NPDES
		1,155,500	15,406	

*Pop. Equiv. – The population equivalent to the daily design flow of the treatment plant where average *per capita* usage is estimated at 75 gallons per day. This number does not necessarily match the US census population of the community.

Appendix III: Previous Years Violations Tables

Table A: 2009 New Wastewater Systems - 2010 Violations List

Community	Permit Type	Parameter	Violation Date	Known Information Regarding Causes of Reported Limit Violations
Wolf Lake, City of	NPDES	CBOD5	Oct-10	Calendar Monthly Average, mg/L. Cause unknown. Returned to compliance.
Wolf Lake, City of	NPDES	CBOD5	Oct-10	Calendar Monthly Maximum, mg/L. Cause unknown. Returned to compliance.
Wolf Lake, City of	NPDES	CBOD5 Mass	Oct-10	Calendar Monthly Average, kg/day. Cause unknown. Returned to compliance.
Wolf Lake, City of	NPDES	CBOD5 Mass	Oct-10	Calendar Monthly Maximum, kg/day. Cause unknown. Returned to compliance.
Total = 4				

Table B: 2008 New Wastewater Systems - 2010 Violations List

Community	Permit Type	Parameter	Violation Date	Known Information Regarding Causes of Reported Limit Violations
Bigelow WWTP	NPDES	pH	Mar-10	Calendar Month Maximum, SU. Meter error. Returned to compliance
Bigelow WWTP	NPDES	pH	May-10	Calendar Month Maximum, SU. Meter error. Returned to compliance.
Bigelow WWTP	NPDES	TSS	Nov-10	Calendar Month Average, mg/L. Algae Related. Returned to compliance.
Effie, City of	NPDES	TSS Percent Removal	Jan-10	Calendar Monthly Average, %. Concentration and loading limits met. Returned to compliance.
Effie, City of	NPDES	CBOD5	Apr-10	Calendar Monthly Average,mg/L. Cause unknown. Returned to compliance.
Effie, City of	NPDES	CBOD5	Apr-10	Maximum Calendar Weekly, mg/L. Cause unknown. Returned to compliance.
Effie, City of	NPDES	CBOD5 Percent Removal	Apr-10	Calendar Monthly Average, %. Cause unknown. Returned to compliance.
Effie, City of	NPDES	TSS Percent Removal	Jun-10	Calendar Monthly Average, %. Concentration and loading limits met. Resolution pending.
Effie, City of	NPDES	TSS Percent Removal	Jul-10	Calendar Monthly Average, %. Concentration and loading limits met. Returned to compliance.
Effie, City of	NPDES	TSS Percent Removal	Sep-10	Calendar Monthly Average, %. Concentration and loading limits met. Returned to compliance.
Effie, City of	NPDES	CBOD5	Oct-10	Calendar Monthly Average,mg/L. Cause unknown. Returned to compliance.

Table B (continued): 2008 New Wastewater Systems - 2010 Violations List

Community	Permit Type	Parameter	Violation Date	Known Information Regarding Causes of Reported Limit Violations
Hope- Somerset Township	NPDES	CBOD5	Aug-10	Calendar Monthly Average, mg/L. Cause unknown. Returned to compliance.
Hope- Somerset Township	NPDES	CBOD5 Percent Removal	Sep-10	Calendar Monthly Average, %. Concentration and loading limits met. Returned to compliance.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Jan-09	Calendar Monthly Average, mg/L. Operator error, not enough chemical added. Returned to compliance.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Jan-09	Calendar Monthly Average, kg/day. Operator error, not enough chemical added. Returned to compliance.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Feb-09	Calendar Monthly Average, mg/L. Operator error, not enough chemical added. Returned to compliance.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Feb-09	Calendar Monthly Average, kg/day. Operator error, not enough chemical added. Returned to compliance.
Springsteel Island Sanitary District	NPDES	CBOD5	Mar-09	Maximum Calendar Weekly Average, mg/L. Mechanical failure. Returned to compliance.
Springsteel Island Sanitary District	NPDES	CBOD5 Mass	Mar-09	Maximum Calendar Weekly Average, kg/day. Mechanical failure. Returned to compliance.
Springsteel Island Sanitary District	NPDES	CBOD5 Percent Removal	Mar-09	Calendar Monthly Average, %. Mechanical failure. Returned to compliance.
Springsteel Island Sanitary District	NPDES	TSS	Mar-09	Calendar Weekly Average, mg/L. Mechanical failure. Returned to compliance.
Springsteel Island Sanitary District	NPDES	TSS	Mar-09	Calendar Monthly Average, mg/L. Mechanical failure. Returned to compliance.
Springsteel Island Sanitary District	NPDES	TSS	Mar-09	Calendar Weekly Average, kg/day. Mechanical failure. Returned to compliance.
Total = 23				

Table C: 2008 New Wastewater Systems - 2009 Violations List

Community	Permit Type	Parameter	Violation Date	Known Information Regarding Causes of Reported Limit Violations
Effie, City of	NPDES	TSS Percent Removal	Feb-09	Calendar Monthly Average, %. Concentration and loading limits met. Returned to compliance.
Effie, City of	NPDES	Fecal Coliform	May-09	Calendar Geometric Mean, #/100 ml. Low flow, unable to obtain representative sample. Returned to compliance.
Effie, City of	NPDES	TSS Percent Removal	Jul-09	Calendar Monthly Average, %. Concentration and loading limits met. Returned to compliance.
Effie, City of	NPDES	Fecal Coliform	Aug-09	Calendar Geometric Mean, #/100 ml. Low flow, unable to obtain representative sample. Resolution pending.
Effie, City of	NPDES	TSS Percent Removal	Sep-09	Calendar Monthly Average, %. Concentration and loading limits met. Resolution pending.
Effie, City of	NPDES	CBOD5	Sep-09	Calendar Monthly Average, mg/L. Septic tanks pumped an caused high CBOD5. Resolution pending.
Effie, City of	NPDES	Fecal Coliform	Sep-09	Calendar Geometric Mean, #/100 ml. Low flow, unable to obtain representative sample. Resolution pending.
Hope- Somerset Township	NPDES	CBOD5	Apr-09	Calendar Monthly Average, mg/L. Cause unknown. Returned to compliance.
Hope- Somerset Township	NPDES	CBOD5	Apr-09	Maximum Calendar Weekly Average, mg/L. Cause unknown. Returned to compliance.
Hope- Somerset Township	NPDES	CBOD5 Percent Removal	Apr-09	Calendar Monthly Average, %. Cause unknown. Returned to compliance.
Hope- Somerset Township	NPDES	CBOD5 Percent Removal	Jun-09	Calendar Monthly Average, %. Cause unknown. Returned to compliance.
Hope- Somerset Township	NPDES	CBOD5	Aug-09	Calendar Monthly Average, mg/L. Cause unknown. Returned to compliance.
Hope- Somerset Township	NPDES	CBOD5	Aug-09	Maximum Calendar Weekly Average, mg/L. Cause unknown. Returned to compliance.
Hope- Somerset Township	NPDES	CBOD5 Percent Removal	Aug-09	Calendar Monthly Average, %. Cause unknown. Returned to compliance.
Hope- Somerset Township	NPDES	CBOD5	Oct-09	Calendar Monthly Average, mg/L. Cause unknown. Resolution pending.
Hope- Somerset Township	NPDES	CBOD5	Oct-09	Maximum Calendar Weekly Average, mg/L. Cause unknown. Resolution pending.

Table C (continued): 2008 New Wastewater Systems - 2009 Violations List

Community	Permit Type	Parameter	Violation Date	Known Information Regarding Causes of Reported Limit Violations
La Salle, City of	NPDES	CBOD5	Mar-09	Calendar Monthly Average, mg/L. Cause unknown. Returned to compliance.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Jan-09	Calendar Monthly Average, mg/L. Operator error, not enough chemical added. Returned to compliance.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Jan-09	Calendar Monthly Average, kg/day. Operator error, not enough chemical added. Returned to compliance.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Feb-09	Calendar Monthly Average, mg/L. Operator error, not enough chemical added. Returned to compliance.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Feb-09	Calendar Monthly Average, kg/day. Operator error, not enough chemical added. Returned to compliance.
Springsteel Island Sanitary District	NPDES	CBOD5	Mar-09	Maximum Calendar Weekly Average, mg/L. Mechanical failure. Returned to compliance.
Springsteel Island Sanitary District	NPDES	CBOD5	Mar-09	Maximum Calendar Weekly Average, kg/day. Mechanical failure. Returned to compliance.
Springsteel Island Sanitary District	NPDES	CBOD5 Percent Removal	Mar-09	Calendar Monthly Average, %. Mechanical failure. Returned to compliance.
Springsteel Island Sanitary District	NPDES	TSS	Mar-09	Calendar Weekly Average, mg/L. Mechanical failure. Returned to compliance.
Springsteel Island Sanitary District	NPDES	TSS	Mar-09	Calendar Monthly Average, mg/L. Mechanical failure. Returned to compliance.
Springsteel Island Sanitary District	NPDES	TSS	Mar-09	Calendar Weekly Average, kg/day. Mechanical failure. Returned to compliance.
Springsteel Island Sanitary District	NPDES	TSS	Mar-09	Calendar Monthly Average, kg/day. Mechanical failure. Returned to compliance.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Mar-09	Calendar Monthly Average, mg/L. Operator error, not enough chemical added. Returned to compliance.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Mar-09	Calendar Monthly Average, kg/day. Operator error, not enough chemical added. Returned to compliance.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Apr-09	Calendar Monthly Average, mg/L. Operator error, not enough chemical added. Returned to compliance.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	May-09	Calendar Monthly Average, mg/L. Operator error, not enough chemical added. Returned to compliance.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Jun-09	Calendar Monthly Average, mg/L. Operator error, not enough chemical added. Returned to compliance.

Table C (continued): 2008 New Wastewater Systems - 2009 Violations List

Community	Permit Type	Parameter	Violation Date	Known Information Regarding Causes of Reported Limit Violations
Springsteel Island Sanitary District	NPDES	TSS	Jul-09	Calendar Weekly Average, mg/L. Mechanical failure. Returned to compliance.
Springsteel Island Sanitary District	NPDES	TSS	Jul-09	Calendar Monthly Average, mg/L. Mechanical failure. Returned to compliance.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Jul-09	Calendar Monthly Average, mg/L. Operator error, not enough chemical added. Returned to compliance.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Jul-09	Calendar Monthly Average, kg/day. Operator error, not enough chemical added. Returned to compliance.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Aug-09	Calendar Monthly Average, mg/L. Operator error, not enough chemical added. Executed schedule of compliance.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Nov-09	Calendar Monthly Average, mg/L. Operator error, not enough chemical added. Resolution pending.
Total = 39				

Table D: 2008 New Wastewater Systems - 2008 Violations List

Community	Permit Type	Parameter	Violation Date	Known Information Regarding Causes of Reported Limit Violations
Springsteel Island Sanitary District	NPDES	BOD	Jun-08	Calendar Monthly Average, mg/L. Cause unknown. Returned to compliance.
Springsteel Island Sanitary District	NPDES	TSS	Jun-08	Calendar Monthly Average, mg/L. Cause unknown. Resolution pending.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Jun-08	Calendar Monthly Average, mg/L. Cause unknown. Resolution pending.
Springsteel Island Sanitary District	NPDES	TSS	Jul-08	Calendar Monthly Average, mg/L. Cause unknown. Returned to compliance.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Jul-08	Calendar Monthly Average, mg/L. Cause unknown. Resolution pending.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Aug-08	Calendar Monthly Average, mg/L. Cause unknown. Resolution pending.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Sep-08	Calendar Monthly Average, mg/L. Cause unknown. Resolution pending.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Oct-08	Calendar Monthly Average, mg/L. Cause unknown. Resolution pending.
Total = 8				

Table E: 2007 New Wastewater Systems - 2010 Violations List

Community	Permit Type	Parameter	Violation Date	Known Information Regarding Causes of Reported Limit Violations
Conger, City of	NPDES	CBOD5 Mass	Apr-10	Calendar Monthly Average, kg/day. Cause unknown. Resolution pending.
Conger, City of	NPDES	TSS Mass	Apr-10	Calendar Monthly Average, kg/day. Possibly algae related to phosphorus from a meat locker. Returned to compliance.
Conger, City of	NPDES	CBOD5 Mass	Jun-10	Calendar Monthly Average, kg/day. Cause unknown. Resolution pending.
Conger, City of	NPDES	CBOD5 Mass	Jun-10	Maximum Calendar Weekly Average, kg/day. Cause unknown. Returned to compliance.
Conger, City of	NPDES	TSS Mass	Jun-10	Calendar Monthly Average, kg/day. Possibly algae related to phosphorus from a meat locker. Resolution pending.
Conger, City of	NPDES	TSS Mass	Jun-10	Maximum Calendar Weekly Average, kg/day. Possibly algae related to phosphorus from a meat locker. Resolution pending.
Conger, City of	NPDES	TSS	Oct-10	Calendar Monthly Average, mg/L. Possibly algae related to phosphorus from a meat locker. Returned to compliance.
Conger, City of	NPDES	TSS Mass	Oct-10	Calendar Monthly Average, kg/day. Possibly algae related to phosphorus from a meat locker. Returned to compliance.
Tom's Harbor	SDS	Total Nitrogen	Jan-10	12 Month Moving Average, mg/L. Low flow. Resolution pending.
Tom's Harbor	SDS	Total Nitrogen	Feb-10	12 Month Moving Average, mg/L. Low flow. Resolution pending.
Tom's Harbor	SDS	Total Nitrogen	Mar-10	12 Month Moving Average, mg/L. Low flow. Resolution pending.
Tom's Harbor	SDS	Total Nitrogen	Apr-10	12 Month Moving Average, mg/L. Low flow. Resolution pending.

Table E (continued): 2007 New Wastewater Systems - 2010 Violations List

Community	Permit Type	Parameter	Violation Date	Known Information Regarding Causes of Reported Limit Violations
Tom's Harbor	SDS	Total Nitrogen	May-10	12 Month Moving Average, mg/L. Low flow. Resolution pending.
Tom's Harbor	SDS	Total Nitrogen	Jun-10	12 Month Moving Average, mg/L. Low flow. Resolution pending.
Tom's Harbor	SDS	Total Nitrogen	Jul-10	12 Month Moving Average, mg/L. Low flow. Resolution pending.
Tom's Harbor	SDS	Total Nitrogen	Aug-10	12 Month Moving Average, mg/L. Low flow. Resolution pending.
Tom's Harbor	SDS	Total Nitrogen	Sep-10	12 Month Moving Average, mg/L. Low flow. Resolution pending.
Tom's Harbor	SDS	Total Nitrogen	Oct-10	12 Month Moving Average, mg/L. Low flow. Resolution pending.
Viking, City of	NPDES	TSS Percent Removal	Apr-10	Calendar Monthly Average, %. Cause unknown. Returned to compliance.
Viking, City of	NPDES	CBOD5 Percent Removal	Sep-10	Calendar Monthly Average, %. Cause unknown. Resolution pending.
Viking, City of	NPDES	CBOD5 Percent Removal	Oct-10	Calendar Monthly Average, %. Cause unknown. Resolution pending.
Villard, City of	SDS	Fecal Coliform	May-10	Single Allowable Value, #/100 ml. Waterfowl related. Returned to compliance.
Villard, City of	SDS	Fecal Coliform	Sep-10	Single Allowable Value, #/100 ml. Waterfowl related. Returned to compliance.
Total = 23				

Table F: 2007 New Wastewater Systems – 2009 Violations List

Community	Permit Type	Parameter	Violation Date	Known Information Regarding Causes of Reported Limit Violations
Evan, City of	NPDES	CBOD5	Apr-09	Calendar Weekly Average, mg/L. Cause unknown. Returned to compliance.
Tom's Harbor	SDS	Total Nitrogen	Jul-09	12 Month Moving Average, mg/L. Cause unknown. Resolution pending.
Tom's Harbor	SDS	Total Nitrogen	Aug-09	12 Month Moving Average, mg/L. Cause unknown. Returned to compliance.
Tom's Harbor	SDS	Total Nitrogen	Oct-09	12 Month Moving Average, mg/L. Cause unknown. Resolution pending.
Viking, City of	NPDES	TSS Percent Removal	Jan-09	Calendar Monthly Average, %. Cause unknown. Returned to compliance.
Viking, City of	NPDES	Flow	Feb-09	Daily Maximum, mgd. Cause unknown. Resolution pending.
Viking, City of	NPDES	Flow	Mar-09	Daily Maximum, mgd. Cause unknown. Resolution pending.
Viking, City of	NPDES	Flow	Mar-09	Calendar Monthly Average, mgd. Cause unknown. Resolution pending.
Viking, City of	NPDES	Flow	Apr-09	Daily Maximum, mgd. Cause unknown. Resolution pending.
Viking, City of	NPDES	Flow	Apr-09	Calendar Monthly Average, mgd. Cause unknown. Resolution pending.
Viking, City of	NPDES	Flow	May-09	Daily Maximum, mgd. Cause unknown. Resolution pending.
Viking, City of	NPDES	Flow	May-09	Calendar Monthly Average, mgd. Cause unknown. Resolution pending.
Viking, City of	NPDES	Flow	Jun-09	Daily Maximum, mgd. Cause unknown. Resolution pending.
Viking, City of	NPDES	TSS Percent Removal	Oct-09	Calendar Monthly Average, %. Cause unknown. Resolution pending.
Villard, City of	SDS	Fecal Coliform	Jun-09	Single Allowable Value, #/100 ml. Cause unknown. Returned to compliance.
Total = 15				

Table G: 2007 New Wastewater Systems – 2008 Violations List

Community	Permit Type	Parameter	Violation Date	Known Information Regarding Causes of Reported Limit Violations
Conger, City of	NPDES	BOD	Oct-08	Calendar Monthly Average, kg/day. Cause unknown. Resolution pending.
Conger, City of	NPDES	TSS	Oct-08	Calendar Monthly Average, kg/day. Cause unknown. Resolution pending.
Conger, City of	NPDES	TSS	Oct-08	Maximum Calendar Week Average, kg/day. Cause unknown. Resolution pending.
Evan, City of	NPDES	pH	May-08	Calendar Monthly Maximum, SU. Returned to compliance.
Rock Point Church	SDS	Total Nitrogen	Sep-08	12 Month Moving Average, mg/L. Likely due to low flow to system and difficulty maintaining denitrifying bacteria. Resolution pending.
Rock Point Church	SDS	Total Nitrogen	Oct-08	12 Month Moving Average, mg/L. Likely due to low flow to system and difficulty maintaining denitrifying bacteria. Resolution pending.
Viking, City of	NPDES	Flow	Oct-08	Allowable Daily Maximum, mgd. Cause unknown. Resolution pending.
Whistling Valley Development, Phase 2	SDS	Total Nitrogen	Mar-08	Calendar Quarterly Average, mg/L. Returned to compliance.
Total = 8				

Table H: 2007 New Wastewater Systems – 2007 Violations List

Community	Permit Type	Parameter	Violation Date	Known Information Regarding Causes of Reported Limit Violations
Whistling Valley Development, Phase 2	SDS	Total Nitrogen	Jan-07	Calendar Quarterly Average (January to March) violated. Likely due to low flow to system and difficulty establishing denitrifying bacteria. Returned to compliance.
Total = 1				