

Future Costs of Wastewater Treatment

**A Report to the
House Environment and Natural Resources Finance Committee
and the Senate Environment and Agriculture Budget Division**

As required by Minn. Stat. § 115.03, subd. 9

Prepared by the
Minnesota Pollution Control Agency in conjunction
with the Department of Trade and Economic Development

January 15, 2002

This Report was prepared at an estimated staff cost of \$2,600.00 and \$13.82 for photostatic duplication.

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I. INTRODUCTION

The Minnesota Pollution Control Agency (MPCA) is required by Minn. Stat. § 115.03, subd. 9 to report on the future costs of wastewater treatment by providing the following information to the Chairs of the Senate Environmental and Agriculture Budget Division and the House Environment and Natural Resources Finance Committee by January 15 of every even-numbered year.

1. An updated list of all wastewater treatment upgrade and construction projects the agency has identified to meet existing and proposed water quality standards and regulations.
2. An estimate of the total costs associated with the projects listed in clause (1), and the projects' priority ranking under Minn. R. ch. 7077. The costs of projects necessary to meet existing standards must be identified separately from the costs of projects necessary to meet proposed standards.
3. The Commissioner's best estimate, developed in consultation with the Commissioner of Trade and Economic Development and affected permittees, of the increase in sewer service rates to the residents in the municipalities required to construct the projects listed in clause (1) resulting from the cost of these projects.
4. A list of existing and proposed state water quality standards, which are more stringent than is necessary to comply with federal law either because the standard has no applicable federal water quality criterion, or because the standard is more stringent than the applicable federal water quality criterion.

II. LIST OF WASTEWATER TREATMENT FACILITY CONSTRUCTION PROJECTS

The updated list of all wastewater treatment facility upgrade and construction projects the MPCA has identified as necessary to meet existing and proposed water quality standards and regulations is provided in Appendix 1, (Tables I, II, and III). Table I is the projects that are currently on the 2002 Project Priority List (PPL). These projects have been identified by their request to be placed on this list.

Table II represents the needs reported by municipalities with a National Pollutant Discharge Elimination System (NPDES) or a State Disposal System (SDS) permit in the 2001 Annual Evaluation and Planning Survey (AEPS). The survey is required in statute to be completed by 544 municipalities each year to evaluate the condition of its existing system and identify future capital improvements that will be needed in the next five-years. The survey is completed and returned by 99% of permitted municipalities. The needs reported by these communities were then compared to the projects on the PPL to ensure that there was no duplication.

Table III also represents the needs reported in the AEPS survey by municipalities that do not have a NPDES or SDS permit, but a collection system they operate and maintain. Examples of

these municipalities include the individual member-cities of the Metropolitan Council and Western Lake Superior Sanitary District who do not have a treatment system, but are responsible for the capital improvements associated with the collection system. Until 1998, these municipalities were not surveyed about their future needs because they did not have a permitted facility. For the past two years, these municipalities have been asked what the five-year need will be for their collection system. Approximately 40% of these communities have replied. This information was not requested in the 2001 AEPS survey because it is not a statutory requirement, so the needs identified in the 1999 AEPS survey were used in this year's report.

III. ESTIMATE OF TOTAL PROJECT COST AND THE PROJECTS PRIORITY RANKING

A. Estimated Project Costs

The total estimated cost of wastewater treatment projects over the next five years is \$2.28 billion. Figure 1 below shows the sources from which this number was derived.

Figure 1

◆ The total cost of the projects listed in the 2002 PPL	\$1,032,775,064
◆ The needs reported in the AEPS not included on the PPL	\$518,576,000
◆ The collection system needs reported in the 1999 AEPS from municipalities without a treatment system	\$361,028,000
◆ The projected amount of need from unsewered communities for four years – the 2002 need is included in the PPL	\$240,000,000
TOTAL	\$2,152,379,064

All the numbers shown are reflected by a community reporting to the MPCA through an application for funding or a survey, with the exception of the projected need from unsewered areas. Since unsewered communities do not have an NPDES or SDS permit, they are not required by statute to complete an AEPS survey. The only way to find a reasonable estimate of unsewered need is to analyze the PPL for this year and the preceding two years. In each of these years, an average of \$60 million in unsewered projects was placed on the PPL for the first time. If this amount is multiplied by 4 (for the number of years beyond 2002), approximately \$240 million for unsewered areas in the next five years is obtained.

B. Priority Point Rankings

The MPCA, in accordance with Minn. R. ch. 7077, maintains a PPL for all projects that request financing through the Water Pollution Control Revolving Fund (Also referred to as the State Revolving Fund (SRF)). In general, the priority system is designed to ensure that loan and grant funding is given to those projects which most meet the state's priorities to protect human health and aquatic life.

The point system is based on the environmental *impact* a treatment system will have on the quality of the receiving water (the higher the impact the higher the potential point factor), the *use classification* of the receiving water (the highest use factors are for drinking water sources and cold water fisheries such as trout streams), and the *condition* of the receiving water (a higher point factor is given to projects that will improve waters currently identified as a water with significant ambient water-quality violations). Scores for these three categories are multiplied together.

In addition, projects may receive extra points if they meet any number of factors. These miscellaneous factors are designed as extra incentives to protect health or aquatic life. For example, 200 extra points are given to projects that rehabilitate pond systems in a karst area or eliminate discharges to drinking water sources, trout streams or Outstanding Resource Value Waters (ORVW). To encourage more efficient use of public funds, an additional 150 points are given to unsewered projects which connect to an existing treatment facility.

Conversely, total points are reduced (by a penalty factor of 30 percent) if a project negatively impacts highly-valued waters. For example, a penalty factor will be assessed if the project creates a new or expanded discharge to an ORVW, drinking water source or trout stream.

C. The Cost of Projects Necessary to Meet Existing or Proposed New Standards

None of the total known need is associated with meeting a proposed water quality standard. As discussed in Section 4, it is the MPCA's determination that all of the proposed treatment project costs are associated with an existing standard. The project costs reported in Figure 1, as needed to meet a new standard, are actually needed to meet a new discharge limit based on the existing water quality standard. To comply with existing water quality standards, a facility's permitted discharge limits may be lowered as a result of facility expansion to protect the quality of the receiving water.

IV. ESTIMATED INCREASE IN SEWER SERVICE RATES AS A RESULT OF THE PROPOSED PROJECTS

Table I (see Appendix 1) provides a comparison of the average residential debt service costs per household for cities on the 2002 PPL. The figure reflects market financing using low interest SRF loans, but not other sources of financing that may be obtained for the project, or the actual sewer service rate calculation method used by the city. It is only intended to provide a means to compare the estimated debt service cost per resident. The information in Table I was obtained from the responses to a mailing sent by the Public Facilities Authority (PFA) to all municipalities on the 2002 PPL. PFA used the information to prepare the 2001 Wastewater Infrastructure Fund program report. Cities that did not respond to PFA's request for information, or that have funds committed to them, were not included in Table 1.

The use of any supplemental assistance will serve to reduce the actual cost to users. The MPCA, PFA, and the Rural Development Program within the U.S. Department of Agriculture are

currently working together under a Memorandum of Understanding (MOU) to coordinate between the state and federal agencies. This is a unique state-federal partnership designed to coordinate assistance to communities to keep the systems affordable as well as make it easier for many of the smaller communities to access funding. The cooperative relationship has and will continue to help communities set competitive prices for the wastewater services they provide.

V. LIST OF STANDARDS NOT REQUIRED UNDER FEDERAL LAW *and* STANDARDS MORE RESTRICTIVE THAN FEDERAL LAW

A. Introduction

The Clean Water Act (CWA) and Minnesota statutes mandate that the MPCA adopt water quality standards reflecting the value, variety, and benefits which Minnesotans derive from our water resources. Both federal and state requirements give the MPCA flexibility in the adoption of water quality standards, as long as they meet the U.S. Environmental Protection Agency's (EPA) minimum requirements under the CWA.

To answer the question of which of Minnesota's standards are lower (more stringent) than comparable EPA criteria and why, it is helpful to provide some background on water quality standards.

B. Federal Laws and Water Quality Standards

The CWA amendments of 1972 provide the authority and mandate for states to protect the water quality of the nation's water resources. The CWA establishes, as a national goal, that the quality of all waters should support the propagation of fish, shellfish, wildlife, and recreation (swimming), whenever attainable (Sec. 101(a)(2)). In addition, Section 304(a) of the CWA requires the EPA to develop scientifically defensible water quality criteria for toxic substances. These criteria are designed to protect not only fish and other aquatic organisms from the direct harmful effects of toxic substances but also the people that eat sport-caught fish and wildlife that eat aquatic organisms. The EPA aquatic life *criteria* are the basis for most of Minnesota's aquatic life *standards*. Both criteria and standards are concentrations of substances in water, below which aquatic life and the uses made of aquatic life by humans and wildlife will be protected. The difference is that standards and the associated beneficial use have been adopted into a state's water quality rules through the rulemaking process.

C. Water Quality and Beneficial Uses

Existing water quality standards are contained in Minn. R. ch. 7050 and Minn. R. ch. 7052. The former contains water quality standards and other provisions applicable statewide; the latter contains water quality standards and other provisions applicable only to the Lake Superior basin. Minn. R. ch. 7052 represents the adoption of the Great Lakes Initiative (GLI) in Minnesota. A

1990 amendment to the CWA mandated adoption of the GLI by all the Great Lakes States¹. Minn. R. ch. 7052 was adopted in 1998, and Minn. R. ch. 7050 was last amended in 2000.

Minnesota's numerical water quality standards are designed to protect Minnesota's surface and ground waters for the uses they provide for us. Specific "beneficial uses" are assigned to all waters of the state. Uses include drinking water, aquatic life and recreation, industrial use, agricultural uses, esthetics, and navigation. Drinking water standards are promulgated by the EPA under the Safe Drinking Water Act and have the force of law when final. They are incorporated into Minn. R. ch. 7050 by reference. This part of the report focuses on the surface water standards that protect aquatic life.

D. States have Flexibility in the Adoption of Water Quality Standards

Section 303(c) of the CWA requires states to adopt and periodically update water quality standards; subject to EPA approval. EPA guidance on the adoption of standards has always granted considerable flexibility to the states, so that they can address specific local conditions and interests. The concept of flexibility is spelled out in EPA's discussion of water quality criteria and standards when they were forced to promulgate toxic standards for 14 states not in compliance with the CWA. Congressional impatience with the slow pace of state adoption of standards for toxic chemicals prompted Congress to amend the CWA in 1987. These amendments (Section 303(c)(2)(B)) required states to adopt numerical standards for toxic chemicals. In providing guidance to the states on how to comply with Section 303(c)(2)(B), EPA says it is their intent "to provide states the maximum flexibility" in complying with the congressional mandate (*FR 57:60852*). Minnesota complied with this requirement by adopting standards for over 50 toxic chemicals in 1990. State law (Minn. Stat. § 115.44, subd. 1) also recognizes the need for flexibility in the adoption of water quality standards.

E. Comparison of MPCA Aquatic Life Standards and EPA Criteria

The attached Tables IV and V are a detailed comparison of Minnesota's water quality standards and EPA criteria for toxic substances. Table IV compares aquatic life standards and the EPA criteria for 61 toxic substances in Minn. R. ch. 7050. Table V compares the 29 standards applicable to the Lake Superior basin in Minn. R. ch. 7052 to the GLI criteria.

The standards highlighted in Tables IV and V are MPCA standards that are more stringent than comparable EPA criteria. The reasons they are more stringent are discussed in Section V-G.

F. Standards Not Required Under Federal Law

The 14 pollutants in Table IV and the six pollutants in Table V (shown in bold) identify standards adopted by the MPCA for which there is no federal counterpart criterion. In each case, the MPCA determined that a water quality standard was needed to help evaluate a pollution

¹ The GLI provides consistent protection to all the Great Lakes from persistent and bioaccumulative pollutants. It includes criteria for 29 specific toxic substances, anti-degradation policies and detailed procedures used to set effluent limits based on the standards. The GLI rule in Minnesota applies only to the Lake Superior basin.

problem which threatened the welfare of humans, wildlife, or aquatic life in Minnesota. Following development of criteria by MPCA staff, they were adopted through the rulemaking process into Minn. R. ch. 7050. An example is the development and adoption of a water quality standard for atrazine. Atrazine is a very common herbicide that is widely used to control weeds on cropland. Atrazine has been detected in ground water and some surface waters in the agricultural regions of Minnesota and posed a potential threat to humans and aquatic life. The MPCA felt it was prudent to develop a standard for atrazine to assess this potential threat. An atrazine standard was promulgated in 1994. The atrazine amounts measured in Minnesota's surface waters, when compared to the new standard, did not exceed the standard. In September 2001, EPA published a draft criterion for atrazine, which is included in Table IV.

G. Standards More Restrictive than Federal Requirements

The primary reason certain Minnesota standards are more stringent than comparable federal criteria provides a good example of the application of flexibility in the development of state standards. The amount of fish people eat determines in part how much of some pollutants people will be exposed to. Thus, an important question that must be answered before human health-based standards can be determined is: how much sport-caught fish should we assume Minnesotans eat? Because of the importance of fishing in Minnesota, the MPCA and state citizens recognized the importance of protecting people from toxics that accumulate in fish tissue. After reviewing data from several surveys on the consumption habits of anglers, MPCA staff felt that EPA's recommended consumption amount of 6.5 g/day² was not adequate to protect Minnesota residents, and suggested a value in the 15 to 30 g/day range. After getting input into this question from the public (see the next section), the MPCA selected 30 grams per day. Thirty grams per day is equivalent to eating one, one-half pound meal of fish per week. This decision to use a higher fish consumption rate accounts for nearly all of Minnesota's standards that are more stringent than EPA criteria (Tables IV and V).

H. Water Quality Standards Advisory Committees

To help the MPCA make decisions on the fish consumption issue, as well as the many other complex issues which are a part of the standard setting process, the MPCA convened a Toxics Technical Advisory Committee (TTAC) in March of 1988. The TTAC was made up of experts in water quality, toxicology, fisheries, risk assessment, wildlife biology, and other relevant disciplines. Members of TTAC represented academia, industries, municipalities, government and environmental groups. The TTAC met monthly for 11 consecutive months. The final report of the TTAC contained recommendations on 23 separate issues pertaining to the development of water quality standards, including the fish consumption issue. After reviewing and discussing this issue, the TTAC recommended that the MPCA use 30 g/day for calculating human health-based standards. The MPCA adopted this recommendation into Minn. R. ch. 7050 in 1990.

More recently the MPCA formed two more advisory committees for the review of water quality standard issues. The first was the Great Lakes Initiative Advisory Committee (GLIAC). This

² In November 2000, EPA issued new guidance on the development of human health-based standards that recommends a 17.5 g/day fish consumption rate.

committee was made up of stakeholders in the Lake Superior basin who met monthly for five months, ending in July 1996. The GLIAC made a number of recommendations to the MPCA on criteria/standards, anti-degradation, and the implementation of standards. Among the recommendations, was one to retain the 30 g/day fish consumption amount in the Lake Superior basin (the EPA used 15 g/day to calculate the federal GLI criteria). Again, this decision is the primary reason some standards in Minn. R. ch. 7052 are more stringent than GLI criteria (Table V).

The second recent advisory committee formed, was the Water Quality Standards Advisory Committee (WQSAC). The WQSAC was formed in response to concerns brought to the attention of the MPCA by the Coalition of Greater Minnesota Cities (CGMC). The CGMC and their member cities raised issues about certain water quality standards that impact municipal wastewater treatment. This committee met monthly for 15 months; the last meeting being in December 1997. While the fish consumption issue was not among the CGMC issues, the WQSAC reviewed the fish consumption question and decided that no action was needed on the current use of 30 g/day.

I. Costs Attributable to Standards More Restrictive than Federal Criteria

While the MPCA has a number of standards that are more stringent than federal criteria, few result in permit limits. Generally, these standards become the basis for permit limits only in situations where the receiving stream provides little or no dilution for the effluent, and then only when it is demonstrated that the amount of the pollutant in the effluent is likely to cause a violation of the standard downstream.

Actual treatment costs attributed to the more stringent standards could only be determined by a careful case-by-case evaluation of each permit and the permittee's wastewater treatment facilities. The MPCA staff believes these costs are minimal. Figure 2, on the following page, is a list of the municipalities that have a discharge limit in their permit for a pollutant, based on a state water quality standard, that is more stringent than the federal criterion. The state water quality standard for copper is not significantly lower than the federal water quality criterion, in terms of treatment costs. The preferred method to control metals like copper is through a pollution prevention program, which reduces metals at the source before they get to the sewer system. This often eliminates the need for added treatment units at the wastewater treatment plant to remove the substance. While the state water quality standard for PCBs is considerably more stringent than the federal criterion, the best approach for reducing PCBs in effluents is also through source reduction and pollution prevention rather than through added treatment.

Figure 2 - Municipal Discharges Affected by a State Water Quality

Standard that is More Stringent than the Federal Criterion

Discharger	Pollutant
Albert Lea	Copper*
Hutchinson	Copper
Metropolitan Council – Blue Lake	Polychlorinated biphenyls (PCBs)
Metropolitan Council –Metro	PCBs
Metropolitan Council –Seneca	PCBs
Northfield	Copper
St. James	Copper*
Winona	Copper

*The MPCA recommends the removal of the copper effluent limit from the permit the next time the permit is re-issued. The amount of copper in the effluent is now low enough that a limit is no longer needed.

J. Conclusion

Both federal and state laws mandate that the MPCA adopt water quality standards. Both federal and state laws and EPA guidance encourage states to exercise flexibility in the development of water quality standards that reflect the quality and values placed on the state's water resources. Most of the water quality standards in Minn. R. ch. 7050 and Minn. R. ch. 7052 protect aquatic life, including the protection of humans that eat sport-caught fish and wildlife that eat aquatic organisms. Minnesota's use of 30 grams per day as the assumed amount of fish people eat accounts for almost all the state standards that are more stringent than EPA criteria. Three separate citizen advisory committees have looked at the fish consumption question and recommended or confirmed the use of 30 g/day. Ultimately, the EPA must approve Minnesota's standards for consistency with Clean Water Act requirements. All the numerical standards in Minn. R. ch. 7050 and in Minn. R. ch. 7052 have been approved by the EPA. While it is difficult to accurately quantify the costs to Minnesota's dischargers to meet the more stringent standards, they are very small.

Appendix 1

Tables I, II, III

TABLE I - Wastewater Cost per Household for Projects on the Project Priority List

<i>Name</i>	<i>Project</i>	<i>Estimated Total Project Cost (\$)</i>	<i>Average Assessment (or capital debt) per existing HH (includes existing debt) (\$)</i>	<i>Overall Avg. Res. Cost/HH/month if Project Financed by SRF Loan (\$)</i>
Appleton	Rehab/expansion of existing system	1,918,750	1,699	26.53
St. Peter Phase 2/3	New treatment plant	8,994,735	1,965	39.73
Mentor	Unsewered, collection and treatment	1,700,000		
MCES – Empire WWTP Expansion	Rehab/expansion of existing system	680,000		
Revere	Unsewered, collection and treatment	1,301,502		
Nerstrand	Unsewered, collection and treatment	1,484,175	11,926	74.07
Delhi	Unsewered, collection and treatment	691,240	14,648	103.34
Evan	Unsewered, collection and treatment	691,240	13,105	101.41
Warroad	Rehab/expansion of existing system	3,822,825	2,857	44.72
Avon	Rehab/expansion of existing system	7,880,610	18,650	155.76
Lake Township	Unsewered, connect to Warroad	7,251,187	12,295	80.90
Lewisville	Unsewered, collection and treatment	1,440,340	9,374	56.38
W. Lake Sup. SD - Sec. Clarifier Improvements	Rehab/expansion of existing system	3,000,000		
Butterfield	Rehab/expansion of existing system	2,005,000	2,416	23.23
Chandler	Rehab/expansion of existing system	1,719,000	6,297	52.13
Dovray	Unsewered, collection and treatment	569,800	12,156	74.31
Ormsby	Unsewered, collection and treatment	784,465	9,152	63.89
Moorhead	Rehab/expansion of existing system	2,920,255	253	20.10
Garvin	Unsewered, collection and treatment	1,350,000		

Name	Project	Estimated Total Project Cost (\$)	Average Assessment (or capital debt) per existing HH (includes existing debt) (\$)	Overall Avg. Res. Cost/ HH/month if Project Financed by SRF Loan (\$)
Garrison/Kathio/Mille Lacs San.Dist.	Unsewered, collection/connect to Mille Lacs WWTP	16,700,000	19,494	117.51
East Gull Lake	Rehab/expansion of existing system	5,463,279	3,054	34.08
Benson	Rehab/expansion of existing system	3,409,300		
Cobden	Unsewered, collection and treatment	557,854	18,529	141.29
Cedar Mills	Unsewered, collection and treatment	825,963	0	33.82
Murray County - Lake Shetek	Unsewered, collection and treatment	11,800,000	17,216	89.75
Prinsburg	Unsewered, collection and treatment	3,180,876	14,745	93.41
Delft	Unsewered, collection and treatment	614,139	19,841	110.37
Nassau	Unsewered, collection/connect to Marrietta	1,266,585	22,621	114.26
MCES – MWWTP Centrifuge Dewatering	Rehab/expansion of existing system	6,930,000		
MCES – MWWTP Liquid Treatment	Rehab/expansion of existing system	64,188,300		
MCES – MWWTP Mpls Meter Improvements Con	Rehab/expansion of existing system	2,200,000		
MCES – MWWTP Process Control (Computer)	Rehab/expansion of existing system	6,949,800		
MCES – MWWTP Solids Processing Improve	Rehab/expansion of existing system	201,700,000		
MCES – MWWTP Work Space Imp. (Lab & Qual	Rehab/expansion of existing system	737,000		
MCES – Blue Lake Solids Processing	Rehab/expansion of existing system	3,953,400		

Name	Project	Estimated Total Project Cost (\$)	Average Assessment (or capital debt) per existing HH (includes existing debt) (\$)	Overall Avg. Res. Cost/ HH/month if Project Financed by SRF Loan (\$)
MCES – Blue Lake Groundwater Relief System	Rehab/expansion of existing system	1,683,000		
Mountain Lake	Rehab/expand existing system	6,950,000	4,313	61.65
Name	Project	Estimated Total Project Cost (\$)	Average Assessment (or capital debt) per existing HH (includes existing debt) (\$)	Overall Average Res. Cost/ HH/month if Project Financed by SRF Loan (\$)
Tofte/Schroeder	Unsewered, collection and treatment	10,350,000	24,688	128.89
Alexandria Lakes Area Service Region	Sewer extensions to unsewered areas	3,419,625	21,436	114.90
Knife River-Larsmont Sanitary District	Unsewered, collection and treatment	6,200,000	33,242	183.62
St. Paul South Highwood Area	Service extension to unsewered area	1,500,000		
Hibbing	Rehab/expansion of existing system	5,033,517		
Vermillion	Rehab/expansion of existing system	3,500,000	21,961	152.35
Shevlin/Solway/Leonard	Unsewered, collection and treatment	3,600,000	21,813	120.69
Chester Heights Olmstead Cty/Marion Twp	Unsewered, collection and treatment	1,484,250	13,088	90.75
Dawson	Rehab/expansion of existing system	1,500,000	1,178	18.32
Storden	Rehab/expansion of existing system	1,333,364	10,145	82.28
Miltona Township	Unsewered, collection and treatment	16,765,000	23,950	129.61
Shafer	Rehab/expansion of existing system	891,000	4,355	41.17
Litchfield	Rehab/expansion of existing system	9,300,000	1,509	26.97
New York Mills	Rehab/expansion of existing system	3,109,000	5,713	49.21
Brandon Township	Unsewered, collection and treatment	6,832,000	17,849	95.17

Name	Project	Estimated Total Project Cost (\$)	Average Assessment (or capital debt) per existing HH (includes existing debt) (\$)	Overall Avg. Res. Cost/ HH/month if Project Financed by SRF Loan (\$)
Dover – Eyota - St. Charles SD (Phase 1)	Rehab/expansion of existing system	1,358,000	405	10.45
Lake Lillian	Rehab/expansion of existing system	252,000	1,906	38.00
Viking	Unsewered, collection and treatment	800,000	19,756	117.28
Red Wing Bench Street WWTP	Forcemain, system improvements	971,000		
Shorewood Park (Rush Lake) Sanitary Dist	Service extension to unsewered area	9,893,260		
Harris	Rehab/expansion of existing system	460,000	3,632	27.56
Lamberton	Rehab/expansion of existing system	3,283,000	8,918	59.87
Stephen	Rehab/expansion of existing system	160,000	508	17.50
Hoffman	Rehab/expansion of existing system	2,330,950	6,951	44.79
Herman	Rehab/expansion of existing system	2,604,800	10,419	51.87
Magnolia	Rehab/expansion of existing system	650,500	7,237	42.31
Wright	Unsewered, collection and treatment	1,128,448	12,352	77.10
Loon Lake – Jackson County	Unsewered, collection and treatment	417,500		
Eagle Bend	Rehab/expansion of existing system	2,207,500	7,661	45.47
Watonwan County - Long Lake	Unsewered, collection and treatment	1,288,000		
Hendricks	Rehab/expansion of existing system	1,139,729	3,003	22.05
Fox Lake Improvement District	Unsewered, collection and treatment	833,990		
Villard	Unsewered, collection and treatment	8,360,300	15,139	80.84
West Concord	Rehab/expansion of existing system	2,258,000	6,014	62.59
Annandale	Rehab/expansion of existing system	6,600,000	4,975	41.87
Askov	Rehab/expansion of existing system	1,292,000	6,909	40.39
Hitterdal	Rehab/expansion of existing system	400,000	5,257	46.68
Rice Lake Township	Unsewered, collection and treatment	4,892,926	13,411	76.91

Name	Project	Estimated Total Project Cost (\$)	Average Assessment (or capital debt) per existing HH (includes existing debt) (\$)	Overall Avg. Res. Cost/ HH/month if Project Financed by SRF Loan (\$)
Canby	Rehab/expansion of existing system	2,750,000		
Lansing Township	Unsewered, collection and treatment	1,120,000	11,789	86.36
Grand Marais	Rehab/expansion of existing system	645,500		
Montrose	Rehab/expansion of existing system	3,443,000	5,333	48.59
LeSueur	New treatment plant	10,907,000	4,189	43.64
Floodwood	Service extension to unsewered area	232,100	33,157	159.91
Deer Creek		86,000		
Dassel	Rehab/expansion of existing system	1,400,000	3,010	31.22
Fisher	Rehab/expansion of existing system	1,690,865	9,501	52.77
Lake Crystal	Rehab/expansion of existing system	1,255,000	1,288	20.86
MCES – Dayton-Champlin Interceptor	Rehab/expansion of existing system	4,000,000		
MCES – Mpls Int 1-Mn-320 Improvements	Rehab/expansion of existing system	9,900,000		
MCES – LS Sup. Control/Field Telemetry	Rehab/expansion of existing system	6,545,000		
Battle Lake	Sewer rehab	1,117,932		
Ostrander	Rehab/expansion of existing system	793,700	6,626	46.33
Lake Washington Area Sanitary District	Unsewered area	7,876,575	22,897	168.54
Brooten	Rehab/expansion of existing system	3,034,000		
MCES – Lake Minnetonka Area Interceptor Improvements	Rehab/expansion of existing system	11,220,000		
Red Wing Main Plant	Rehab/expansion of existing system	8,000,000	1,162	29.84
Wood Lake	Rehab/expansion of existing system	795,000	4,314	37.59

Name	Project	Estimated Total Project Cost (\$)	Average Assessment (or capital debt) per existing HH (includes existing debt) (\$)	Overall Avg. Res. Cost/ HH/month if Project Financed by SRF Loan (\$)
Granite Falls Phase 2	Rehab/expansion of existing system	1,380,000		
Bethel	Rehab/expansion of existing system	1,360,563		
MCES – Centerville Interceptor Improvements	Rehab/expansion of existing system	1,217,700		
MCES – Elm Creek Interceptor Construction	Rehab/expansion of existing system	13,889,700		
MCES – Hopkins LS/FM Improvements	Rehab/expansion of existing system	12,000,000		
MCES – Mpls/St. Paul Interceptor Improvements	Rehab/expansion of existing system	12,870,000		
MCES – So. Washington Co Interceptor	Rehab/expansion of existing system	53,000,000		
MCES – So. Washington Co Plant	Rehab/expansion of existing system	44,330,000		
Crookston	Rehab/expansion of existing system	1,190,000		
MCES – Rosemount Interceptor	Rehab/expansion of existing system	15,950,000		
Wabasha Expansion	Rehab/expansion of existing system	1,250,000		
Aitkin	Rehab/expansion of existing system	1,056,800	1,019	37.25
Biwabik	Rehab/expansion of existing system	5,364,000		
Little Falls	Rehab/expansion of existing system	3,307,000		
St. Hilaire	Rehab/expansion of existing system	826,875	7,007	41.36
Oslo	Rehab/expansion of existing system			
Montgomery	Rehab/expansion of existing system	9,440,000	8,736	65.26
Gilbert	Rehab/expansion of existing system	1,034,650		
Audubon	Rehab/expansion of existing system	1,632,300	6,701	48.45

Name	Project	Estimated Total Project Cost (\$)	Average Assessment (or capital debt) per existing HH (includes existing debt) (\$)	Overall Avg. Res. Cost/ HH/month if Project Financed by SRF Loan (\$)
Hokah	Rehab/expansion of existing system	1,732,000	6,715	65.13
St. Cloud Grand Tierra/Chantry Estates	Unsewered area, connect to existing system			
Deer River	Rehab/expansion of existing system	1,500,000		
Mabel	Rehab/expansion of existing system	545,000	1,677	18.31
St. Francis	Rehab/expansion of existing system	3,406,000		
Franklin		3,648,000	21,361	137.47
Cold Spring	Rehab/expansion of existing system	5,983,000		
Moose Lake	Replace forcemain	235,000		
MCES – Empire Service Capacity	Rehab/expansion of existing system	49,500,000		
Halstad	Rehab/expansion of existing system	1,872,000	6,707	48.88
Pope County - Lk Minnewaska/Lk Pelican	Unsewered area			
Gonvick	Rehab/expansion of existing system			
Lake City	Rehab/expansion of existing system	6,415,000		
Maple Lake	Rehab/expansion of existing system	5,104,000		
Nashwauk	Sewer extension, expand existing system	2,759,150	5,267	33.45
Belle Plaine	Rehab/expansion of existing system	8,868,000		
Crosslake	Unsewered, collection and treatment	4,800,000		
Richmond	Rehab/expansion of existing system	1,650,000		
Cromwell	Rehab/expansion of existing system	1,016,000	21,413	127.18
Randolph	Unsewered, collection and treatment	3,715,600	22,061	277.54
Northern Twsp.	Unsewered area			

Name	Project	Estimated Total Project Cost (\$)	Average Assessment (or capital debt) per existing HH (includes existing debt) (\$)	Overall Avg. Res. Cost/ HH/month if Project Financed by SRF Loan (\$)
Pelican Group Of Lakes Improvement Dist	Unsewered, collection and treatment	16,947,000	15,222	89.42
Fosston	Rehab/expansion of existing system	112,000		
Clarissa	Rehab/expansion of existing system	750,000	2,880	29.57
Silver Creek Township - Stewart River	Unsewered, connect to existing system	5,300,000	19,647	104.20
Morgan	Rehab/expansion of existing system			
Wheaton	Sewer rehab	4,600,000		
Claremont	Rehab/expansion of existing system	2,952,500	12,739	103.31
Bertha	Rehab/expansion of existing system	1,391,500	3,479	27.99
Canton	Rehab/expansion of existing system	1,586,780	8,514	57.65
Steen	Rehab/expansion of existing system	294,076	4,138	47.06
Bird Island	Rehab/expansion of existing system	3,142,000		
Clarkfield	Rehab/expansion of existing system			
Avoca	Unsewered, collection and treatment	1,467,500	18,751	96.75
Bricelyn	Rehab/expansion of existing system	3,000,000	17,919	107.27
Chatfield				
Chisago Lakes Joint Sewage Treatment Commission	Rehab/expansion of existing system	9,000,000	2,401	30.10
Coleraine / Bovey / Taconite				
Detroit Township - Big Floyd Lake	Unsewered, collection and treatment	3,300,000		
Dilworth	Sewer rehab	975,000	1,216	48.59
Dover – Eyota - St. Charles SD (Phase 2)	Rehab/expansion of existing system	3,502,000	1,059	15.23

Name	Project	Estimated Total Project Cost (\$)	Average Assessment (or capital debt) per existing HH (includes existing debt) (\$)	Overall Avg. Res. Cost/ HH/month if Project Financed by SRF Loan (\$)
Elba	Unsewered, collection and treatment	0		
Elmore	Rehab/expansion of existing system	871,970		
Emily	Unsewered, collection and treatment	4,092,920	33,733	179.23
Gaylord – Sewer Extension	Service extension to unsewered area			
Gaylord – WWTP Improvements	Rehab/expansion of existing system			
Gilbert – Sparta Location	Service extension to unsewered area	1,034,000		
Grand Rapids - Stoeke Addition	Service extension to unsewered area	494,000		
Hampton	Rehab/expansion of existing system			
Hill City	Service extension to unsewered area	160,000		
Hudson Twsp / Forada	Unsewered, collection/connect to Alex Lakes Area S.D.	5,189,000	15,157	87.89
Kimball				
Iona	Unsewered, collection and treatment	1,326,050	14,340	74.92
Koochiching County (Ross)	Unsewered area			
La Crescent	Rehab/expansion of existing system	796,200		
La Salle	Unsewered, collection and treatment	1,232,770		
Lucan	Rehab/expansion of existing system			
Mora – Sewer Extensions	Service extension to unsewered area			
Oronoco	Unsewered, collection and treatment	11,180,000	31,464	241.94
Park Rapids	Service extension to unsewered area	1,350,000		
Pleasant Lake	Unsewered, collection and treatment	3,889,352		
Racine	Rehab/expansion of existing system			
Rockville Twp/Grand Lake	Unsewered area	2,444,518	13,214	89.01
Roscoe	Unsewered area	450,225	11,256	75.39
Rushmore	Rehab/expansion of existing system			

<i>Name</i>	<i>Project</i>	<i>Estimated Total Project Cost (\$)</i>	<i>Average Assessment (or capital debt) per existing HH (includes existing debt) (\$)</i>	<i>Overall Avg. Res. Cost/ HH/month if Project Financed by SRF Loan (\$)</i>
Rutledge	Unsewered, connect to Willow River	1,207,875		
Sherburne County - Eagle Lake Area	Unsewered, collection and treatment			
St. Stephen	Unsewered, collection and treatment	10,244,000	41,947	240.54
Sturgeon Lake	Unsewered area	3,607,373		
Thirty Lakes Watershed District	Unsewered, collection and treatment			
Urbank	Unsewered, collection and treatment			
Walnut Grove	Rehab/expansion of existing system	3,400,000		
Wanamingo	Rehab/expansion of existing system	1,003,600		
Westbrook	Rehab/expansion of existing system			
Whalen	Unsewered, collection and treatment	1,012,550	17,162	118.81

Table II – Municipalities Identified in the 2001 Annual Evaluation and Planning Survey with a Five-Year Need

Table II represents the needs reported in the 2001 AEPS survey by municipalities with a National Pollutant Discharge Elimination System (NPDES) permit or a State Disposal System (SDS) permit. The municipalities are required by statute to complete the survey every odd numbered year. The needs reported by these communities were compared to the projects on the PPL to ensure that there was no duplication. If communities pursue addressing these needs, this may also require new permits or permit modifications, which will add to the existing permit work load issues for the MPCA

MUNICIPALITY	PROJECTED NEED (\$)
Ada	700,000
Albany	1,200,000
Albert Lea	1,050,000
Albertville	31,400,000
Aurora	50,000
Austin	27,375,000
Baudette	1,835,000
Beaver Bay	650,000
Beaver Creek	100,000
Becker	1,500,000
Bemidji	6,050,000
Blooming Prairie	480,000
Bluffton	3,000,000
Brainerd	40,000,000
Brandon	200,000
Breezy Point	815,000
Browerville	110,000
Buffalo	1,500,000
Buhl Kinney	314,000
Byron	11,400,000
Callaway	100,000
Cannon Falls	25,400,000
Carver	1000
Chatfield	500,000
Chisholm	4,940,000
Chokio	2,670,000
Clinton	1,250,000
Comstock	460,000
Cottonwood	1,340,000
Dennison	50,000
Detroit Lakes	1,500,000
Dodge Center	980,000
East Grand Forks	9,500,000

MUNICIPALITY	PROJECTED NEED (\$)
Elbow Lake	1,456,000
Elk River	400,000
Elko/New Market	755,000
Fairmont	21,000,000
Faribault	4,000,000
Foley	1,200,000
Foreston	700,000
Fulda	470,000
Glencoe	1,920,000
Glenwood	5,500,000
Grand Meadow	1,352,000
Grand Rapids	5,456,000
Granite Falls	2,000,000
Grove City	15,000
Hackensack	2,100,000
Hallock	153,000
Hamburg	320,000
Hampton	650,000
Harmony	290,000
Henderson	3,015,000
Henry	450,000
Heron Lake	500,000
Hills	10,000,000
Hinckley	150,000
Houston	1,100,000
Howard Lake	800,000
Hutchinson	3,700,000
Isle	2,770,000
Jackson	125,000
Jeffers	10,000
Kasson	12,500,000
Kelliher	2,000
Kensington	4,224,000
Kettle River	8,000
Kimball	500,000
Lafayette	75,000
Lake Lillian	5,000,000
Lake Shore	430,000
Lancaster	50,000
Leroy	260,000
Lewiston	5,420,000
Littlefork	168,000

MUNICIPALITY	PROJECTED NEED (\$)
Longville	4,400,000
Lonsdale	8,100,000
Luverne	550,000
Madison Lake	1,900,000
Maple Lake	3,212,000
Mapleton	1,200,000
Marble	100,000
Marshall	4,500,000
McGregor	227,000
Medford	4,500,000
Melrose	2,550,000
Menahga	1,525,000
Met Council - Rosemount	7,000,000
Montevideo	50,000
Montgomery	500,000
Monticello	2,160,000
Moorhead	15,664,000
Mora	1,200,000
Morgan	544,000
Mountain Iron	100,000
New Germany	2,000,000
New Prague	1,020,000
New Ulm	4,000,000
New York Mills	1,000,000
Nicollet	515,000
North Branch	2,200,000
North Koochiching	700,000
Norwood Young America	4,000,000
Odessa	100,000
Olivia	340,000
Orr	600,000
Oslo	721,000
Otsego	2,300,000
Park Rapids	1,000,000
Paynesville	300,000
Pelican Rapids	500,000
Perham	7,800,000
Peterson	170,000
Pillager	1,200,000
Pine Island	500,000
Princeton	10,050,000

MUNICIPALITY	PROJECTED NEED (\$)
Remer	1,937,000
Renville	717,000
Rochester	22,950,000
Rogers	2,500,000
Roseau	1,500,000
Royalton	1,000,000
Rushford	1,000,000
Rushmore	2,600,000
Saint Francis	1,700,000
Sauk Centre	1,750,000
Serpent Lake	3,410,000
Silver Lake	75,000
Slayton	20,000
Sleepy Eye	590,000
St Cloud	24,700,000
St Michael	3,654,000
St. James	60,000
Stacy	1,170,000
Stephen	1,300,000
Stockton	800,000
Tower/Breitung	150,000
Tracy	250,000
Truman	95,000
Verndale	2,000,000
Virginia	100,000
Wabasso	1,500,000
Wadena	5,100,000
Walker	1,325,000
Waltham	500,000
Warren	250,000
Watertown	1,110,000
Watson	12,000
Waverly	3,448,000
Whitewater River Pollution Control Fac	4,854,000
Willmar	37,380,000
Winsted	250,000
Worthington	3,891,000
Wyoming	600,000
Zimmerman	590,000
Zumbro Falls	275,000
Zumbrota	1,050,000
Total	518,576,000

Table III – Municipalities Which Only Operate a Collection System Identified in the 1999 Annual Evaluation and Planning Survey with a Five-Year Need

Table III represents the needs reported in the 1999 AEPS survey by municipalities that do not have an NPDES or SDS permit, but operate and maintain a collection system. Examples include the member-cities served by the Metropolitan Council Environmental Services and the Western Lake Superior Sanitary District. While these cities do not have treatment systems, they are responsible for the capital improvements associated with their collection systems. Until 1998, these municipalities were not surveyed about their future needs because they did not have a permitted facility. In 1999, these municipalities were asked what the five-year need would be for their collection systems and approximately 40 percent responded. The 2001 AEPS survey was not mailed to these municipalities because it is not a statutory requirement; therefore, the figures used in Table III are from the 1999 survey.

Municipality	Type of Project *	Cost of the Project
Andover	CS: Sewer Extension	\$250,000
Anoka	CS: Rehab Due to Other	\$300,000
Arden Hills	CS: Rehab Due to I/I	\$500,000
Bayport	CS: Sewer Extension, Rehab Due to I/I	\$375,000
Bloomington	CS: Other	\$510,000
Bovey	CS: Rehab Due to I/I	\$100,000
Brooklyn Center	CS: Rehab Due to Other	\$7,500,000
Brooklyn Park	CS: Sewer Extension, Rehab Due to I/I, Rehab Due to Other	\$5,460,000
Carlton	CS: Due to I/I	\$2,000,000
Chanhausen	CS: Sewer Extension	\$750,000
Chaska	CS: Sewer Extension, Rehab Due to I/I, Rehab Due to Other	\$5,638,000
Circle Pines	CS: Sewer Extension, Rehab Due to I/I	\$1,650,000
Cloquet	CS: Sewer Extension, Rehab Due to I/I, Rehab Due to Other	\$1,100,000
Coleraine	CS: Rehab Due to I/I	\$134,000
Columbia Heights	CS: Rehab Due to I/I, Rehab Due to Other, Other	\$750,000
Crystal	CS: Rehab Due to Other, Other	\$285,000
Duluth	CS: Rehab Due to I/I	\$5,000,000
Elgin	CS: Sewer Extension	\$250,000
Empire Township	CS: Sewer Extension, Rehab Due to I/I	\$500,000
Farmington	CS: Rehab Due to I/I	\$125,000
Forest Lake	CS: Sewer Extension	\$1,000,000
Fridley	CS: Rehab Due to I/I	\$150,000
Hilltop	CS: Other	\$150,000

Municipality	Type of Project *	Cost of the Project
Lauderdale	CS: Rehab Due to I/I	\$1,000,000
Mahtomedi	CS: Sewer Extension, Rehab Due to I/I, Rehab Due to Other, Other	\$860,000
Maplewood	CS: Sewer Extension, Rehab Due to Other	\$400,000
Medina	CS: Sewer Extension, Rehab Due to I/I	\$550,000
Mendota Heights	CS: Sewer Extension	\$500,000
Minneapolis	CS: Sewer Extension, Rehab Due to Other, Other	\$177,500,000
Minnetonka	CS: Rehab Due to Other	\$1,100,000
Minnetrissa	CS: Sewer Extension	\$1,000,000
Mound	CS: Sewer Extension	\$200,000
Oak Park Heights	CS: Sewer Extension, Other	\$765,000
Orono	CS: Sewer Extension, Rehab Due to I/I	\$350,000
Prior Lake	CS: Other	\$1,000,000
Richfield	CS: Rehab Due to Other	\$500,000
Roseville	CS: Sewer Extension, Rehab Due to I/I, Rehab Due to Other	\$35,000
Sauk Rapids	CS: Sewer Extension	\$1,000,000
Savage	CS: Sewer Extension	\$15,000,000
South St. Paul	CS: Rehab Due to Other, Other	\$200,000
St. Louis Park	CS: Rehab Due to I/I	\$750,000
St. Joseph	CS: Sewer Extension	\$300,000
St. Paul	CS: Rehab Due to I/I, Other	\$116,000,000
Thomson	CS: Sewer Extension, Rehab Due to I/I	\$210,000
Tonka Bay	CS: Rehab Due to I/I, Rehab Due to Other	\$6,000
Waconia	CS: Sewer Extension, Rehab Due to I/I, Rehab Due to Other	\$4,925,000
Wayzata	CS: Rehab Due to I/I	\$50,000
West St. Paul	CS: Other	\$1,500,000
TOTAL		\$361,028,000

* CS = Collection System; I/I = Inflow and Infiltration

Appendix 2

Tables IV, V

**Table IV – Comparison of Minnesota Chronic Water Quality Standards to Federal Chronic Water Quality Criteria.
Minnesota Rules Chapter 7050, Standards For Protection of Quality and Purity.**

See Explanatory Notes, Definition of Terms, Abbreviations, and Footnotes after Table V.

January 2001

	Chemical	Units	U.S. EPA Criteria		Basis		Minnesota Standards			Basis	
			dw+f	f	dw+f	f	2A	2Bd	2B,C,D	dw+f	f
1	Acenaphthene	ug/L	20	20	Ho	Ho	20	20	20	Ho	Ho
2	Acrylonitrile (c)	ug/L	0.59	6.6	Hc	Hc	0.38	0.38	0.89	Hc	Hc
3	Alachlor (c)	ug/L	none	none	NA	NA	3.8	4.2	59	Hc	T1
4	Aluminum, total	ug/L	87	87	T1	T1	87	125	125	T1	T1
5	Ammonia, un-ionized (as N)										
	Summer conditions ^a	ug/L	65	65	T1	T1	16	40	40	T1	T1
	Winter Conditions ^b	ug/L	32	32	T1	T1	16	40	40	T1	T1
6	Anthracene	ug/L	9600	110,000	Hs	Hs	0.035	0.035	0.035	T2	T2
7	Antimony	ug/L	14	4,300	Hs	Hs	5.5	5.5	31	Hs	T1
8	Arsenic, total	ug/L	0.18	1.4	Hc	Hc	2.0	2.0	53	Hs	Hs
9	Atrazine	ug/L	none	12 ^c	NA	NA	3.4	3.4	10	Hc	T1
10	Benzene (c)	ug/L	12	710	Hc	Hc	9.7	11	114	Hc	T1
11	Bromoform	ug/L	43	3600	Hc	Hc	33	41	466	Hc	Hc
12	Cadmium, total ^d	ug/L	0.25	0.25	T1	T1	1.1	1.1	1.1	T1	T1
13	Carbon Tetrachloride (c)	ug/L	2.5	44	Hc	Hc	1.9	1.9	5.9	Hc	Hc
14	Chlordane (c)	ng/L	21	22	Hc	Hc	0.073	0.29	0.29	Hc	Hc
15	Chloride	mg/L	230	230	T1	T1	230	230	230	T1	T1
16	Chlorine, total residual	ug/L	11	11	T1	T1	11	11	11	T1	T1
17	Chlorobenzene (Monochlorobenzene)	ug/L	20	20	Ho	Ho	20	20	20	Ho	Ho
18	Chloroform (c)	ug/L	57	4700	Hc	Hc	53	53	155	Hc	T2
19	Chlorpyrifos	ug/L	0.041	0.041	T1	T1	0.041	0.041	0.041	T1	T1

	Chemical	Units	U.S. EPA Criteria		Basis		Minnesota Standards			Basis	
			dw+f	f	dw+f	f	2A	2Bd	2B,C,D	dw+f	f
							dw+f	dw+f	f		
20	Chromium III, total ^d	ug/L	86	86	T1	T1	207	207	207	T1	T1
21	Chromium VI, total	ug/L	11	11	T1	T1	11	11	11	T1	T1
22	Cobalt	ug/L	none	none	NA	NA	2.8	2.8	5.0	Hs	T1
23	Copper, total ^d	ug/L	9.3	9.3	T1	T1	9.8	9.8	9.8	T1	T1
24	Cyanide, free	ug/L	5.2	5.2	T1	T1	5.2	5.2	5.2	T1	T1
25	DDT (c)	ng/L	5.9	5.9	Hc	Hc	0.11	1.7	1.7	Hc	Hc
26	1,2-Dichloroethane (c)	ug/L	3.8	990	Hc	Hc	3.5	3.8	190	Hc	Hc
27	Dieldrin (c)	ng/L	1.4	1.4	Hc	Hc	0.0065	0.026	0.026	Hc	Hc
28	Di-2-ethylhexyl phthalate (c) (bis--)(DEHP)	ug/L	18	59	Hc	Hc	1.9	1.9	2.1	Hc	Hc
29	Di-n-octyl phthalate	ug/L	none	none	NA	NA	30	30	30	T1	T1
30	Endosulfan	ug/L	110 ^e	240 ^e	Hs	Hs	0.0076	0.029	0.031	Hs	Hs
31	Endrin	ug/L	0.76 ^e	0.81 ^e	Hs	Hs	0.0039	0.016	0.016	Hs	Hs
32	Ethylbenzene	ug/L	3100	29,000	Hs	Hs	68	68	68	T1	T1
33	Fluoranthene	ug/L	300	370	Hs	Hs	1.9	1.9	1.9	T2	T2
34	Heptachlor (c)	ng/L	2.1	2.1	Hc	Hc	0.1	0.39	0.39	Hc	Hc
35	Heptachlor Epoxide (c)	ng/L	1.0	1.1	Hc	Hc	0.12	0.48	0.48	Hc	Hc
36	Hexachlorobenzene (c)	ng/L	7.5	7.7	Hc	Hc	0.061	0.24	0.24	Hc	Hc
37	Lead, total ^d	ug/L	3.2	3.2	T1	T1	3.2	3.2	3.2	T1	T1
38	Lindane (BHC-gamma) (c)	ug/L	0.19	0.63	Hc	Hc	0.0087	0.032	0.036	Hc	Hc
39	Mercury, total	ng/L	1.7-7.0 ^f	1.7-7.0 ^f	Hs	Hs	6.9	6.9	6.9	Hs	Hs
40	Methylene Chloride (c) (Dichloromethane)	ug/L	47	16,000	Hc	Hc	45	46	1940	Hc	Hc
41	Naphthalene	ug/l	none	none	NA	NA	81	81	81	T1	T1
42	Nickel, total ^d	ug/l	52	52	T1	T1	158	158	158	T1	T1
43	Oil	ug/l	Nr	Nr	T1	T1	500	500	500	NA	NA
44	Parathion	ug/l	0.013	0.013	T1	T1	0.013	0.013	0.013	T1	T1
45	Pentachlorophenol (PCP)	ug/l	2.8	82 ^g	Hc	Hc	0.93	1.9	5.5	Hc	Hc
46	Phenanthrene	ug/l	none	none	NA	NA	3.6	3.6	3.6	T2	T2

	Chemical	Units	U.S. EPA Criteria		Basis		Minnesota Standards			Basis	
			dw+f	f	dw+f	f	2A	2Bd	2B,C,D	dw+f	f
							dw+f	dw+f	f		
47	Phenol	mg/l	0.3	0.3	Ho	Ho	0.12	0.12	0.12	T1	T1
48	Polychlorinated biphenyls	ng/l	1.7	1.7	Hc	Hc	0.014	0.029	0.029	Hc	Hc
49	Selenium, total	ug/l	5.0	5.0	T1	T1	5.0	5.0	5.0	T1	T1
50	Silver	ug/l	none	none	NA	NA	0.12	1.0	1.0	T1	T1
51	1,1,2,2-Tetrachloroethane (c)	ug/l	1.7	110	Hc	Hc	1.1	1.5	13	Hc	Hc
52	Tetrachloroethylene (c)	ug/l	8.0	89	Hc	Hc	3.8	3.8	8.9	Hc	Hc
53	Toluene	mg/l	6.8	200	Hs	Hs	0.25	0.25	0.25	T1	T1
54	Toxaphene (c)	ng/l	7.3	7.5	Hc	Hc	0.31	1.3	1.3	Hc	Hc
55	Thallium	ug/l	1.7	6.3	Hs	Hs	0.28	0.28	0.56	Hs	Hs
56	1,1,1-Trichloroethane	ug/l	none	none	NA	NA	329	329	329	T2	T2
57	1,1,2-Trichloroethylene (c)	ug/l	27	810	Hc	Hc	25	25	120	Hc	Hc
58	2,4,6-Trichlorophenol	ug/l	2.0	2.0	Ho	Ho	2.0	2.0	2.0	Ho	Ho
59	Vinyl Chloride (c)	ug/l	20	5250	Hc	Hc	0.17	0.18	9.2	Hc	Hc
60	Xylene (total m,p and o)	ug/l	none	none	NA	NA	166	166	166	T1	T1
61	Zinc, total ^d	ug/l	120	120	T1	T1	106	106	106	T1	T1

**Table V – Comparison of Minnesota Chronic Water Quality Standards to Federal Chronic Water Quality Criteria.
Minnesota Rules Chapter 7050, Standards For Protection of Quality and Purity.**

See Explanatory Notes, Definition of Terms, Abbreviations, and Footnotes after this table.

January 2001

	Chemical	Units	U.S. EPA Criteria		Basis		Minnesota Standards		Basis			
			dw+f	f	dw+f	f	L. Sup.	2A	2Bd	2B,C,D	dw+f	f
1	Arsenic, dissolved	ug/L	148	148	T1	T1	2.0	2.0	2.0	53	Hs	Hs
2	Benzene (c)	ug/L	12	310	Hc	Hc	10	11	12	114	Hc	T1
3	Cadmium, total ^d	ug/L	2.5	2.5	T1	T1	2.5	2.5	2.5	2.5	T1	T1
4	Chlordane (c)	ng/L	0.25	0.25	Hc	Hc	0.04	0.056	0.23	0.23	Hc	Hc
5	Chlorobenzene (Monochlorobenzene)	ug/L	470	3,200	Hs	Hs	10	10	10	10	T2	T2
6	Chromium III, total ^d	ug/L	86	86	T1	T1	86	86	86	86	T1	T1
7	Chromium VI, total	ug/L	11	11	T1	T1	11	11	11	11	T1	T1
8	Copper, total ^d	ug/L	9.3	9.3	T1	T1	9.3	9.3	9.3	9.3	T1	T1
9	Cyanide, free	ug/L	5.2	5.2	T1	T1	5.2	5.2	5.2	5.2	T1	T1
10	DDT (c)	ng/L	0.011	0.011	WL	WL	0.011	0.011	0.011	0.011	WL	WL
11	Dieldrin (c)	ng/L	0.0065	0.0065	Hc	Hc	0.0012	0.0016	0.0065	0.0065	Hc	Hc
12	2,4-Dimethylphenol	ug/L	450	8700	Hs	Hs	21	21	21	21	T2	T2
13	2,4-Dinitrophenol	ug/L	55	2800	Hs	Hs	53	53	55	71	Hs	T2
14	Endrin	ng/L	36	36	T1	T1	3.9	3.9	16	16	Hs	Hs
15	Hexachlorobenzene (c)	ng/L	0.45	0.45	Hc	Hc	0.074	0.11	0.42	0.42	Hc	Hc
16	Hexachloroethane	ug/L	5.3	6.7	Hc	Hc	1.0	1.5	5.0	6.2	Hc	Hc
17	Lindane (BHC-gamma) (c)	ug/L	0.47	0.50	Hs	Hs	0.080	0.11	0.43	0.46	Hs	Hs
18	Mercury, total	ng/L	1.3	1.3	WL	WL	1.3	1.3	1.3	1.3	WL	WL
19	Methylene Chloride (c) (Dichloromethane)	ug/L	47	2,600	Hc	Hc	46	46	47	1561	Hc	T2
20	Nickel, total ^d	ug/L	52	52	T1	T1	52	52	52	52	T1	T1

	Chemical	Units	U.S. EPA Criteria		Basis		Minnesota Standards				Basis	
			dw+f	f	dw+f	f	L. Sup.	2A	2Bd	2B,C,D	dw+f	f
							dw+f	dw+f	dw+f	f		
21	Parathion	ug/L	0.013	0.013	T1	T1	0.013	0.013	0.013	0.013	T1	T1
22	Polychlorinated biphenyls	ng/L	0.026	0.026	Hc	Hc	0.0045	0.0063	0.025	0.025	Hc	Hc
23	Pentachlorophenol^f	ug/L	18	18	T1	T1	0.93	0.93	1.9	5.5	Hc	Hc
24	Selenium, total	ug/L	5.0	5.0	T1	T1	5.0	5.0	5.0	5.0	T1	T1
25	2,3,7,8-TCDD	pg/L	0.0031	0.0031	WL	WL	0.0014	0.0020	0.0031	0.0031	Hc	Hc
26	Toluene	mg/L	5.6	51	Hs	Hs	0.25	0.25	0.25	0.25	T1	T1
27	Toxaphene (c)	ng/L	0.068	0.068	Hc	Hc	0.011	0.015	0.062	0.062	Hc	Hc
28	1,1,2-Trichloroethylene (c)	ug/L	29	370	Hc	Hc	22	24	29	330	Hc	Hc
29	Zinc, total ^d	ug/L	120	120	T1	T1	120	120	120	120	T1	T1

Comparison of Minnesota Chronic Water Quality Standards to Federal Chronic Water Quality Criteria Explanatory Notes, Definition of Terms, Abbreviations, and Footnotes for Tables IV and V.

January, 2001

Notes:

Tables IV and V

- Standards shown with white numbers and black background are more stringent than the comparable EPA criteria.
- A major reason some MPCA chronic standards are more stringent is the assumption used by the MPCA in setting human health-based standards that Minnesotans eat 30 grams of sport-caught fish per day (30 g/d = 1/2 pound per week). EPA assumes people eat 17.5 grams per day when setting human health-based criteria.
- MPCA standards equal to 90 % or more of the federal criterion are **not** considered more stringent.
- Chemicals or standards shown in **bold** can not be compared because:
 - 1) there is no EPA criterion, or
 - 2) EPA lacks either a human health- or toxicity-based criterion with which to compare to the MPCA standard.

Comparisons:

Table IV

- U.S. EPA criteria, as listed in the *Federal Register*, vol. 63, pages 68353-68364, December 10, 1998; of individual criteria.
- *Minnesota Standards* for toxic substances are contained in Minn. R. ch. 7050, last updated March 1998 and including eight standards revised in 1999, pending approval by the Governor's Office and EPA.

Totals:

Table IV

Of the 61 MPCA standards for toxic substances in Minn. R. ch. 7050:

- 24 Class 2A; 22 Class 2Bd; and 25 Class 2B,C,D MPCA standards are more stringent than comparable EPA criteria.
- 14 chemicals (in bold) do not have comparable MPCA standards and EPA Criteria.
- Additional 3 individual standards (in bold) are not comparable.

Comparisons:

Table V

- *U.S. EPA criteria*, as promulgated by EPA for the Great Lakes Initiative, 40 CFR 132, March 23, 1995.
- *Minnesota Standards* for toxic substances applicable to Lake Superior basin are in Minn. R. ch. 7052, adopted March 1998.

Totals:

Table V

Of the 29 MPCA standards for toxic substances in Minn. R. ch. 7052 (GLI):

- 10 Lake Superior; 9 Class 2A; 0 Class 2Bd; and 1 Class 2B,C,D MPCA standards are more stringent than comparable EPA criteria.
- 6 chemicals (in bold) do not have comparable MPCA standards and EPA Criteria.
- Additional 3 individual standards (in bold) are not comparable.

Terms and Abbreviations

Units: mg/L, milligrams per liter, or parts per million

ug/L, micrograms per liter, or parts per billion

ng/L, nanograms per liter, or parts per trillion

pg/L, picograms per liter, or parts per quadrillion (used for TCDD in Table V only)

EPA or *U.S. EPA*, means U.S. Environmental Protection Agency

L. Sup.: means Lake Superior, Minn. R. ch. 7052 has separate standards for Lake Superior (a Class 2A water) for certain pollutants

Class 2A: subclass of aquatic life and recreation use, applies to MDNR designated trout waters, includes protection for drinking water.

Class 2Bd: subclass of aquatic life and recreation use, applies to non-trout (warm water) fisheries, includes protection for drinking water.

Class 2B,C,D: subclasses of aquatic life and recreation use, applies to non-trout (warm water) fisheries, and wetlands; does not include protection for drinking water.

dw+f, means criterion/standard protects aquatic life plus human consumption of drinking water and fish

f, means criterion/standard protects aquatic life plus human consumption of fish, but not drinking water use.

(c), means the chemical is considered a carcinogen

NA, means not applicable

Nr, means criterion is in the form of a narrative

Basis - Criteria/standards are based on toxicity to aquatic life (T), impacts to human health (H), or impacts to wildlife (WL).

T1 means Tier I method (minimum of 8 species have been tested with this chemical)

T2 means Tier II method (minimum of 2 species have been tested with this chemical)

Hc means the criterion/standard is human health based and the chemical is carcinogenic

Hs means the criterion/standard is human health based and the chemical is noncarcinogenic

Ho means the criterion/standard is organoleptic-based; I.e., the chemical can impart an off taste or odor to fish or water

Footnotes

^a Criterion applicable to ambient conditions of pH=8.0 and temperature=20°C.

^b Criterion applicable to ambient conditions of pH=8.0 and temperature of=0°C.

^c From draft EPA atrazine criterion

^d Criterion/standard varies with ambient total hardness; values shown are for total hardness=100 mg/L

^e EPA has a toxicity-based criterion which is lower (more stringent) than this value, but not as low as the MPCA standard

^f EPA mercury criterion is a fish tissue concentration; values shown are range in water column that varies depending on the bioaccumulation factor selected.

^g Criterion/standard varies with ambient pH; values shown are for pH=8.0

Appendix 3
Project Priority List

PPL Rank	Name	Project	Project Number	Total Points	Estimated Project Cost (\$)
1	Appleton	Rehab/expansion of existing system	272373	918.75	1,920,000
2	St. Peter Phase 2/3	New treatment plant	272325	900.00	8,994,735
3	Mentor	Unsewered, collection and treatment	272592	900.00	1,700,000
4	MCES - Empire WWTP Expansion	Rehab/expansion of existing system	272267	835.00	2,924,158
5	La Salle	Unsewered, collection and treatment	272589	800.00	1,232,770
6	Revere	Unsewered, collection and treatment	272520	794.50	1,301,502
7	Federal Dam	Unsewered, collection and treatment	272280	791.50	560,000
8	Nerstrand	Unsewered, collection and treatment	272526	787.50	1,484,175
9	Dumont	Unsewered, collection and treatment	272456	718.10	1,138,000
10	Austin	Rehab/expansion of existing system	272409	704.74	
11	Delhi	Unsewered, collection and treatment	272515	702.50	691,240
12	Evan	Unsewered, collection and treatment	272514	682.80	691,240
13	Warroad	Rehab/expansion of existing system	272473	675.00	3,386,693
14	Avon	Rehab/expansion of existing system	272366	670.00	7,250,000
15	Lake Township	Unsewered, connect to Warroad	272474	665.50	7,251,187
16	Lewisville	Unsewered, collection and treatment	272301	665.00	1,440,340
17	W. Lake Sup. SD - Sec. Clarifier Improvements	Rehab/expansion of existing system	272583	663.85	3,000,000
18	Butterfield	Rehab/expansion of existing system	272479	650.00	2,005,000
19	Chandler	Rehab/expansion of existing system	272572	650.00	1,719,000
20	Dovray	Unsewered, collection and treatment	272521	636.05	569,800
21	Ormsby	Unsewered, collection and treatment	272501	628.45	784,485

PPL Rank	Name	Project	Project Number	Total Points	Estimated Project Cost (\$)
22	Moorhead	Rehab/expansion of existing system	272558	626.03	2,920,255
23	Chester Heights Olmstead Cty/Marion Twp	Unsewered, collection and treatment	272378	611.00	1,484,250
24	Woodstock	Unsewered, collection and treatment	272470	606.85	916,000
25	Delavan	Unsewered, collection and treatment	272478	603.05	2,638,000
26	South Haven	Unsewered, collection and treatment	272277	595.00	2,350,000
27	Garvin	Unsewered, collection and treatment	272204	592.70	1,350,000
28	Garrison/Kathio/Mille Lacs San.Dist.	Unsewered, collection/connect to Mille Lacs WWTP	271623	590.00	16,700,000
29	East Gull Lake	Rehab/expansion of existing system	272021	589.50	5,463,279
30	Benson	Rehab/expansion of existing system	272543	584.50	3,409,300
31	Cobden	Unsewered, collection and treatment	272513	582.50	557,854
32	Cedar Mills	Unsewered, collection and treatment	272525	572.00	825,963
33	Duluth - Fond Du Lac Project	Service extension to unsewered area	272435	571.45	1,772,173
34	Koochiching County – Jackfish Bay Area	Unsewered, collection/connect to existing system	272480	570.00	6,800,000
35	Murray County - Lake Shetek	Unsewered, collection and treatment	272466	552.80	11,800,000
36	Prinsburg	Unsewered, collection and treatment	272414	546.50	3,180,876
37	Delft	Unsewered, collection and treatment	272519	545.30	614,139
38	Nassau	Unsewered, collection/connect to Marrietta	272567	530.00	1,266,585
39	Crane Lake Area S. D.	Unsewered, collection and treatment	272307	521.00	2,410,300
40	MCES - MWWTP Centrifuge Dewatering	Rehab/expansion of existing system	279309	518.24	7,954,871
41	MCES - MWWTP Liquid Treatment	Rehab/expansion of existing system	272354	518.24	20,235,091
42	MCES - MWWTP Mpls Meter Improvements Con	Rehab/expansion of existing system	272147	518.24	1,538,432

PPL Rank	Name	Project	Project Number	Total Points	Estimated Project Cost (\$)
43	MCES - MWWTP Process Control (Computer)	Rehab/expansion of existing system	279302	518.24	2,795,470
44	MCES - MWWTP Solids Processing Improvements	Rehab/expansion of existing system	272355	518.24	151,033,516
45	MCES - MWWTP Work Space Imp. (Lab & Qual)	Rehab/expansion of existing system	272148	518.24	676,248
46	Long Prairie	Rehab/expansion of existing system	272472	514.56	6,766,300
47	MCES - Blue Lake Solids Processing	Rehab/expansion of existing system	272056	510.83	979,850
48	MCES - Blue Lake Groundwater Relief System	Rehab/expansion of existing system	272403	510.83	797,755
49	Duluth/ North Shore San. Dist.	Unsewered, collection/connect to WLSSD	272440	508.75	13,740,000
50	Mountain Lake	Rehab/expand existing system	272603	506.16	6,950,000
51	Gary	Unsewered, collection and treatment	272459	503.90	1,702,244
52	Tofte/Schroeder	Unsewered, collection and treatment	272437	497.00	10,350,000
53	Alexandria Lakes Area Service Region	Sewer extensions to unsewered areas	272468	485.00	3,420,600
54	Knife River-Larsmont Sanitary District	Unsewered, collection and treatment	272438	481.50	6,200,000
55	St. Paul South Highwood Area	Service extension to unsewered area	272323	476.00	1,500,000
56	Hibbing	Rehab/expansion of existing system	272215	469.00	5,033,517
57	Vermillion	Rehab/expansion of existing system	272542	468.75	3,500,000
58	Shevlin/Solway/Leonard	Unsewered, collection and treatment	272600	461.85	3,600,000
59	Dawson	Rehab/expansion of existing system	272509	460.00	1,500,000
60	Brandon Township	Unsewered, collection and treatment	272503	453.00	6,832,000
61	Storden	Rehab/expansion of existing system	272551	450.00	1,196,362
62	Villard	Unsewered, collection and treatment	272457	440.50	8,876,390
63	Milona Township	Unsewered, collection and treatment	272417	435.00	16,765,000

PPL Rank	Name	Project	Project Number	Total Points	Estimated Project Cost (\$)
64	Shafer	Rehab/expansion of existing system	272549	425.00	891,000
65	Litchfield	Rehab/expansion of existing system	272395	418.75	9,300,000
66	New York Mills	Rehab/expansion of existing system	272202	415.65	2,600,000
67	Dover - Eyota - St. Charles SD (Phase 1)	Rehab/expansion of existing system	272099	401.38	1,358,000
68	Lake Lillian	Rehab/expansion of existing system	272599	400.00	252,000
69	Viking	Unsewered, collection and treatment	272511	388.05	800,000
70	West Concord	Rehab/expansion of existing system	272297	385.00	2,258,000
71	Red Wing Bench Street	Forcemain, system improvements	272387	375.00	971,000
72	Shorewood Park (Rush Lake) Sanitary Dist	Service extension to unsewered area	272450	375.00	9,893,260
73	Harris	Rehab/expansion of existing system	272541	375.00	460,000
74	Lamberton	Rehab/expansion of existing system	272536	375.00	3,283,000
75	Stephen	Rehab/expansion of existing system	272496	375.00	160,000
76	Hoffman	Rehab/expansion of existing system	272517	375.00	2,330,950
77	Herman	Rehab/expansion of existing system	272464	375.00	2,604,800
78	Magnolia	Rehab/expansion of existing system	272331	375.00	650,000
79	Wright	Unsewered, collection and treatment	272582	358.75	1,128,448
80	Loon Lake - Jackson County	Unsewered, collection and treatment	272554	357.00	417,500
81	Eagle Bend	Rehab/expansion of existing system	272460	339.75	2,207,500
82	Watonwan County – Long Lake	Unsewered, collection and treatment	272486	332.00	1,288,000
83	Hendricks	Rehab/expansion of existing system	272107	325.00	1,139,729
84	Fox Lake Improvement District	Unsewered, collection and treatment	272539	324.50	833,990

PPL Rank	Name	Project	Project Number	Total Points	Estimated Project Cost (\$)
85	Annandale	Rehab/expansion of existing system	272560	297.50	6,600,000
86	Askov	Rehab/expansion of existing system	272219	275.00	1,150,000
87	Hitterdal		272595	275.00	
88	Rice Lake Township	Unsewered, collection and treatment	272538	258.75	4,892,926
89	Canby	Rehab/expansion of existing system	272322	250.00	2,750,000
90	Lansing Township	Unsewered, collection and treatment	272296	249.95	1,120,000
91	Grand Marais	Rehab/expansion of existing system	272477	247.00	645,500
92	Montrose	Rehab/expansion of existing system	272505	239.40	2,860,000
93	LeSueur	New treatment plant	272578	239.00	10,555,000
94	Floodwood	Service extension to unsewered area	272574	235.00	250,000
95	Deer Creek		272587	235.00	86,000
96	Dassel	Rehab/expansion of existing system	270985	232.05	1,400,000
97	Fisher	Rehab/expansion of existing system	272488	225.00	1,690,865
98	Lake Crystal	Rehab/expansion of existing system	272585	210.00	1,255,000
99	Pelican Group Of Lakes Improvement Dist	Unsewered, collection and treatment	272581	210.00	17,197,000
100	MCES - Dayton-Champlin Interceptor	Rehab/expansion of existing system	272546	205.00	3,733,000
101	MCES - Mpls Int 1-Mn-320 Improvements	Rehab/expansion of existing system	272545	205.00	5,731,290
102	MCES - LS Sup. Control/Field Telemetry	Rehab/expansion of existing system	272544	205.00	5,950,806
103	Chatfield		272561	197.00	
104	Battle Lake	Sewer rehab	272579	191.25	1,117,932
105	Ostrander	Rehab/expansion of existing system	272522	187.50	793,700
106	Lake Washington Area Sanitary District	Unsewered area	272566	185.00	5,200,000
107	Brooten	Rehab/expansion of existing system	272458	185.00	3,034,000

PPL Rank	Name	Project	Project Number	Total Points	Estimated Project Cost (\$)
108	MCES - Lake Minnetonka Area Interceptor Improvements	Rehab/expansion of existing system	272492	183.75	10,697,373
109	Red Wing Main Plant	Rehab/expansion of existing system	273002	183.75	8,000,000
110	Silver Creek Township – Stewart River	Unsewered, connect to existing system	272439	182.00	4,524,870
111	Wood Lake	Rehab/expansion of existing system	272577	168.40	720,000
112	Granite Falls Phase 2	Rehab/expansion of existing system	272197	165.00	1,380,000
113	Bethel	Rehab/expansion of existing system	272570	165.00	1,360,563
114	MCES - Centerville Interceptor Improvements	Rehab/expansion of existing system	272353	164.00	1,525,397
115	MCES - Elm Creek Interceptor Construction	Rehab/expansion of existing system	272146	164.00	67,667,172
116	MCES - Hopkins LS/FM Improvements	Rehab/expansion of existing system	272493	164.00	11,813,000
117	MCES - Mpls/St. Paul Interceptor Improvements	Rehab/expansion of existing system	272494	164.00	31,349,796
118	St. Paul Sewer Rehab	Rehab/expansion of existing system		164.00	
119	MCES - So. Washington Co Interceptor	Rehab/expansion of existing system	272356	162.50	38,009,403
120	MCES - So. Washington Co Plant	Rehab/expansion of existing system	272317	162.50	20,070,135
121	Crookston	Rehab/expansion of existing system	272483	157.00	1,190,000
122	MCES - Rosemount Interceptor	Rehab/expansion of existing system	272285	156.25	21,756,080
123	Wabasha Expansion	Rehab/expansion of existing system	272371	156.25	1,250,000
124	Aitkin	Rehab/expansion of existing system	272507	150.00	1,056,800
125	Biwabik	Rehab/expansion of existing system	272229	142.00	5,364,000
126	Little Falls	Rehab/expansion of existing system	272590	140.00	3,307,000
127	Claremont	Rehab/expansion of existing system	271376	135.00	2,952,500
128	Oslo	Rehab/expansion of existing system	272412	135.00	

PPL Rank	Name	Project	Project Number	Total Points	Estimated Project Cost (\$)
129	St. Hilaire	Rehab/expansion of existing system	272491	135.00	826,875
130	Montgomery	Rehab/expansion of existing system	270900	135.00	9,440,000
131	Gilbert	Rehab/expansion of existing system	272306	135.00	1,034,650
132	Audubon	Rehab/expansion of existing system	272487	135.00	1,632,300
133	Hokah	Rehab/expansion of existing system	272400	130.00	1,732,000
134	St. Cloud Grand Tierra/Chantry Estates	Unsewered area, connect to existing system	272413	125.00	
135	Deer River	Rehab/expansion of existing system	272596	125.00	1,500,000
136	Mabel	Rehab/expansion of existing system	272555	125.00	545,000
137	St. Francis	Rehab/expansion of existing system	272025	120.00	3,406,000
138	Franklin		272588	115.00	3,648,000
139	Cold Spring	Rehab/expansion of existing system	272528	115.00	5,983,000
140	Moose Lake	Replace forcemain	272593	110.00	235,000
141	MCES - Empire Service Capacity	Rehab/expansion of existing system	272547	109.38	132,072,694
142	Halstad	Rehab/expansion of existing system	272508	106.25	1,872,000
143	Pope County - Lk Minnewaska/Lk Pelican	Unsewered area	272573	102.25	
144	Gonvick	Rehab/expansion of existing system	271210	100.00	
145	Lake City	Rehab/expansion of existing system	272559	99.40	6,415,000
146	Maple Lake	Rehab/expansion of existing system	272591	99.40	5,104,000
147	Nashwauk	Sewer extension, expand existing system	272537	99.40	2,759,150
148	Belle Plaine	Rehab/expansion of existing system	272553	97.00	8,868,000
149	Crosslake	Unsewered, collection and treatment	272360	92.00	4,800,000

PPL Rank	Name	Project	Project Number	Total Points	Estimated Project Cost (\$)
150	Richmond	Rehab/expansion of existing system	272429	92.00	1,650,000
151	Cromwell	Rehab/expansion of existing system	272363	92.00	1,016,000
152	Randolph	Unsewered, collection and treatment	272584	85.00	3,715,600
153	Northern Twsp.	Unsewered area	272604	85.00	
154	Fosston	Rehab/expansion of existing system	272461	75.00	112,000
155	Clarissa	Rehab/expansion of existing system	272462	75.00	575,000
156	Morgan	Rehab/expansion of existing system	272557	52.00	
157	Wheaton	Sewer rehab	272454	50.00	4,600,000
158	Bertha	Rehab/expansion of existing system	272442	50.00	1,265,000
159	Canton	Rehab/expansion of existing system	272422	50.00	1,586,780
160	Steen	Rehab/expansion of existing system	272564	50.00	294,076
161	Bird Island	Rehab/expansion of existing system	272500	10.00	3,142,000
162	Clarkfield	Rehab/expansion of existing system	272535	10.00	
163	Avoca	Unsewered, collection and treatment	272598	1.00	1,467,500
164	Bricelyn	Rehab/expansion of existing system	272534	1.00	3,000,000
165	Chisago Lakes Joint Sewage Treatment Comm.		272550	1.00	9,000,000
166	Chisholm	Replace digester cover	272609	1.00	400,000
167	Coleraine / Bovey / Taconite		272452	1.00	
168	Detroit Township - Big Floyd Lake	Unsewered, collection and treatment	272411	1.00	3,300,000
169	Dilworth	Sewer rehab	272607	1.00	975,000
170	Dover - Eyota - St. Charles SD (Phase 2)	Rehab/expansion of existing system	272099	1.00	3,502,000
171	Elba	Unsewered, collection and treatment	272425	1.00	
172	Elmore	Rehab/expansion of existing system	272421	1.00	871,970
173	Emily	Unsewered, collection and treatment	272499	1.00	4,092,920

PPL Rank	Name	Project	Project Number	Total Points	Estimated Project Cost (\$)
174	Gaylord - Sewer Extension	Service extension to unsewered area	272448	1.00	
175	Gaylord - WWTP Improvements	Rehab/expansion of existing system	272447	1.00	
176	Gilbert - Sparta Location	Service extension to unsewered area	272504	1.00	1,034,000
177	Grand Rapids - Stoeke Addition	Service extension to unsewered area	272498	1.00	494,000
178	Hampton	Rehab/expansion of existing system	272532	1.00	
179	Hill City	Service extension to unsewered area	272597	1.00	160,000
180	Hudson Twsp / Forada	Unsewered, collection/connect to Alex Lakes Area SD	272565	1.00	5,189,000
181	Iona	Unsewered, collection and treatment	272602	1.00	1,326,050
182	Kimball		272594	1.00	
183	Koochiching County (Ross)	Unsewered area	272396	1.00	
184	La Crescent	Rehab/expansion of existing system	272324	1.00	796,200
185	Lucan	Rehab/expansion of existing system	272586	1.00	
186	Mora - Sewer Extensions	Service extension to unsewered area	272523	1.00	
187	Oronoco	Unsewered, collection and treatment	272606	1.00	11,180,000
188	Park Rapids	Service extension to unsewered area	272556	1.00	1,350,000
189	Pleasant Lake	Unsewered, collection and treatment	272446	1.00	3,889,352
190	Racine	Rehab/expansion of existing system	272608	1.00	
191	Rockville Twp/Grand Lake	Unsewered area	272446	1.00	2,436,319
192	Roscoe	Unsewered area	272516	1.00	450,000
193	Rushmore	Rehab/expansion of existing system	272375	1.00	
194	Rutledge	Unsewered, connect to Willow River	272569	1.00	1,207,875
195	Sherburne County – Eagle Lake Area	Unsewered, collection and treatment	272497	1.00	
196	St. Stephen	Unsewered, collection and treatment	272552	1.00	9,518,000

PPL Rank	Name	Project	Project Number	Total Points	Estimated Project Cost (\$)
197	Sturgeon Lake	Unsewered area	272568	1.00	3,607,373
198	Thirty Lakes Watershed District	Unsewered, collection and treatment	272576	1.00	
199	Urbank	Unsewered, collection and treatment	272580	1.00	
200	Walnut Grove	Rehab/expansion of existing system	271252	1.00	3,400,000
201	Wanamingo	Rehab/expansion of existing system	272533	1.00	1,003,600
202	Westbrook	Rehab/expansion of existing system	272529	1.00	
203	Whalen	Unsewered, collection and treatment	272605	1.00	1,012,550
<i>Total Costs for Communities Reporting Project Costs</i>					<i>1,032,775,064</i>