Facility Plan

Wastewater Treatment Facilities

East Gull Lake, Minnesota

SEH No. EAGUL 136787

March 3, 2017

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Wastewater Treatment Facilities
Facility Plan
East Gull Lake, Minnesota

SEH No. EAGUL 136787EAGUL 136787

March 3, 2017

I hereby certify that this report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

John Friel, PE

Project Manager

Date: March 3, 2017 Lic. No.: 42130

Reviewed By: Jeff Ledin, PE / Brendan Wolohan, EIT Date: March 3, 2017

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Facility Plan

Wastewater Treatment Facilities

Prepared for the City of East Gull Lake

1.0 Introduction

The City of East Gull Lake is located in Cass County in north central Minnesota. The 2010 U.S. Census Bureau population for East Gull Lake was 1,004. The population of the City increases during the summer months due to tourism and lake homes and there are currently no significant industries within the City limits. There are two wastewater treatment facilities (WWTF) within the study area that discharge to the Gull River, the Squaw Point WWTF serving the north and Pine Beach WWTF serving the south section of the City. See Figure 1 for a site map of the community and existing facilities.

2.0 Regulatory Requirements

Both of the East Gull Lake WWTFs discharge wastewater in accordance with Minnesota National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) permit no. MN0059871. A copy of the current permit is included in Appendix A. This permit became effective February 13, 2015 and expires September 30, 2019.

3.0 Facility Planning

The City of East Gull Lake authorized this facility planning study of its wastewater treatment facilities to:

- Address the aging condition and treatment capacity of Squaw Point WWTF which is within 85% of Average Wet Weather Flow (AWW) hydraulic design capacity.
- Estimate flows and loadings to both WWTFs for the 20-year design period (2038).
- Investigate scenarios to transfer wastewater from the Squaw Point WWTF to the Pine Beach WWTF to consolidate discharges and reduce point source loading to the Gull River.
- Develop cost estimates to upgrade aging Lift Station No. 2 and Lift Station No. 5 and Lift Station No. 10 within the collection system.
- Develop cost estimates for treatment alternatives and evaluate user rate impacts resulting from recommended improvements.

4.0 Flow and Load Projections

The facility plan uses a 20-year design period for assessing the future needs at the East Gull Lake WWTFs. Therefore, 2038 future flows and loads become the design criteria for the WWTF improvements.

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4.1 Infiltration and Inflow

Infiltration and inflow (I/I) is essentially clean water that enters the collection system as a result of rainfall or elevated groundwater levels. The MPCA has established guidelines to assist in evaluating the extent of I/I. A cursory review of the I/I was performed and the calculated I/I conditions of 120 gallons per capita per day (gpcd) are below the 275 gpcd threshold for a maximum month I/I condition.

4.2 Projected Flows and Loads

The 2010 population in East Gull Lake was 1,004 according to the U.S Census Bureau. The community currently has 1,126 Equivalent Residential Connections (ERC) throughout the collection system which includes the connections from resorts and seasonal inhabitants, 216 at Squaw Point WWTF and 910 at Pine Beach WWTF. Table 1 shows current permitted in comparison to projected flows and loadings for Squaw Point WWTF. The north side of East Gull Lake is projected to increase by 120 additional ERCs, while the south side of the community is projected to remain at 910 ERCs, for a total of 1,246. Appendix B provides more details on how the 2038 projections were derived.

The projected flows and loads are based on the ERC projections and the historical flow and load data from each WWTF.

Table 1
2038 Squaw Point WWTF Projected Flows and Loads

		Current Permit	2038 Projections
Equivalent Residential Connections, ERC		216	336
Flow Condition	Average Dry Weather Flow (ADW), MGD[1]	0.0160	0.0252
	Average Wet Weather Flow (AWW), MGD[1,2,3]	0.0334	0.0521
	Annual Average Flow, MGD	0.0200	0.0312
	Peak Hourly Wet Weather Flow (PHWW)[3], MGD	0.0600	0.0935
	Peak Instantaneous Wet Weather Flow (PIWW)[4], MGD	0.0600	0.0935
TSS	Average, lb/day	55.0	84.0
	Peak, lb/day	68.5	107
BOD	Average, lb/day	70.6	110
	Peak, lb/day	74.5	142
Phos	Average, lb/day	2.66	4.03
	Peak, lb/day	2.86	4.44
TKN	Average, lb/day	N/A	N/A
	Peak, lb/day	N/A	N/A

[1]: Based on projected population growth in East Gull Lake by 2038

[2]: Includes 155 gallons per ERC per day for East Gull Lake population growth.

[3]: May 1-31, 2012 received 9.1" rain.

[4]: Peaking factor from Ten State Standards used to calculate – actual data not available.

Projected flows and loadings presented in Table 2 are for the Pine Beach WWTF and include flows generated in the north section of town currently treated by the Squaw Point WWTF.

Table 2
2038 Pine Beach WWTF Projected Flows and Loads

		Current Permit	2038 Projections
Equivalent Residential Connections, ERC		910	1,246
Flow Condition	Average Dry Weather Flow (ADW), MGD[1]	0.082	0.108
	Average Wet Weather Flow (AWW), MGD[1,2,3]	0.363	0.415
	Annual Average Flow, MGD	0.077	0.108
	Peak Hourly Wet Weather Flow (PHWW)[3], MGD	0.231	0.264
	Peak Instantaneous Wet Weather Flow (PIWW)[4], MGD	0.231	0.264
TSS	Average, lb/day	354.6	473
	Peak, lb/day	431.2	477
BOD	Average, lb/day	429.6	473
	Peak, lb/day	562.6	623
Phos	Average, lb/day	19.9	21.2
	Peak, lb/day	22.2	24.5
TKN	Average, lb/day	109.6	121
	Peak, lb/day	115.4	128

[1]: Based on projected population growth in East Gull Lake by 2038
[2]: Includes 155 gallons per ERC per day for East Gull Lake population growth.
[3]: May 1-31, 2012 received 9.1" rain.
[4]: Peaking factor from Ten State Standards used to calculate – actual data not available.

5.0 Existing Conditions

5.1 Squaw Point WWTF

The Squaw Point WWTF is located in the north section of East Gull Lake and treats roughly 8% of the community's permitted total wastewater flow. The facility was originally constructed in 1990 and consists of two aerated ponds, currently operated in series, followed by two gravity sand filters and then on to ultraviolet (UV) disinfection before discharge. The gravity sand filters were originally designed for the Pine Beach WWTF and were relocated to Squaw Point WWTF in 2004. Following disinfection, the facility discharges treated effluent to the Gull River. The Squaw Point WWTF is within 85% of the permitted average wet weather flow and requires improvements to meet 20-year design flows and projected effluent limits. Until recently, with operational modifications to reverse flow to first be treated through Pond 2 then through Pond 1 due to leaky air piping issues in the aeration piping in Pond 1, the facility was having trouble meeting effluent BOD limits. In addition to air leaks in the aeration system, the UV disinfection system has exceeded design life and is in need of replacement.

The gravity sand filters are in need of replacement. The Squaw Point WWTF is not designed to remove phosphorus.

5.2 Pine Beach WWTF

The Pine Beach WWTF serves the majority of the collection system in East Gull Lake. The facility was originally constructed in 1990 with the Squaw Point WWTF as a three cell aerated pond system, followed by sand filtration and UV disinfection. Modifications have most recently been done in 2004 to convert the facility to a hybrid mechanical extended aeration activated sludge facility with the addition of final clarifiers and return activated sludge piping to the head of the facility. This allows Operators to maintain optimal mixed liquor activated sludge (MLSS) concentrations in the aeration basins for BOD removal. An aerated overflow basin is available for flow and load equalization of peak influent flows. Flow then goes to two fully redundant final clarifiers currently operated in an alternating configuration. The final clarifiers are adequately sized for projected flows and solids loading. Waste activated sludge (WAS) is pumped from the final clarifiers to an aerobic digestion basin and then on to a solids holding basin. From the holding basin, liquid hauling trucks come on site to remove solids for disposal. The Pine Beach WWTF has a chemical phosphorus removal system by adding coagulant (alum/ferric) ahead of final clarifiers to remove phosphorus down to 1.0 mg/L. The facility is operating at approximately 40% of the permitted design flow, and has no issues meeting NPDES permit limits. As such, an expansion to the Pine Beach WWTF is assumed to not be needed within the planning period.

5.3 Lift Station No. 1

Lift Station No. 1 is located to the northwest of the Squaw Point WWTF and is the main lift station pumping flow into the WWTF, see Figure 1 for location of the Lift Station. There are two submersible pumps and a valve vault containing plug and check valves for the beginning stretch of the 4-inch forcemain to the Squaw Point WWTF.

5.4 Lift Station No. 2

Lift Station No. 2 is located in the south section of East Gull Lake and pumps raw wastewater to the Pine Beach WWTF via a 6-inch forcemain. See Figure 1 for location of Lift Station No. 2. The lift station consists of a wet well containing two submersible pumps, a valve vault housing plug and check valves for the forcemain to the Pine Beach WWTF. The wet well is adequately sized for cycle times within recommended range at current flows in this area. Directly adjacent to the wet well and valve vault is a small building that houses the original control panel for the pumps as well as a diesel powered generator. The Control system, submersible pumps and valves are reaching design life and are in need of replacement. There are currently no means of communications between the lift station control panel and community's wastewater facilities.

5.5 Lift Station No. 5

Lift Station No. 5 is located on Pine Beach Peninsula Road and serves a portion of the southern section of East Gull Lake pumping raw wastewater to the Pine Beach WWTF. See Figure 1 for Lift Station No. 5 location in East Gull Lake. Lift Station No. 5 consists of a shallow wet well containing two submersible pumps and a valve vault containing 6-inch plug and check valves for the forcemain to Pine Beach WWTF. Adjacent to the pumping station is a small wooden enclosure that protects the control panel from the elements. The wet well is very shallow and does not provide adequate live storage volume for optimal pump

performance. Currently the submersible pumps take approximately one minute to drain raw wastewater in the wet well when called to run during average dry weather flows. For improved pump performance and operation, it is recommended the lift station be replaced to minimize the number of stops and starts to six per hour to reduce wear on the electric motors. The lift station is located near the shores of Gull Lake and a new nearby location is recommended. There are currently no means of communication between the lift station control panel and community's wastewater facilities.

5.6 Lift Station No. 10

Lift Station No. 10 is located at the intersection of Pine Beach Road and County Road 18 in the south of East Gull Lake. See Figure 1 for site location of Lift Station No. 10. No. 10 is the main lift station that collects all flow generated in the south of East Gull Lake and conveys to the Pine Beach WWTF for treatment. The lift station contains two submersible pumps, a valve vault, control panel with variable frequency drive (VFD) controls and a backup generator. The wet well is in fair condition, however raw wastewater conditions have exposed areas of exposed aggregate in need of re-coating to prolong the life of the concrete that makes up the lift station's wet well. Flow is sent directly to the head of the Pine Beach WWTF via an 8-inch forcemain.

6.0 Discharge Requirements

Currently both Squaw Point and Pine Beach WWTFs discharge to the Gull River. Four alternative scenarios (or options) were identified to improve the East Gull Lake wastewater system. These scenarios were the basis for the preliminary effluent limit review request.

The first scenario was to increase flows to Squaw Point WWTF by the projected 120 ERCs in the north side of town, with no flow changes to the Pine Beach WWTF. For this scenario, Squaw Point WWTF would need to be rehabilitated and expanded. The second scenario was to pump the increased projected flow to the Pine Beach WWTF and demolish the Squaw Point WWTF. Scenario 3 consists of transferring the existing permitted flow from Squaw Point WWTF to Pine Beach WWTF and demolish the Squaw Point WWTF. The fourth scenario identified was to transfer flow from the north to the south, but with no change to permitted flow to Pine Beach WWTF and demolish the Squaw Point WWTF.

The City requested preliminary effluent limits from MPCA for four the alterative scenarios to determine whether they would have to make improvements to the Squaw Point WWTF, or eliminate this facility, upgrade nearby Lift Station No. 1, and pump flows generated in the north section of town to the Pine Beach WWTF in the south. A copy of the response letters from MPCA to the preliminary effluent limit review request is included in Appendix D. Table 3 summarizes the preliminary effluent limits for the alternative scenarios investigated as a part of this facility plan.

Table 3
Preliminary Effluent Limits

	Scenario 1		Scenario 2	Scenario 3	Scenario 4
Substance or Characteristic	**Squaw Point WWTF**	**Pine Beach WWTF**	**Pine Beach WWTF**	**Pine Beach WWTF**	**Pine Beach WWTF**
Average Wet Weather Flow, MGD	0.0521	0.363	0.4151	0.3964	0.363
5-Day Carbonaceous Biochemical Oxygen Demand, mg/L	25	25	25	25	25
Total Suspended Solids, mg/L	45	30	30	30	30
Fecal Coliform, organisms/mL (1)	200/100	200/100	200/100	200/100	200/100
pH Range	6.0 – 9.0	6.0-9.0	6.0 – 9.0	6.0-9.0	6.0-9.0
Total Phosphorus, kg/yr	162	502	664	664	502

(1) Applicable from April – October. If chlorine is used to achieve the effluent limitation for fecal coliform group organisms, then dechlorination must be provided.
(2) See Appendix D.

The preliminary effluent limits from the MPCA also include the following comments which have been summarized here:

- Antidegradation review would be required for Option 1 and 2, unless East Gull Lake accepts a loading freeze at nondegradation design flows.
- If the consolidation of WWTF discharge was not to occur, the Squaw Point WWTF would expect the following effluent limits:
  - 5-Day CBOD: 25 mg/L
  - TSS: 45 mg/L
  - Fecal Coliform: 200 Org/100mL
  - pH: 6.0-9.0
  - Total Phosphorus: 162 kg/yr

These comments were used in the evaluation of treatment alternatives.

7.0 Alternative Evaluation

The following two treatment alternatives were evaluated to determine the most cost effective alternative along with lift station improvements:

- Squaw Point WWTF Expansion and Improvements.
- New forcemain from Lift Station No. 1 to convey wastewater from the north Squaw Point WWTF south to the Pine Beach WWTF for treatment.
- Lift Station No. 2 Improvements
- Lift Station No. 5 Improvements
- Lift Station No. 10 Improvements

7.1.1 Squaw Point WWTF Expansion

To meet effluent limits presented in the Preliminary Effluent Limits response letter from MPCA found in Appendix D, the Squaw Point WWTF would need major facility improvements. To treat increased projected influent flows and loadings, a third aerated pond would need to be constructed. Due to existing slope and conditions at the facility, it is likely that additional land would need to be purchased on the west side of the existing site for the construction of the third aerated pond. Costs associated with land purchase have been accounted for in the cost estimate for this alternative. In addition to the construction of a third pond, the synthetic liner, diffused aeration grid, air piping, and blowers associated with the existing aerated pond system are reaching their design life and are in need of replacement. New blowers would be sized to provide aeration at 20-year design flows for all three ponds, and the ability to operate ponds in parallel or in series would be available to Operations staff. It is recommended that a new building be constructed to house new aeration blowers, and other process equipment as a part of the facility expansion.

To reliably meet effluent total suspended solids (TSS) and total phosphorus (TP) effluent limits projected in the Preliminary Effluent Limits response letter from MPCA, two final clarifiers are recommended to be constructed following the three aerated ponds. A chemical coagulant dosing point would be provided in an influent flow splitter box ahead of final clarifiers to ensure adequate mixing is provided to distribute coagulant evenly in both clarifiers for enhanced settling of particulate TP. A new chemical storage building will be required to be constructed to house bulk storage tanks for aluminum sulfate or ferric chloride for chemical phosphorus removal.

The gravity sand filters would be removed as a part of the facility improvements. Following final clarification, flow would be routed to a new UV disinfection system housed in the process equipment building with new aeration blowers. Table 4 depicts a summary of the total estimated costs associated with rehabilitating and improving the Squaw Point WWTF to meet projected NPDES permit limits. The 20-year net present value is shown for comparison of two alternatives only. A detailed summary of the improvements costs can be found in Appendix E. See Figure 2 for more details on proposed WWTF process improvements.

Table 4
Squaw Point WWTF Improvements Cost Estimate

Improvements	Capital Cost Estimate	20-Yr Net Present Value
Squaw Point WWTF Improvements	$2,819,000	$4,462,000
(1) Costs include Contingency, Engineering, Legal & Admin, as well as Land Acquisition.		

7.1.2 New Forcemain from Lift Station No. 1 to Pine Beach WWTF

Improvements to Lift Station No. 1 would include new submersible pumps to allow for the projected increased flows and increase in total dynamic head (TDH) conditions to pump to the Pine Beach WWTF. The longer forcemain, approximately 4.25 miles and elevation difference between the wet well at Lift Station No. 1 and the Pine Beach WWTF are considerable. Along with pump replacement, valves and other piping within the wet well and valve vault would be replaced with new. The wet well would be re-coated to increase the longevity of the concrete.

From the rehabilitated lift station, flow will travel through a newly constructed 6-inch forcemain to the Pine Beach WWTF. The forcemain will be directionally drilled wherever possible to minimize ground disturbance, and only a short section of forcemain is required to be open cut. Air release and cleanout manholes will be placed throughout the forcemain appropriately to ensure accessibility and optimal flow through the forcemain to the Pine Beach WWTF. Instead of discharging to the main Lift Station No. 10 in the south, it is recommended to end the new stretch of forcemain at the influent splitter box at the Pine Beach WWTF to minimize potential hydraulic issues in Lift Station No. 10. Figure 3 provides a planning level forcemain alignment showing the approximate route to the Pine Beach WWTF.

As a part of the forcemain alternative, the Squaw Point WWTF decommissioning costs were included. This would consist of removing all process equipment, demolishing process equipment buildings and gravity sand filters. Pond supernatant shall be pumped off site for treatment at the Pine Beach WWTF. Once down to the biosolids layer that have accumulated at the bottom of the aerated ponds, biosolids would be removed from the site by pumping and by excavation depending on the solids content. The site would then be re-graded to allow for adequate drainage and potential future land use.

Table 5 shows the capital and 20-year net present value cost estimates associated with the forcemain alternative.

Table 5
Forcemain Alternative Cost Estimate

Improvements	Capital Cost Estimate	20-Yr Net Present Value
Lift Station No. 1 Improvements & Forcemain Construction	$2,723,000	
Squaw Point Decommissioning	$357,000	
Total	**$3,080,000**	**$3,412,000**
(1) Costs include Contingency, Engineering, Legal & Admin, as well as Land Acquisition.		

7.1.3 Lift Station No. 2 Improvements

The wet well and submersible pumps appear to be adequately sized at current flows. The corrosive nature of raw wastewater has created areas of exposed aggregate within the wet well and re-coating of the wet well is recommended. The submersible pumps, valves and control panel have exceeded their design life and are in need of replacement. In addition to replacement of the control panel, SCADA system connectivity is recommended for improved process control and acknowledgement of alarms when they arise. Currently there is only a red light to notify Operators of an alarm in the lift station, and someone has to be present to see this light illuminated in order to know of an alarm. Minor upgrades to the existing building and replacement of the well pressure tank are also recommended.

7.1.4 Lift Station No. 5 Improvements

It is recommended to relocate Lift Station No. 5 approximately 200 feet to the southwest from its current location. Figure 4 shows the approximate new location for Lift Station No. 5. The wet well needs to be replaced due to the very small live storage volume available. A larger wet well will minimize the number of stops and starts of the submersible pumps to prolong the pump motor life. The new pumps will be sized for the measured flows in this area. A small building to house the pump control panel is recommended to make it easier to perform routine maintenance. Since Lift Station No. 5 is one of the major lift stations in the community, it is recommended that SCADA connectivity be provided, so operators have a better idea of the running status and condition of the lift station.

7.1.5 Lift Station No. 10 Improvements

Minor improvements to Lift Station No. 10 are recommended to include re-coating of the wet well to increase operation life of the existing concrete, and SCADA system connectivity to the wastewater treatment SCADA system.

Table 6 below depicts cost estimates associated with Lift Station improvements at the above mentioned sites. Detailed cost estimates for Lift Station improvements can be found in the Appendix G.

Table 6
Lift Station Improvements Cost Estimate

Location	Estimated Cost (1)
Lift Station No. 2 Improvements	$330,000
Lift Station No. 5 Improvements	$732,000
Lift Station No. 10 Improvements	$29,300
Total	$1,091,300

(1) Costs include Contingency, Engineering, Legal & Admin.

7.2 Estimated Costs for Recommended Alternatives

The estimated costs for the alternatives are presented in the Table 7. The recommended alternative is highlighted. These costs presented are capital costs and 20-year present values which take into account both the capital cost and the annual operations and maintenance (O&M) costs over a 20-year period. A more detailed breakdown of the cost estimates presented in Table 7 in Appendix E and F.

Table 7
Recommended Alternative Cost Summary

Improvements	Capital Cost Estimate	20-Yr Net Present Value
Squaw Point WWTF Improvements	$2,819,000	$4,462,000
Forcemain Alternative	$3,080,000	$3,412,000
(1) Recommended alternative is highlighted above.		

8.0 Summary of Recommendations and Proposed Project Schedule

Construction of a new 6-inch forcemain to pump wastewater generated in the north section of town to the Pine Beach WWTF for treatment is the recommended alternative treatment. The estimated project cost for Squaw Point WWTF decommissioning, Lift Station No. 1 improvements, and new forcemain construction is $3,080,000. The estimated cost for the recommended lift station 2, 5, and 10 improvements is $1,091,300.

Table 8 shows the proposed schedule for the project.

Table 8
Anticipated Schedule

Action	Tentative Date
Submit Facility Plan and PPL application to MPCA	2017
Submit Plans and Specifications to MPCA	2018-2019
Complete Construction	2019-2020

9.0 Wastewater User Rate Impact Evaluation

Understanding the impact the new capital projects will have on the existing user rates requires knowledge of the existing annual operations and maintenance costs and how those annual costs will change with the new capital projects. Ehlers has performed a detailed rate study for the City of East Gull Lake. The model created as a result of this study is located in Appendix I. This evaluation provided an estimated impact to future wastewater user rates based on existing costs and projected future costs.

Figures

Figure 1 – Site Map
Figure 2 – Squaw Point WWTF Improvements
Figure 3 – Forcemain Alignment
Figure 4 – Lift Station No. 5 Improvements

Legend

Sanitary Pipes

Force Main

Gravity Main

0 45 90 180 Feet

This map is neither a legally recorded map nor a survey map and is not intended to be used as one. This map is a compilation of records, information, and data gathered from various sources listed on this map and is to be used for reference purposes only. SEH does not warrant that the Geographic Information System (GIS) Data used to prepare this map are error free, and SEH does not represent that the GIS Data can be used for navigational, tracking, or any other purpose requiring exacting measurement of distance or direction or precision in the depiction of geographic features. The user of this map acknowledges that SEH shall not be liable for any damages which arise out of the user's access or use of data provided.

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Project: EAGUL 113541
Print Date: 2/22/2017

Map by: AGK
Projection: Cass (South) Country Coordinates
Source: ESRI, East Gull Lake, SEHTS, Asbuilts

LIFT STATION No. 5 PROPOSED LOCATION

East Gull Lake, Minnesota

Sanitary Sewer

FIGURE 4

Legend

0 20 40 80 Feet

This map is neither a legally recorded map nor a survey map and is not intended to be used as one. This map is a compilation of records, information, and data gathered from various sources listed on this map and is to be used for reference purposes only. SEH does not warrant that the Geographic Information System (GIS) Data used to prepare this map are error free, and SEH does not represent that the GIS Data can be used for navigational, tracking, or any other purpose requiring exacting measurement of distance or direction or precision in the depiction of geographic features. The user of this map acknowledges that SEH shall not be liable for any damages which arise out of the user's access or use of data provided.

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Map by: AGK
Projection: Cass (South) Country Coordinates
Source: ESRI, East Gull Lake, SEHTS, Asbuilts

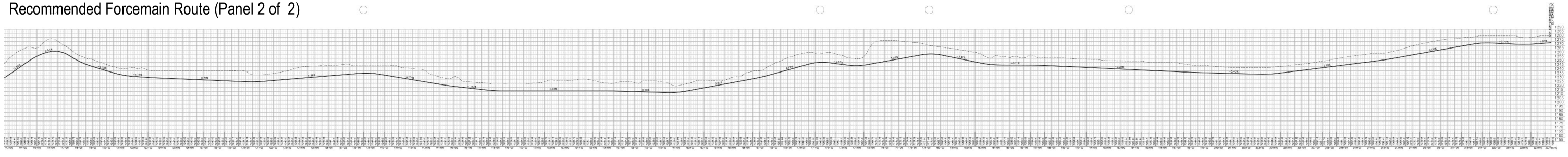
SQUAW POINT WWTF PROPOSED IMPROVEMENTS

East Gull Lake, Minnesota

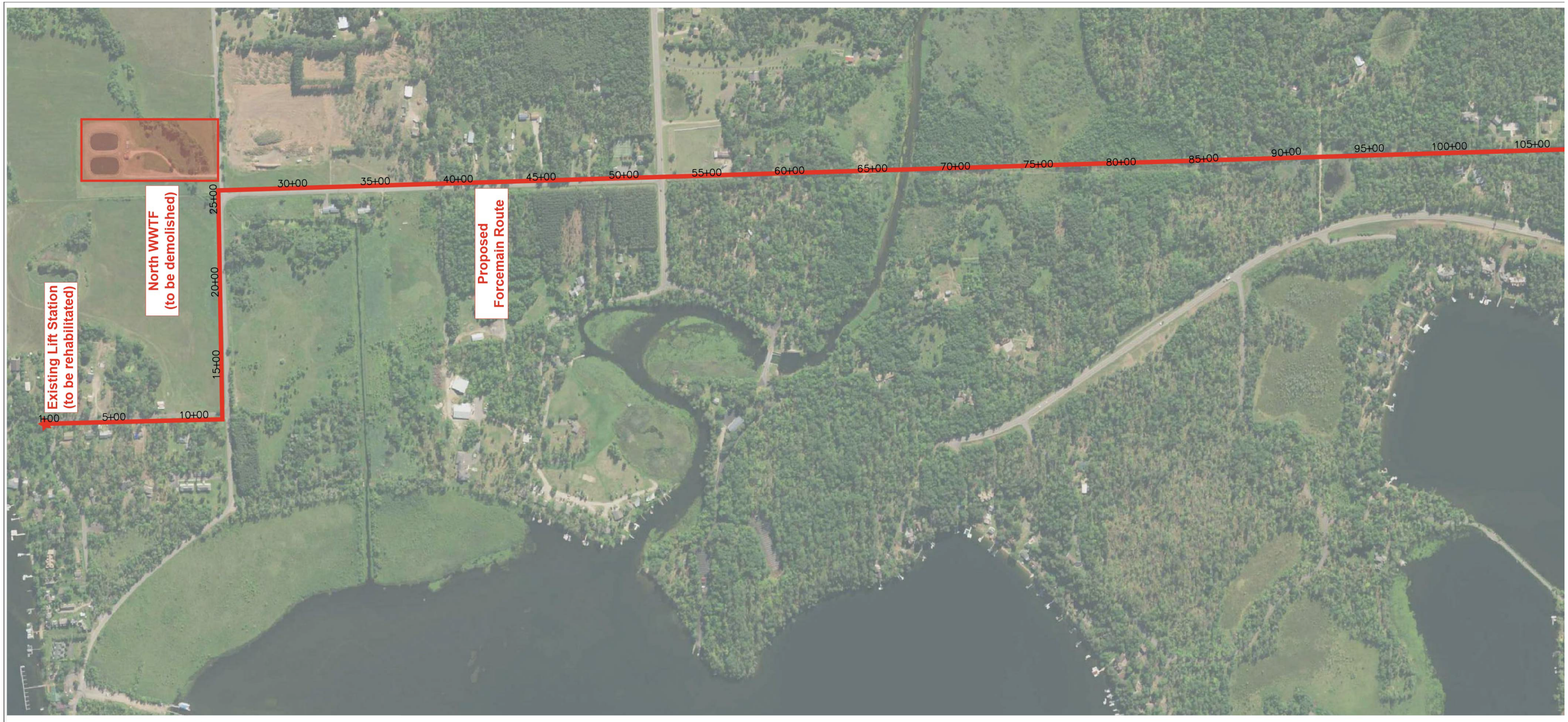
SQUAW POINT WWTF

Figure 2

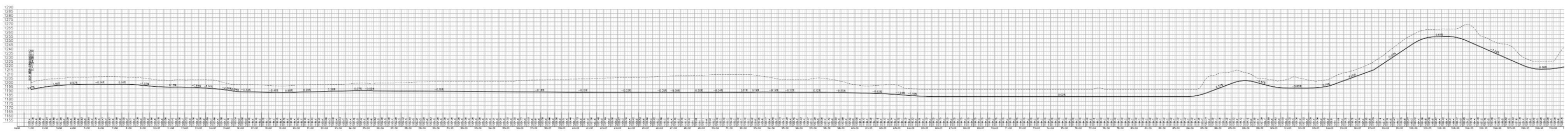
East Gull Lake Facilities Plan, 2017
Recommended Forcemain Route (Panel 2 of 2)



EAST GULL LAKE FACILITY PLAN FORCEMAIN ALIGNMENT	EAST GULL LAKE, MINNESOTA	FILE NO. EAGLL 136787 DATE 01/13/2017	FIGURE 1



East Gull Lake Facilities Plan, 2017
Recommended Forcemain Route (Panel 1 of 2)



Legend

N

0 1,150 2,300 4,600 Feet

This map is neither a legally recorded map nor a survey map and is not intended to be used as one. This map is a compilation of records, information, and data gathered from various sources listed on this map and is to be used for reference purposes only. SEH does not warrant that the Geographic Information System (GIS) Data used to prepare this map are error free, and SEH does not represent that the GIS Data can be used for navigational, tracking, or any other purpose requiring exacting measurement of distance or direction or precision in the depiction of geographic features. The user of this map acknowledges that SEH shall not be liable for any damages which arise out of the user's access or use of data provided.

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Project: EAGUL 113541
Print Date: 2/22/2017

Map by: AGK
Projection: Cass (South) Country Coordinates
Source: ESRI, East Gull Lake, SEHTS, Asbuilts

SITE MAP

East Gull Lake, Minnesota

Collection System

FIGURE 1

Document Path: C:\Users\bwolohan\Documents\ArcGIS\EastGull_Site Map.mxd

Photos

Lift Station No. 2

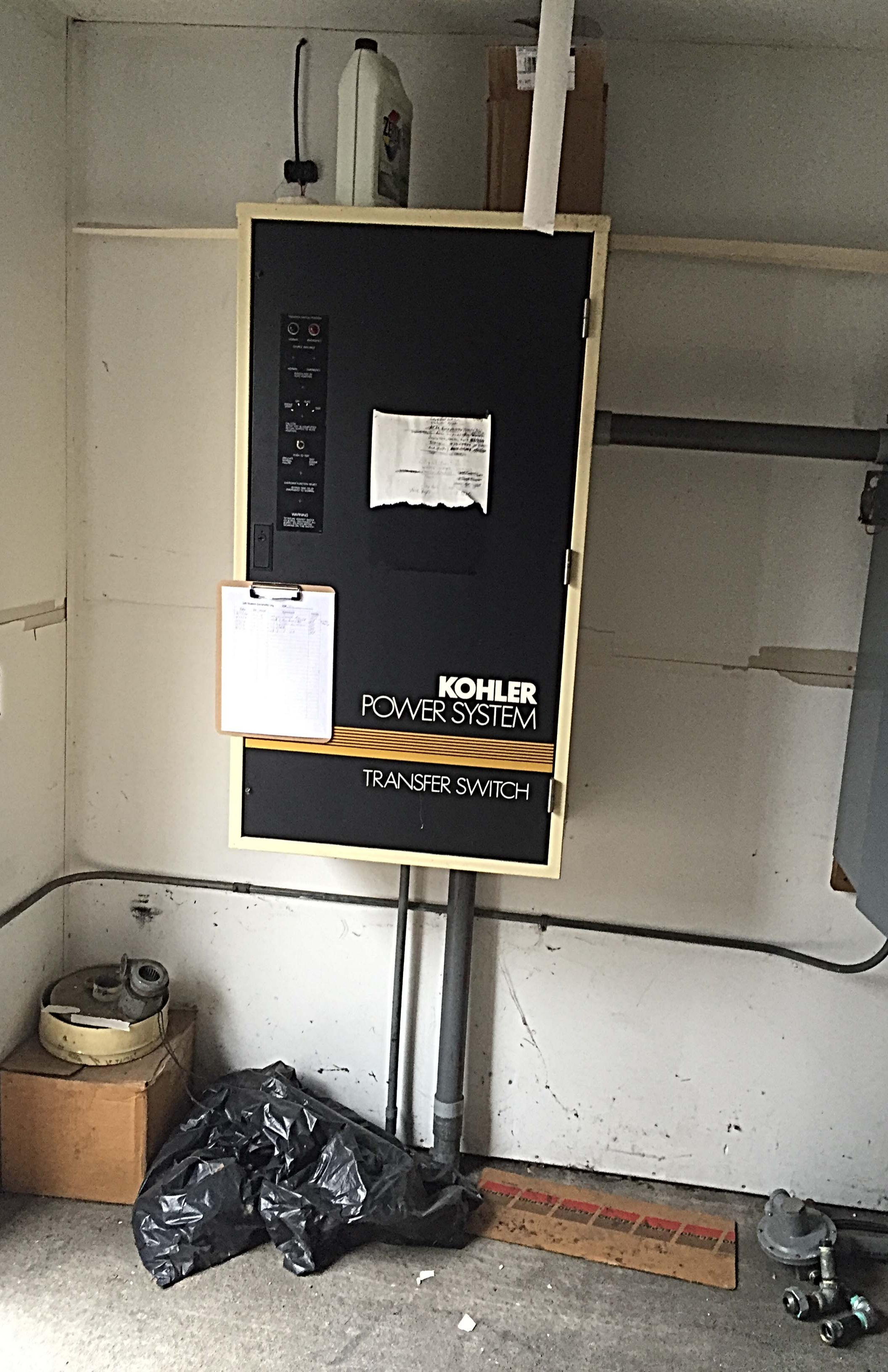
Lift Station No. 5

Squaw Point WWTF

Photos

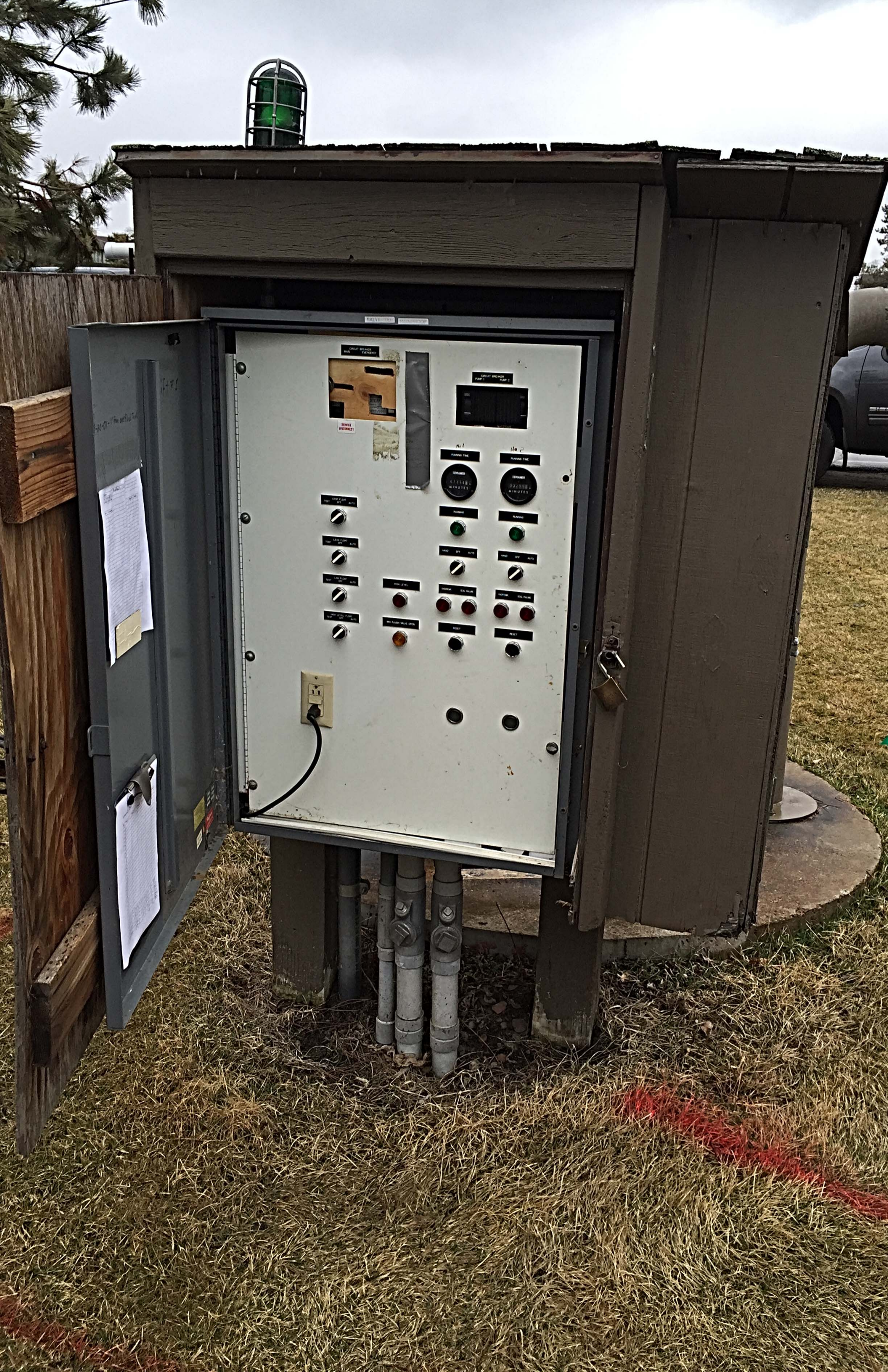
Lift Station No. 2

674
WATER
GAS


KOHLER
POWER SYSTEM
TRANSFER SWITCH

Photos

Lift Station No. 5


CIRCUIT BREAKER
MAIN
EMERGENCY
DEVICE
DISCONNECT
CIRCUIT BREAKER
PUMP 1
PUMP 2
No 1
No 2
RUNNING TIME
TIMEMER
MINUTES
RUNNING
HAND OFF AUTO
SHORTEMP SEAL FAILURE
RESET
HIGH LEVEL
MIN FLUSH VALVE OPEN
STOP FLOW
LEAD FLOW
LAG FLOW
HIGH LEVEL FLOW
TEST OFF AUTO

Photos

Squaw Point WWTF

Appendix A

Existing NPDES Permit

STATE OF MINNESOTA

Minnesota Pollution Control Agency

Municipal Division

National Pollutant Discharge Elimination System (NPDES)/
State Disposal System (SDS) Permit MN0059871

PERMITTEE:	City of East Gull Lake
FACILITY NAME:	East Gull Lake Wastewater Treatment Facility
RECEIVING WATER:	Gull River (Class 2B, 3C, 4A, 4B, 5, 6 water)

CITY:	East Gull Lake	**COUNTY:**	Cass
ISSUANCE DATE:	October 31, 2014	**EXPIRATION DATE:**	September 30, 2019
MODIFICATION DATE:	**February 13. 2015**		

The state of Minnesota, on behalf of its citizens through the Minnesota Pollution Control Agency (MPCA), authorizes the Permittee to operate a disposal system at the facility named above and to discharge from this facility to the receiving water named above, in accordance with the requirements of this permit.

The goal of this permit is to reduce pollutant levels in point source discharges and protect water quality in accordance with Minnesota and US statutes and rules, including Minn. Stat. chs. 115 and 116, Minn. R. chs. 7001, 7041, 7049, 7050, 7053, 7060, and the US Clean Water Act.

This permit is effective on the issuance date identified above, and supersedes the previous permit that was issued for this facility on March 19, 2009. This permit expires at midnight on the expiration date identified above.

Signature: Nicole Blasing

Nicole Blasing
Supervisor
SSTS Section
Municipal Division

for The Minnesota Pollution Control Agency

Submit eDMRs
Submit via the MPCA Online Services Portal at https://netweb.pca.state.mn.us/private/

Submit Other WQ Reports to:
Attention: WQ Submittals Center
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

Questions on this permit?

- For eDMR and other permit reporting issues, contact: Tamara Dahl, 507-476-4252.
- For specific permit requirements or permit compliance status, contact: Justin Barrick, 218-316-3858.
- General permit or NPDES program questions, contact: MPCA, 651-282-6143 or 800-657-3938.

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Facility Description

The East Gull Lake Wastewater Treatment Facility (Facility) is located at Township 134 North, Range 29 West, Section 16, Township 134 North, Range 29 West, Section 32, East Gull Lake, Cass County, Minnesota.

Major components of the Facility include:

2 Aerated Ponds - more than two hours detention time (0.41 acres)
1 Filter - sand with backwash
2 Ultraviolet Lights
1 Aerated Pond - more than two hours detention time (1.4 acres)
1 Phosphorus Removal - chemical
1 Land Application
2 Secondary Clarifiers
2 Pumping (Lift) Stations
2 Activated Sludge - extended aeration
1 Aerobic Digester, designed as a process control
1 Holding Pond, Sedimentation Pond, Storage Pond

The Facility consists of two separate sites: The North Plant-Squaw Point facility and the South Plant-Pine Beach facility.

The North Plant-Squaw Point facility consists of a main lift station, force main, two aerated ponds, sand filter and ultraviolet disinfection. The ponds are 13 feet deep with a normal operating depth of 10 feet. Each has a surface area of 0.41 acres. One-half of the second pond is not aerated and serves as a quiescent zone for the settling of solids. The North Plant-Squaw Point facility has a continuous discharge (SD001) to the Gull River (Class 2B, 3C, 4A, 4B, 5, 6 water) via an eight-inch, 4,800-foot gravity pipe. The North Plant-Squaw Point facility is designed for an average wet-weather (AWW) flow of 33,400 gallons per day (gpd) and an influent five-day carbonaceous biochemical oxygen demand ($CBOD_5$) strength of 244 milligrams per Liter (mg/L). The North Plant-Squaw Point facility is a Class C facility.

The South Plant-Pine Beach facility consists of a main lift station, influent splitter structure, two activated sludge basins, two final clarifiers equipped with chemical addition for phosphorus removal, ultraviolet disinfection, and a Parshall flume. The South Plant-Pine Beach facility also includes an aerated overflow storage basin, with piping to return stored wastewater to the influent splitter box, an aerobic digestion basin and a sludge storage basin. The South Plant-Pine Beach facility has a continuous discharge (SD002) to the Gull River (Class 2B, 3C, 4A, 4B, 5, 6 water) via a 10-inch, 7,400-foot gravity pipe. The South Plant-Pine Beach facility is designed for an AWW flow of 363,000 gpd and an influent $CBOD_5$ strength of 210 mg/L. The South Plant-Pine Beach facility is a Class B facility.

In accordance with the MPCA rules regarding nondegradation for all waters that are not Outstanding Resource Value Waters, nondegradation review is required for any new or expanded significant discharge (Minn. R. 7050.0185). A significant discharge is 1) a new discharge (not in existence before January 1, 1988) that is greater than 200,000 gpd to any water other than a Class 7 water or 2) an expanded discharge that expands by greater than 200,000 gpd that discharges to any water other than a Class 7 water or 3) a new or expanded discharge containing any toxic pollutant at a mass loading rate likely to increase the concentration of the toxicant in the receiving water by greater than one percent

over the baseline quality. The flow rate used to determine significance is the design AWW flow. The January 1, 1988, design AWW flow for this Facility is 0.140 million gpd.

This permit also complies with Minn. R. 7053.0275 regarding anti-backsliding.

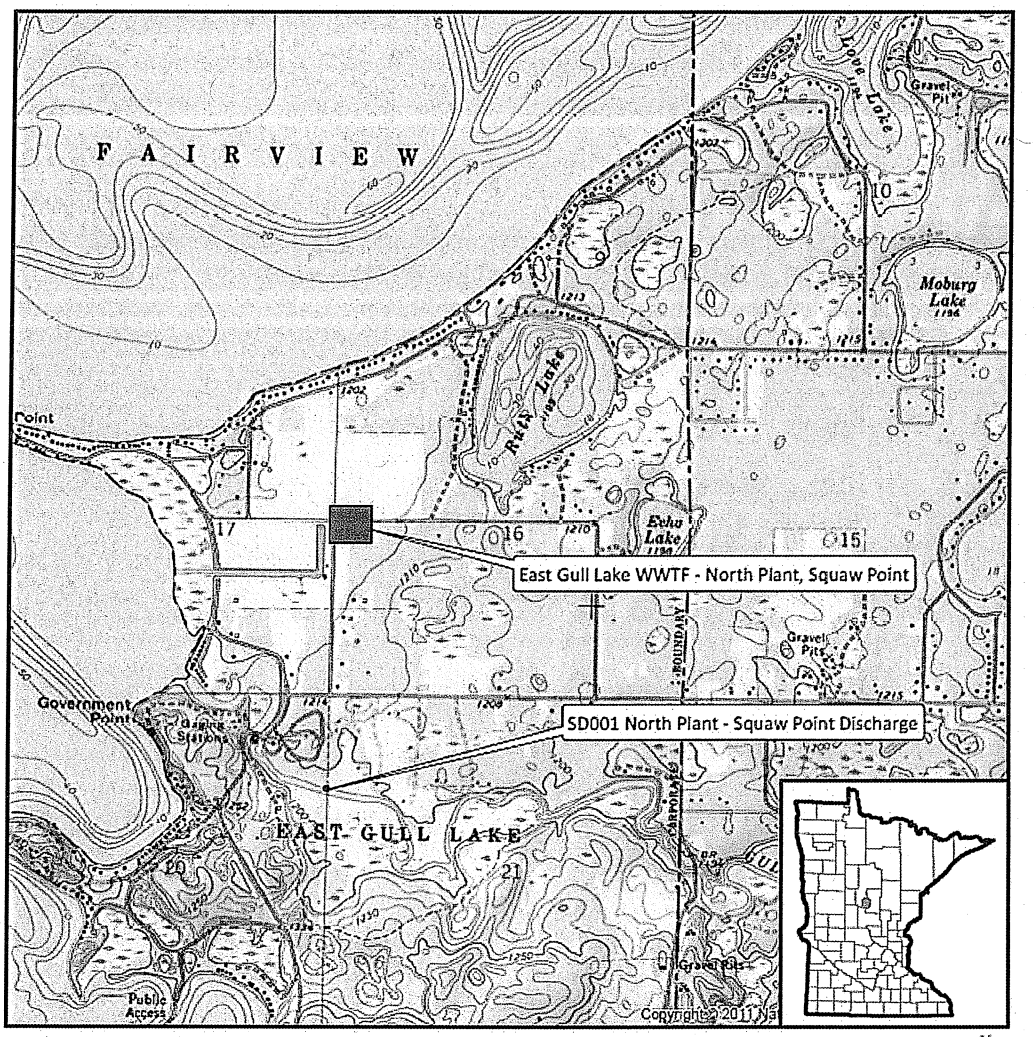
Any point source discharger of sewage, industrial, or other wastes for which an NPDES/SDS permit has been issued by the MPCA that contains effluent limits more stringent than those that would be established by parts 7053.0215 to 7053.0265 shall continue to meet the effluent limits established by the permit, unless the permittee establishes that less stringent effluent limits are allowable pursuant to federal law, under section 402(o) of the Clean Water Act, United States Code, title 33, section 1342.

There are no bypass points known to exist in either treatment system.

The location of the Facility is shown on the attached topographic maps and location of designated monitoring stations are specified on the attached "Summary of Stations" report (page 7).

Topographic Map of Permitted Facility

MN0059871: East Gull Lake WWTF - North Plant, Squaw Point
T134N, R29W, Section 16
East Gull Lake, Cass County, Minnesota



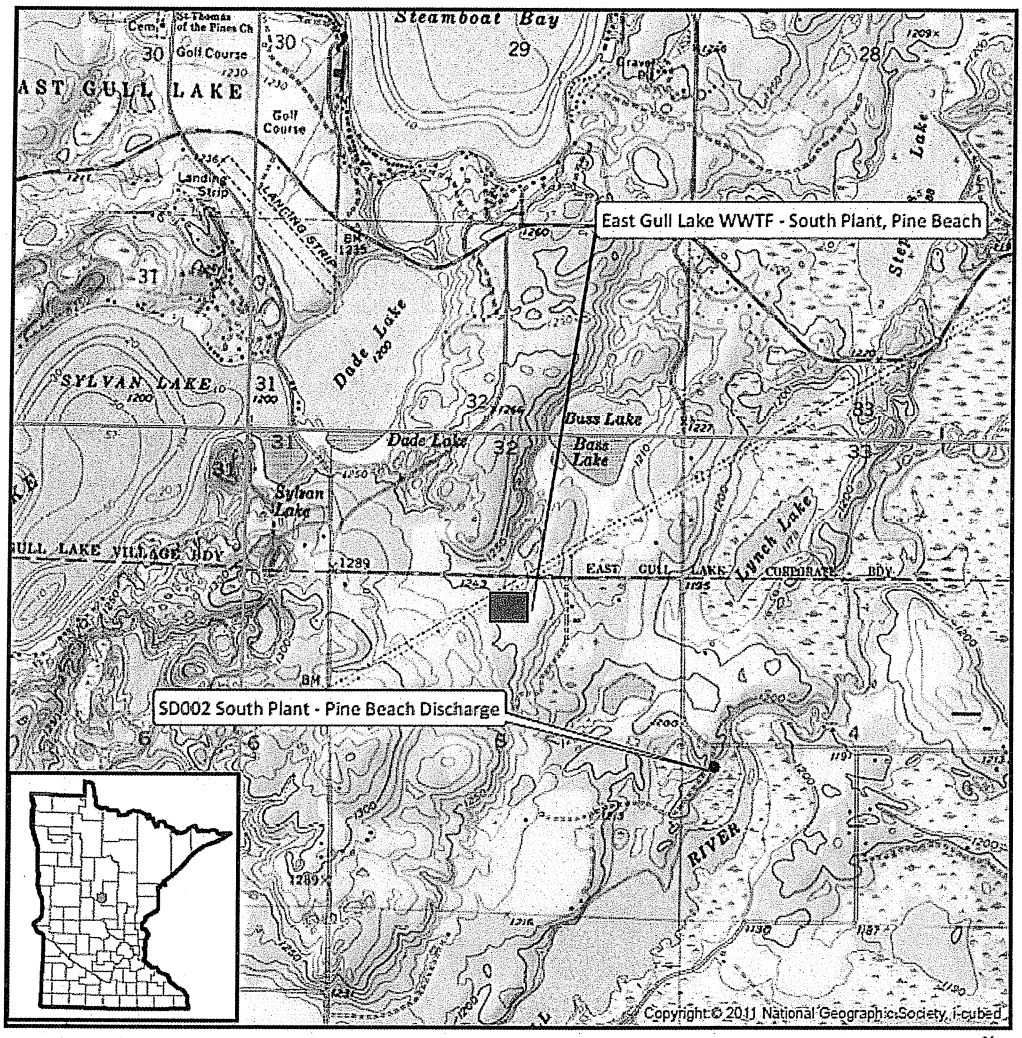
Map produced by: MPCA Staff, 9/13/2013
Source: USGS Quad
Scale: 1:24,000

0 0.25 0.5 1 Miles

N

Topographic Map of Permitted Facility

MN0059871: East Gull Lake WWTF - South Plant, Pine Beach
T134N, R29W, Section 32
East Gull Lake, Cass County, Minnesota



Map produced by: MPCA Staff, 9/16/2013
Source: USGS Quad
Scale: 1:24,000

0 0.25 0.5 1 Miles

N

East Gull Lake WWTF
Summary of Stations

Surface Discharge Stations

Station	Type of Station	Local Name	PLS Location
SD001	Effluent To Surface Water	North Plant - Squaw Point/Gull Point	NW Quarter of Section 16, Township 134 North, Range 29 West
SD002	Effluent To Surface Water	South Plant - Pine Beach	NW Quarter of Section 32, Township 134 North, Range 29 West

Surface Water Stations

Station	Type of Station	Local Name	PLS Location
SW001	Stream/River/Ditch, Upstream	Gull Lake Outlet, Gull Lake Dam Rd Crossing	NE Quarter of Section 20, Township 134 North, Range 29 West
SW002	Stream/River/Ditch, Downstream	Gull River at State Hwy 210	NE Quarter of Section 17, Township 133 North, Range 29 West

Waste Stream Stations

Station	Type of Station	Local Name	PLS Location
WS001	Influent Waste	North Plant - Squaw Point/Gull Point	NW Quarter of the SW Quarter of Section 16, Township 134 North, Range 29 West
WS002	Influent Waste	South Plant - Pine Beach	SW Quarter of the NE Quarter of Section 32, Township 134 North, Range 29 West

East Gull Lake WWTF
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

Period: ***Limits Applicable in the Interim Period***

SD 001: North Plant - Squaw Point/Gull Point

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
BOD, Carbonaceous 05 Day (20 Deg C)	3.2	kg/day	Calendar Month Average	Jan-Dec	Grab	2 x Month	
BOD, Carbonaceous 05 Day (20 Deg C)	25.0	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	
BOD, Carbonaceous 05 Day (20 Deg C)	5.0	kg/day	Maximum Calendar Week Average	Jan-Dec	Grab	2 x Month	
BOD, Carbonaceous 05 Day (20 Deg C)	40.0	mg/L	Maximum Calendar Week Average	Jan-Dec	Grab	2 x Month	
BOD, Carbonaceous 05 Day (20 Deg C) Percent Removal	85	%	Minimum Calendar Month Average	Jan-Dec	Calculation	2 x Month	
Fecal Coliform, MPN or Membrane Filter 44.5C	200	#100ml	Calendar Month Geometric Mean	Apr-Oct	Grab	2 x Month	
Flow	Monitor Only	mgd	Calendar Month Average	Jan-Dec	Measurement, Continuous	1 x Day	2
Flow	Monitor Only	mgd	Calendar Month Maximum	Jan-Dec	Measurement, Continuous	1 x Day	2
Flow	Monitor Only	MG	Calendar Month Total	Jan-Dec	Measurement, Continuous	1 x Day	2
Nitrite Plus Nitrate, Total (as N)	Monitor Only	mg/L	Calendar Month Average	Mar, Sep	Grab	1 x Month	
Nitrogen, Kjeldahl, Total	Monitor Only	mg/L	Calendar Month Average	Mar, Sep	Grab	1 x Month	
Nitrogen, Total (as N)	Monitor Only	mg/L	Calendar Month Average	Mar, Sep	Grab	1 x Month	7
Oxygen, Dissolved	Monitor Only	mg/L	Calendar Month Minimum	Jan-Dec	Grab	1 x Day	1
pH	9.0	SU	Calendar Month Maximum	Jan-Dec	Grab	2 x Month	1
pH	6.0	SU	Calendar Month Minimum	Jan-Dec	Grab	2 x Month	1
Phosphorus, Total (as P)	162.0	kg/yr	12 Month Moving Total	Jan-Dec	Calculation	2 x Month	7
Phosphorus, Total (as P)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	
Phosphorus, Total (as P)	Monitor Only	kg/mo	Calendar Month Total	Jan-Dec	Grab	2 x Month	
Solids, Total Suspended (TSS)	5.7	kg/day	Calendar Month Average	Jan-Dec	Grab	2 x Month	
Solids, Total Suspended (TSS)	45	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	
Solids, Total Suspended (TSS)	8.1	kg/day	Maximum Calendar Week Average	Jan-Dec	Grab	2 x Month	
Solids, Total Suspended (TSS)	65	mg/L	Maximum Calendar Week Average	Jan-Dec	Grab	2 x Month	
Solids, Total Suspended (TSS) Percent Removal	85	%	Minimum Calendar Month Average	Jan-Dec	Calculation	2 x Month	
Sulfate, Total (as SO4)	Monitor Only	mg/L	Calendar Quarter Maximum	Jan-Dec	Grab	1 x Quarter	

SD 002: South Plant - Pine Beach

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
BOD, Carbonaceous 05 Day (20 Deg C)	3.2	kg/day	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	1 x Week	
BOD, Carbonaceous 05 Day (20 Deg C)	25.0	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	1 x Week	

East Gull Lake WWTF
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

Period: ***Limits Applicable in the Interim Period***

SD 002: South Plant - Pine Beach

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
BOD, Carbonaceous 05 Day (20 Deg C)	5.0	kg/day	Maximum Calendar Week Average	Jan-Dec	24-Hour Flow Composite	1 x Week	
BOD, Carbonaceous 05 Day (20 Deg C)	40.0	mg/L	Maximum Calendar Week Average	Jan-Dec	24-Hour Flow Composite	1 x Week	
BOD, Carbonaceous 05 Day (20 Deg C) Percent Removal	85	%	Minimum Calendar Month Average	Jan-Dec	Calculation	1 x Week	
Fecal Coliform, MPN or Membrane Filter 44.5C	200	#100ml	Calendar Month Geometric Mean	Apr-Oct	Grab	1 x Week	
Flow	Monitor Only	mgd	Calendar Month Average	Jan-Dec	Measurement, Continuous	1 x Day	
Flow	Monitor Only	mgd	Calendar Month Maximum	Jan-Dec	Measurement, Continuous	1 x Day	
Flow	Monitor Only	MG	Calendar Month Total	Jan-Dec	Measurement, Continuous	1 x Day	
Mercury, Dissolved (as Hg)	Monitor Only	ng/L	Calendar Month Maximum	Jul	Grab	1 x Month	7
Mercury, Total (as Hg)	Monitor Only	ng/L	Calendar Month Maximum	Jul	Grab	1 x Month	7
Nitrite Plus Nitrate, Total (as N)	Monitor Only	mg/L	Calendar Quarter Average	Jan-Dec	24-Hour Flow Composite	1 x Quarter	
Nitrogen, Ammonia, Total (as N)	Monitor Only	mg/L	Calendar Month Average	Mar, Sep	24-Hour Flow Composite	1 x Month	
Nitrogen, Kjeldahl, Total	Monitor Only	mg/L	Calendar Quarter Average	Jan-Dec	24-Hour Flow Composite	1 x Quarter	
Nitrogen, Total (as N)	Monitor Only	mg/L	Calendar Quarter Average	Jan-Dec	24-Hour Flow Composite	1 x Quarter	7
Oxygen, Dissolved	Monitor Only	mg/L	Calendar Month Minimum	Jan-Dec	Grab	1 x Day	1
pH	9.0	SU	Calendar Month Maximum	Jan-Dec	Grab	1 x Week	1
pH	6.0	SU	Calendar Month Minimum	Jan-Dec	Grab	1 x Week	1
Phosphorus, Total (as P)	502.0	kg/yr	12 Month Moving Total	Jan-Dec	Calculation	1 x Week	7
Phosphorus, Total (as P)	1.0	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	1 x Week	
Phosphorus, Total (as P)	Monitor Only	kg/mo	Calendar Month Total	Jan-Dec	24-Hour Flow Composite	1 x Week	
Solids, Total Dissolved (TDS)	Monitor Only	mg/L	Calendar Month Average	Mar, Sep	24-Hour Flow Composite	1 x Month	
Solids, Total Suspended (TSS)	41.1	kg/day	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	1 x Week	
Solids, Total Suspended (TSS)	30	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	1 x Week	
Solids, Total Suspended (TSS)	61.7	kg/day	Maximum Calendar Week Average	Jan-Dec	24-Hour Flow Composite	1 x Week	
Solids, Total Suspended (TSS)	45	mg/L	Maximum Calendar Week Average	Jan-Dec	24-Hour Flow Composite	1 x Week	
Solids, Total Suspended (TSS) Percent Removal	85	%	Minimum Calendar Month Average	Jan-Dec	Calculation	1 x Week	
Solids, Total Suspended (TSS), grab (Mercury)	Monitor Only	mg/L	Calendar Month Maximum	Jul	Grab	1 x Month	7
Sulfate, Total (as SO4)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	1 x Month	

East Gull Lake WWTF
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

Period: ***Limits Applicable in the Interim Period***

SW 001: Gull Lake Outlet, Gull Lake Dam Rd Crossing

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Flow, Stream, Instantaneous	Monitor Only	cfs	Instantaneous Maximum	Apr-Sep	Grab	1 x Month	5
Sulfate, Total (as SO4)	Monitor Only	mg/L	Calendar Month Maximum	Apr-Sep	Grab	1 x Month	3

SW 002: Gull River at State Hwy 210

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Flow, Stream, Instantaneous	Monitor Only	cfs	Instantaneous Maximum	Apr-Sep	Grab	1 x Month	4
Sulfate, Total (as SO4)	Monitor Only	mg/L	Calendar Month Maximum	Apr-Sep	Grab	1 x Month	3

WS 001: North Plant - Squaw Point/Gull Point

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
BOD, Carbonaceous 05 Day (20 Deg C)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	2 x Month	
BOD, Carbonaceous 05 Day (20 Deg C)	Monitor Only	mg/L	Calendar Month Maximum	Jan-Dec	24-Hour Flow Composite	2 x Month	
Nitrite Plus Nitrate, Total (as N)	Monitor Only	mg/L	Calendar Month Average	Mar, Sep	Grab	1 x Month	
Nitrogen, Kjeldahl, Total	Monitor Only	mg/L	Calendar Month Average	Mar, Sep	Grab	1 x Month	
Nitrogen, Total (as N)	Monitor Only	mg/L	Calendar Month Average	Mar, Sep	Grab	1 x Month	8
pH	Monitor Only	SU	Calendar Month Maximum	Jan-Dec	Grab	2 x Month	1
pH	Monitor Only	SU	Calendar Month Minimum	Jan-Dec	Grab	2 x Month	1
Phosphorus, Total (as P)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	2 x Month	
Precipitation	Monitor Only	in	Calendar Month Total	Jan-Dec	Measurement	1 x Day	
Solids, Total Suspended (TSS)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	2 x Month	
Solids, Total Suspended (TSS)	Monitor Only	mg/L	Calendar Month Maximum	Jan-Dec	24-Hour Flow Composite	2 x Month	

WS 002: South Plant - Pine Beach

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
BOD, Carbonaceous 05 Day (20 Deg C)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	1 x Week	
BOD, Carbonaceous 05 Day (20 Deg C)	Monitor Only	mg/L	Calendar Month Maximum	Jan-Dec	24-Hour Flow Composite	1 x Week	
Flow	Monitor Only	mgd	Calendar Month Average	Jan-Dec	Measurement, Continuous	1 x Day	
Flow	Monitor Only	mgd	Calendar Month Maximum	Jan-Dec	Measurement, Continuous	1 x Day	
Flow	Monitor Only	MG	Calendar Month Total	Jan-Dec	Measurement, Continuous	1 x Day	

The Permittee shall comply with the limits and monitoring requirements as specified below.

Period: Limits Applicable in the Interim Period

WS 002: South Plant - Pine Beach

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Nitrite Plus Nitrate, Total (as N)	Monitor Only	mg/L	Calendar Quarter Average	Jan-Dec	24-Hour Flow Composite	1 x Quarter	
Nitrogen, Kjeldahl, Total	Monitor Only	mg/L	Calendar Quarter Average	Jan-Dec	24-Hour Flow Composite	1 x Quarter	
Nitrogen, Total (as N)	Monitor Only	mg/L	Calendar Quarter Average	Jan-Dec	24-Hour Flow Composite	1 x Quarter	8
pH	Monitor Only	SU	Calendar Month Maximum	Jan-Dec	Grab	1 x Week	1
pH	Monitor Only	SU	Calendar Month Minimum	Jan-Dec	Grab	1 x Week	1
Phosphorus, Total (as P)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	1 x Week	
Precipitation	Monitor Only	in	Calendar Month Total	Jan-Dec	Measurement	1 x Day	
Solids, Total Suspended (TSS)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	1 x Week	
Solids, Total Suspended (TSS)	Monitor Only	mg/L	Calendar Month Maximum	Jan-Dec	24-Hour Flow Composite	1 x Week	

Period: Limits Applicable in the Final Period

SD 001: North Plant - Squaw Point/Gull Point

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
BOD, Carbonaceous 05 Day (20 Deg C)	3.2	kg/day	Calendar Month Average	Jan-Dec	Composite	2 x Month	6
BOD, Carbonaceous 05 Day (20 Deg C)	25.0	mg/L	Calendar Month Average	Jan-Dec	Composite	2 x Month	6
BOD, Carbonaceous 05 Day (20 Deg C)	5.0	kg/day	Maximum Calendar Week Average	Jan-Dec	Composite	2 x Month	6
BOD, Carbonaceous 05 Day (20 Deg C)	40.0	mg/L	Maximum Calendar Week Average	Jan-Dec	Composite	2 x Month	6
BOD, Carbonaceous 05 Day (20 Deg C) Percent Removal	85	%	Minimum Calendar Month Average	Jan-Dec	Calculation	2 x Month	
Fecal Coliform, MPN or Membrane Filter 44.5C	200	#100ml	Calendar Month Geometric Mean	Apr-Oct	Grab	2 x Month	
Flow	Monitor Only	mgd	Calendar Month Average	Jan-Dec	Measurement, Continuous	1 x Day	2
Flow	Monitor Only	mgd	Calendar Month Maximum	Jan-Dec	Measurement, Continuous	1 x Day	2
Flow	Monitor Only	MG	Calendar Month Total	Jan-Dec	Measurement, Continuous	1 x Day	2
Nitrite Plus Nitrate, Total (as N)	Monitor Only	mg/L	Calendar Month Average	Mar, Sep	Composite	1 x Month	6
Nitrogen, Kjeldahl, Total	Monitor Only	mg/L	Calendar Month Average	Mar, Sep	Composite	1 x Month	6
Nitrogen, Total (as N)	Monitor Only	mg/L	Calendar Month Average	Mar, Sep	Composite	1 x Month	6
Oxygen, Dissolved	Monitor Only	mg/L	Calendar Month Minimum	Jan-Dec	Grab	1 x Day	1
pH	9.0	SU	Calendar Month Maximum	Jan-Dec	Grab	2 x Month	1
pH	6.0	SU	Calendar Month Minimum	Jan-Dec	Grab	2 x Month	1
Phosphorus, Total (as P)	162.0	kg/yr	12 Month Moving Total	Jan-Dec	Calculation	2 x Month	7

East Gull Lake WWTF
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

Period: Limits Applicable in the Final Period

SD 001: North Plant - Squaw Point/Gull Point

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Phosphorus, Total (as P)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	Composite	2 x Month	6
Phosphorus, Total (as P)	Monitor Only	kg/mo	Calendar Month Total	Jan-Dec	Composite	2 x Month	6
Solids, Total Suspended (TSS)	5.7	kg/day	Calendar Month Average	Jan-Dec	Composite	2 x Month	6
Solids, Total Suspended (TSS)	45	mg/L	Calendar Month Average	Jan-Dec	Composite	2 x Month	6
Solids, Total Suspended (TSS)	8.1	kg/day	Maximum Calendar Week Average	Jan-Dec	Composite	2 x Month	6
Solids, Total Suspended (TSS)	65	mg/L	Maximum Calendar Week Average	Jan-Dec	Composite	2 x Month	6
Solids, Total Suspended (TSS) Percent Removal	85	%	Minimum Calendar Month Average	Jan-Dec	Calculation	2 x Month	
Sulfate, Total (as SO4)	Monitor Only	mg/L	Calendar Quarter Maximum	Jan-Dec	Composite	1 x Quarter	6

SD 002: South Plant - Pine Beach

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
BOD, Carbonaceous 05 Day (20 Deg C)	3.2	kg/day	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	1 x Week	
BOD, Carbonaceous 05 Day (20 Deg C)	25.0	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	1 x Week	
BOD, Carbonaceous 05 Day (20 Deg C)	5.0	kg/day	Maximum Calendar Week Average	Jan-Dec	24-Hour Flow Composite	1 x Week	
BOD, Carbonaceous 05 Day (20 Deg C)	40.0	mg/L	Maximum Calendar Week Average	Jan-Dec	24-Hour Flow Composite	1 x Week	
BOD, Carbonaceous 05 Day (20 Deg C) Percent Removal	85	%	Minimum Calendar Month Average	Jan-Dec	Calculation	1 x Week	
Fecal Coliform, MPN or Membrane Filter 44.5C	200	#100ml	Calendar Month Geometric Mean	Apr-Oct	Grab	1 x Week	
Flow	Monitor Only	mgd	Calendar Month Average	Jan-Dec	Measurement, Continuous	1 x Day	
Flow	Monitor Only	mgd	Calendar Month Maximum	Jan-Dec	Measurement, Continuous	1 x Day	
Flow	Monitor Only	MG	Calendar Month Total	Jan-Dec	Measurement, Continuous	1 x Day	
Mercury, Dissolved (as Hg)	Monitor Only	ng/L	Calendar Month Maximum	Jul	Grab	1 x Month	7
Mercury, Total (as Hg)	Monitor Only	ng/L	Calendar Month Maximum	Jul	Grab	1 x Month	7
Nitrite Plus Nitrate, Total (as N)	Monitor Only	mg/L	Calendar Quarter Average	Jan-Dec	24-Hour Flow Composite	1 x Quarter	
Nitrogen, Ammonia, Total (as N)	Monitor Only	mg/L	Calendar Month Average	Mar, Sep	24-Hour Flow Composite	1 x Month	
Nitrogen, Kjeldahl, Total	Monitor Only	mg/L	Calendar Quarter Average	Jan-Dec	24-Hour Flow Composite	1 x Quarter	
Nitrogen, Total (as N)	Monitor Only	mg/L	Calendar Quarter Average	Jan-Dec	24-Hour Flow Composite	1 x Quarter	7
Oxygen, Dissolved	Monitor Only	mg/L	Calendar Month Minimum	Jan-Dec	Grab	1 x Day	1
pH	9.0	SU	Calendar Month Maximum	Jan-Dec	Grab	1 x Week	1
pH	6.0	SU	Calendar Month Minimum	Jan-Dec	Grab	1 x Week	1

The Permittee shall comply with the limits and monitoring requirements as specified below.

Period: ***Limits Applicable in the Final Period***

SD 002: South Plant - Pine Beach

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Phosphorus, Total (as P)	502.0	kg/yr	12 Month Moving Total	Jan-Dec	Calculation	1 x Week	7
Phosphorus, Total (as P)	1.0	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	1 x Week	
Phosphorus, Total (as P)	Monitor Only	kg/mo	Calendar Month Total	Jan-Dec	24-Hour Flow Composite	1 x Week	
Solids, Total Dissolved (TDS)	Monitor Only	mg/L	Calendar Month Average	Mar, Sep	24-Hour Flow Composite	1 x Month	
Solids, Total Suspended (TSS)	41.1	kg/day	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	1 x Week	
Solids, Total Suspended (TSS)	30	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	1 x Week	
Solids, Total Suspended (TSS)	61.7	kg/day	Maximum Calendar Week Average	Jan-Dec	24-Hour Flow Composite	1 x Week	
Solids, Total Suspended (TSS)	45	mg/L	Maximum Calendar Week Average	Jan-Dec	24-Hour Flow Composite	1 x Week	
Solids, Total Suspended (TSS) Percent Removal	85	%	Minimum Calendar Month Average	Jan-Dec	Calculation	1 x Week	
Solids, Total Suspended (TSS), grab (Mercury)	Monitor Only	mg/L	Calendar Month Maximum	Jul	Grab	1 x Month	7
Sulfate, Total (as SO4)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	1 x Month	

SW 001: Gull Lake Outlet, Gull Lake Dam Rd Crossing

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Flow, Stream, Instantaneous	Monitor Only	cfs	Instantaneous Maximum	Apr-Sep	Grab	1 x Month	5
Sulfate, Total (as SO4)	Monitor Only	mg/L	Calendar Month Maximum	Apr-Sep	Grab	1 x Month	3

SW 002: Gull River at State Hwy 210

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Flow, Stream, Instantaneous	Monitor Only	cfs	Instantaneous Maximum	Apr-Sep	Grab	1 x Month	4
Sulfate, Total (as SO4)	Monitor Only	mg/L	Calendar Month Maximum	Apr-Sep	Grab	1 x Month	3

WS 001: North Plant - Squaw Point/Gull Point

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
BOD, Carbonaceous 05 Day (20 Deg C)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	2 x Month	
BOD, Carbonaceous 05 Day (20 Deg C)	Monitor Only	mg/L	Calendar Month Maximum	Jan-Dec	24-Hour Flow Composite	2 x Month	
Nitrite Plus Nitrate, Total (as N)	Monitor Only	mg/L	Calendar Month Average	Mar, Sep	Grab	1 x Month	
Nitrogen, Kjeldahl, Total	Monitor Only	mg/L	Calendar Month Average	Mar, Sep	Grab	1 x Month	
Nitrogen, Total (as N)	Monitor Only	mg/L	Calendar Month Average	Mar, Sep	Grab	1 x Month	8

East Gull Lake WWTF
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

Period: Limits Applicable in the Final Period

WS 001: North Plant - Squaw Point/Gull Point

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
pH	Monitor Only	SU	Calendar Month Maximum	Jan-Dec	Grab	2 x Month	1
pH	Monitor Only	SU	Calendar Month Minimum	Jan-Dec	Grab	2 x Month	1
Phosphorus, Total (as P)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	2 x Month	
Precipitation	Monitor Only	in	Calendar Month Total	Jan-Dec	Measurement	1 x Day	
Solids, Total Suspended (TSS)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	2 x Month	
Solids, Total Suspended (TSS)	Monitor Only	mg/L	Calendar Month Maximum	Jan-Dec	24-Hour Flow Composite	2 x Month	

WS 002: South Plant - Pine Beach

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
BOD, Carbonaceous 05 Day (20 Deg C)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	1 x Week	
BOD, Carbonaceous 05 Day (20 Deg C)	Monitor Only	mg/L	Calendar Month Maximum	Jan-Dec	24-Hour Flow Composite	1 x Week	
Flow	Monitor Only	mgd	Calendar Month Average	Jan-Dec	Measurement, Continuous	1 x Day	
Flow	Monitor Only	mgd	Calendar Month Maximum	Jan-Dec	Measurement, Continuous	1 x Day	
Flow	Monitor Only	MG	Calendar Month Total	Jan-Dec	Measurement, Continuous	1 x Day	
Nitrite Plus Nitrate, Total (as N)	Monitor Only	mg/L	Calendar Quarter Average	Jan-Dec	24-Hour Flow Composite	1 x Quarter	
Nitrogen, Kjeldahl, Total	Monitor Only	mg/L	Calendar Quarter Average	Jan-Dec	24-Hour Flow Composite	1 x Quarter	
Nitrogen, Total (as N)	Monitor Only	mg/L	Calendar Quarter Average	Jan-Dec	24-Hour Flow Composite	1 x Quarter	8
pH	Monitor Only	SU	Calendar Month Maximum	Jan-Dec	Grab	1 x Week	1
pH	Monitor Only	SU	Calendar Month Minimum	Jan-Dec	Grab	1 x Week	1
Phosphorus, Total (as P)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	1 x Week	
Precipitation	Monitor Only	in	Calendar Month Total	Jan-Dec	Measurement	1 x Day	
Solids, Total Suspended (TSS)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	1 x Week	
Solids, Total Suspended (TSS)	Monitor Only	mg/L	Calendar Month Maximum	Jan-Dec	24-Hour Flow Composite	1 x Week	

East Gull Lake WWTF
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

Notes:
1 -- Analyze immediately.
2 -- Influent flow measurements can be reported on the SD001 DMR
3 -- Please refer to Chapter 1 for additional information on this monitoring and for sampling protocol.
4 -- Refer to the Information Protocol for all requirements.
5 -- Refer to the Information Protocol for requirements.
6 -- See Chaper 3 section 9.1 for reporting requirements.
7 -- See Surface Discharge Stations Chapter for additional information.
8 -- See Waste Streams Stations Chapter for additional information.

Chapter 1. Special Requirements

1. Special Requirements

1.1 The permittee shall install a 24 hour composite effluent sampler at the North Plant - Squaw Point facility. The construction shall be completed within 180 days of permit issuance.

1.2 The permittee shall submit in writing within 14 days of the installation of the 24 hour composite sampler for the North Plant - Squaw Point facility.

Chapter 2. Surface Water Stations

1. Requirements for Specific Stations

1.1 SW 001: Submit a monthly DMR by 21 days after the end of each calendar month following permit issuance.

1.2 SW 002: Submit a monthly DMR by 21 days after the end of each calendar month following permit issuance.

2. Discharge Monitoring Reports

2.1 The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If flow conditions are such that no sample could be acquired, the Permittee shall check the "No Flow" box and note the conditions on the Discharge Monitoring Report (DMR).

3. Sampling Location

3.1 Samples for Station SW001 shall be taken at Gull Lake Outlet, Gull Lake Dam Road Crossing.

3.2 Samples for Station SW002 shall be taken on the Gull River at State Highway 210.

3.3 Samples shall be taken at mid-stream, mid-depth. Record location, date, time and results for each sample on the supplemental Discharge Monitoring Report form.

4. Sampling Protocol

4.1 Only one sample needs to be collected during the months of April thru September.

4.2 The permittee may request reduced monitoring after two years worth of ambient monitoring data is collected.

4.3 All monitoring and analytical instruments used to monitor as required by this permit shall be calibrated and maintained at a frequency necessary to ensure accuracy. It is recommended to calibrate intruments both before and after sampling and to maintain calibration records to ensure quality assurance/quality control is maintained.

4.4 Sample water shall be preserved according to lab instructions and delivered to a certified lab within the maximum holding times.

Sample Collection

4.5 Follow bottle rinse and preservation methods as directed by the analyzing laboratory. Rinse the sampling device with the stream's water by collecting "dummy" samples. The sampler should be rinsed in this manner three times before the actual sample is collected.

4.6 Samples shall be taken at mid-stream, mid-depth or at a location representative of a well-mixed stream flow without disturbing stream bed sediments or collecting floating materials from the surface.

4.7 If sampling by wading, the sample bottle should be lowered mouth-down to the mid-depth, and then turned upward to collect the sample. Always grab samples facing upstream to avoid contaminating the sample with water that has contaced your waders.

4.8 Sample location, date, time, analytical results and provisional flow data shall be recorded on the Sample Values form for each sample.

Chapter 2. Surface Water Stations

4. Sampling Protocol

4.9 On the same days water monitoring stations are sampled, access the United States Geological Survey's stream flow Web site at http://waterdata.usgs.gov/mn/nwis/uv?site_no=05247500 and record the provisional discharge value (cubic feet per second) for the Crow Wing River at Pillager, MN (USGS 05247500). Please refer to the Information Protocol which has been included with the permit package.

Reporting Format

4.10 Before the next NPDES permit reissuance or modification MPCA staff will compile, review and analyze the monitoring data. A memorandum will be prepared that summarizes the data, identifies any decisions regarding any actions or permit requirments needed as a result of the data analysis, and includes a recommendation to continue, modify, or terminate the monitoring requirements.

5. Winter Sampling Conditions

5.1 The Permittee shall sample flows at the designated monitoring stations including when this requires removing ice to sample the water. If the station is completely frozen throughout a designated sampling month, the Permittee shall check the "No Flow" box on the Discharge Monitoring Report (DMR) and note the ice conditions in Comments on the DMR.

Chapter 3. Surface Discharge Stations

1. Requirements for Specific Stations

1.1 SD 001: Submit a monthly DMR by 21 days after the end of each calendar month following permit issuance.

1.2 SD 002: Submit a monthly DMR by 21 days after the end of each calendar month following permit issuance.

2. Sampling Location

2.1 Samples for this Stations SD001 and SD002 shall be collected from the final cell outlet control structure.

2.2 Samples and measurements required by this permit shall be representative of the monitored activity.

3. Sampling Frequency

3.1 Sulfate Monitoring

3.2 The North Plant - Squaw Point Facility (SD001) will monitor sulfate as SO4 1 time per quarter as a 24 hour composite. The permittee may request reduced monitoring after two years of data has been collected.

3.3 The South Plant - Pine Beach Facility (SD002) will monitor sulfate as SO4 1 time per month as a 24 hour flow composite. The permittee may request reduced monitoring after two years of data has been collected.

4. Surface Discharges

4.1 Floating solids or visible foam shall not be discharged in other than trace amounts.

4.2 Oil or other substances shall not be discharged in amounts that create a visible color film.

4.3 The Permittee shall install and maintain outlet protection measures at the discharge stations to prevent erosion.

5. Phosphorus Limits and Monitoring Requirements

5.1 Phosphorus limits are to be calculated as follows.

Chapter 3. Surface Discharge Stations

5. Phosphorus Limits and Monitoring Requirements

5.2 "12-Month Moving Total" is a rolling total. To calculate, for each month multiply the total volume of effluent flow (MG) by the monthly average concentration and by a 3.785 conversion factor to get kg/month. Then add all of the monthly values (kg/mo) during the last twelve months, starting with the monthly total for the month of the current reporting period.

5.3 "12-Month Moving Total" is a rolling total. For the first 11 months after this limit is effective, report the mass phosphorus discharged by calculating each month's kg/month, then adding each month's kg/month from the first month the new limit is effective through the 11th month after this limit became effective. This value should be reported on the eDMR in the 12-Month Moving Total field. If using the eDMR calculator tool, replace the calculated value with this value. Starting the 12th month after this limit became effective and thereafter, calculate each kg/month then add all of the monthly values (kg/mo) during the last twelve months, starting with the monthly total for the month of the current reporting period. Calculate kg/month for each month by multiplying the total volume of effluent flow (MG) by the monthly average concentration and by a 3.785 conversion factor to get kg/month. Starting the 12th month after this limit became effective and thereafter, the eDMR calculator tool will provide the correct value for this limit.

6. Nitrogen Limits and Monitoring Requirements

6.1 "Total Nitrogen" is to be reported as the summation of the Total Kjeldahl Nitrogen and Total Nitrite + Nitrate Nitrogen values.

7. Mercury Limits and Monitoring Requirements

7.1 Permittees are required to sample for TSS (grab sample) at the same time that Total/Dissolved Mercury samples are taken. Total Mercury, Dissolved Mercury, and TSS (grab sample) samples must be collected via grab samples. All results must be recorded on DMRs.

7.2 Total and Dissolved Mercury samples must be analyzed using the most current versions of EPA Method 1631 with clean techniques method 1669. Should another mercury analytical method that has a reportable quantitation level of <0.5 ng/L that allows for low-level sample characterization be approved by the EPA and certified by an MPCA recognized accreditation body, the method may be used in place of 1631/1669.

8. Discharge Monitoring Reports

8.1 The Permittee shall submit monitoring results for discharges in accordance with the limits and monitoring requirements for this station. If no discharge occurred during the reporting period, the Permittee shall check the "No Discharge" box on the Discharge Monitoring Report (DMR).

9. Reporting Requirements

9.1 The Permittee shall report the composite sampling at SD001 as a 24 hour time composite sample until a flow meter has been installed. At the time of installation of the flow meter the composite sampling should be reported as a 24 hour flow composite sample.

Chapter 4. Waste Stream Stations

1. Requirements for Specific Stations

1.1 WS 001: Submit a monthly DMR by 21 days after the end of each calendar month following permit issuance.

1.2 WS 002: Submit a monthly DMR by 21 days after the end of each calendar month following permit issuance.

Chapter 4. Waste Stream Stations

2. Sampling Location

2.1 Grab and 24 hour composite samples for Stations WS001 and WS002 shall be collected at a point representative of total influent flow to the system.

2.2 Influent grab and 24 hour composite samples shall be collected in the sewer system prior to the primary cell.

3. Nitrogen Limits and Monitoring Requirements

3.1 "Total Nitrogen" is to be reported as the summation of the Total Kjeldahl Nitrogen and Toatl Nitrite + Nitrate Nitrogen values.

Chapter 5. Mercury Minimization Plan

1. Mercury Pollutant Minimization Plan

1.1 The Permittee is required to complete and submit a Mercury Pollutant Minimization Plan (MMP) to the MPCA as detailed in this section. If the Permittee has previously submitted a MMP, it must update its MMP and submit the updated MMP to the MPCA. The purpose of the MMP is to evaluate collection and treatment systems to determine possible sources of mercury as well as potential mercury reduction options. Guidelines for developing a MMP are detailed in this section.

1.2 The specific mercury monitoring requirements are detailed in the limits and monitoring section of this permit. Information gained through the MMP process can be used to reduce mercury concentrations. As part of its mercury control strategy, the Permittee should consider selecting activities based on the potential of those activities to reduce mercury loadings to the wastewater treatment facility.

1.3 The Permittee shall submit a Mercury Minimization Plan by 180 days before permit expiration. At a minimum, the MMP must include the following:

a) A summary of mercury influent and effluent concentrations and biosolids monitoring data using the most recent five years of monitoring data, if available.
b) Identification of existing and potential sources of mercury concentrations and/or loading to the facility. As appropriate for your facility, you should consider residential, institutional, municipal, and commercial sources (such as dental clinics, hospitals, medical clinics, nursing homes, schools, laundries, and industries with potential for mercury contributions). You should also consider other influent mercury sources, such as stormwater inputs, ground water (inflow & infiltration) inputs, lift station components, and waste streams or sewer tributaries to the wastewater treatment facility.
c) An evaluation of past and present WWTF operations to determine those operating procedures that maximize mercury removal.
d) A summary of any mercury reduction activities implemented during the last five years.
e) A plan to implement mercury management and reduction measures during the next five years.

Chapter 6. Domestic Wastewater -- Mechanical System

1. Bypass Structures

1.1 All structures capable of bypassing the treatment system shall be manually controlled and kept locked at all times.

Chapter 6. Domestic Wastewater -- Mechanical System

2. Sanitary Sewer Extension Permit

2.1 The Permittee may be required to obtain a Sanitary Sewer Extension Permit from the MPCA for any addition, extension or replacement to the sanitary sewer. If a sewer extension permit is required, construction may not begin until plans and specifications have been submitted and a written permit is granted except as allowed in Minn. Stat. 115.07, Subd. 3(b).

3. Operator Certification

3.1 The Permittee shall provide a Class B state certified operator who is in direct responsible charge of the operation, maintenance and testing functions required to ensure compliance with the terms and conditions of this permit.

3.2 The Permittee shall provide the appropriate number of operators with a Type IV certification to be responsible for the land application of biosolids or semisolids from commercial or industrial operations.

3.3 If the Permittee chooses to meet operator certification requirements through a contractual agreement, the Permittee shall provide a copy of the contract to the MPCA, WQ Submittals Center. The contract shall include the certified operator's name, certificate number, company name if appropriate, the period covered by the contract and provisions for renewal; the duties and responsibilities of the certified operator; the duties and responsibilities of the permittee; and provisions for notifying the MPCA 30 days in advance of termination if the contract is terminated prior to the expiration date.

3.4 The Permittee shall notify the MPCA in writing within 30 days of a change in operator certification or contract status. Mail changes to: Operator Certification, 520 Lafayette Road, St. Paul, Minnesota 55155-4194.

Chapter 7. Domestic Wastewater -- Aerated Pond System

1. Reporting

1.1 The Permittee shall inspect the aerated pond system weekly, and shall take measurements of the pond water depth, estimate the coverage of aquatic plants, floating mats and ice cover on the surface of the ponds, and note odors, the condition of the dikes and the presence of muskrats.

2. Records

2.1 The Permittee shall maintain records of these weekly inspections for the last three (3) years, and submit the results on a Discharge Monitoring Report (DMR) Supplemental Form.

Chapter 8. Biosolids-Land Application

1. Authorization

1.1 This permit authorizes the Permittee to store and land apply domestic wastewater treatment biosolids in accordance with the provisions in this chapter and Minnesota Rules, ch. 7041.

1.2 Permittees who prepare bulk biosolids must obtain approval of the sites on which bulk biosolids are applied before they are applied unless they are Exceptional Quality Biosolids. Site application procedures are set forth in Minn. R. ch. 7041.0800.

2. Compliance Responsibility

2.1 The Permittee is responsible for ensuring that the applicable requirements in this chapter and Minn. R. ch. 7041 are met when biosolids are prepared, distributed, or applied to the land.

Chapter 8. Biosolids-Land Application

3. Notification Requirements

3.1 The Permittee shall provide information needed to comply with the biosolids requirements of Minn. R. ch. 7041 to others who prepare or use the biosolids.

4. Pollutant Limits

4.1 Biosolids which are applied to the land must not exceed the ceiling concentrations in Table 1 and must not be applied so that the cumulative amounts of pollutant in Table 2 are exceeded.

Table 1 Ceiling Concentrations (dry weight basis)

Parameter in units mg/kg
Arsenic 75
Cadmium 85
Copper 4300
Lead 840
Mercury 57
Molybdenum 75
Nickel 420
Selenium 100
Zinc 7500

Table 2 Cumulative Loading Limits

Parameter in units lbs/acre
Arsenic 37
Cadmium 35
Copper 1339
Lead 268
Mercury 15
Molybdenum not established*
Nickel 375
Selenium 89
Zinc 2500

*The cumulative limit for molybdenum has not been established at the time of permit issuance

5. Pathogen and Vector Attraction Reduction

5.1 Biosolids shall be processed, treated, or be incorporated or injected into the soil to meet one of the vector attraction reduction requirements in Minnesota Rules, pt. 7041.1400.

5.2 Biosolids shall be processed or treated by one of the alternatives in Minnesota Rules, pt. 7041.1300 to meet the Class A or Class B standards for the reduction of pathogens. When Class B biosolids are applied to the land, the site restrictions in Minnesota Rules, pt. 7041.1300 must also be met.

Chapter 8. Biosolids-Land Application

5. Pathogen and Vector Attraction Reduction

5.3 The minimum duration between application and harvest, grazing or public access to areas where Class B biosolids have been applied to the land is as follows:

a. 14 months for food crops whose harvested parts may touch the soil/biosolids mixture (such as melons, squash, tomatoes, etc.), when biosolids are surface applied, incorporated or injected.
b. 20 months or 38 months depending on the application method for food crops whose harvested parts grow in the soil (such as potatoes, carrots, onions, etc.). The 20 month time period is required when biosolids are surface applied or surface applied and incorporated after they have been on the soil surface for at least four (4) months. The 38 month time period is required when the biosolids are injected or surface applied and incorporated within four (4) months of application.
c. 30 days for feed crops, other food crops (such as field corn, sweet corn, etc.), hay or fiber crops when biosolids are surface applied, incorporated or injected.
d. 30 days for grazing of animals when biosolids are surface applied, incorporated or injected.
e. One year where there is a high potential for public contact with the site, (such as a reclamation site located in populated areas, a construction site located in a city, turf farms, plant nurseries, etc.) and 30 days where there is low potential for public contact (such as agricultural land, forest, a reclamation site located in an unpopulated area, etc.) when biosolids are surface applied, incorporated, or injected.

6. Management Practices

6.1 The management practices for the land application of biosolids are described in detail in Minn. R. ch. 7041.1200 and must be followed unless specified otherwise in a site approval letter or a permit issued by the MPCA.

6.2 Overall management requirements:

a. Biosolids must not be applied to the land if it is likely to adversely affect a threatened or endangered species listed under Section 4 of the Endangered Species Act or its designated critical habitat.
b. Biosolids must not be applied to flooded, frozen or snow covered ground so that the biosolids enter wetlands or other waters of the state.
c. Biosolids must be applied at an agronomic rate unless specified otherwise by the MPCA in a permit.
d. Biosolids shall not be applied within 33 feet of a wetland or waters of the state unless specified otherwise by the MPCA in a permit.

7. Monitoring Requirements

7.1 Representative samples of biosolids applied to the land must be analyzed by methods specified in Minnesota Rule pt. 7041.3200 for the following parameters: arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, zinc, Kjeldahl nitrogen, ammonia nitrogen, total solids, volatile solids, phosphorus, potassium and pH.

Chapter 8. Biosolids-Land Application

7. Monitoring Requirements

7.2 At a minimum, biosolids must be monitored at the frequencies specified in Table 3 for the parameters listed above, and any pathogen or vector attraction reduction requirements in Minnesota Rules, pts. 7041.1300 and 7041.1400 if used to determine compliance with those parts.

Table 3 Minimum Sampling Frequencies

Biosolids Applied* (metric tons/365-day period)	Biosolids Applied* (tons/365-day period)	Frequency (times/365-day period)
>0 but <290	>0 but <320	1
>=290 but <1,500	>=320 but <1,650	4
>=1,500 but <15,000	>=1,650 but <16,500	6
>=15,000	>=16,500	12

* Either the amount of bulk biosolids applied to the land or the amount of biosolids received by a person who prepares biosolids that are sold or given away in a bag or other container for application to the land (dry weight basis).

7.3 Representative samples of biosolids that are transferred to storage units and are stored for more than two years shall be analyzed by methods specified in Minnesota Rule pt. 7041.3200 for each cropping year they are stored for the following parameters: arsenic, cadmium, copper, lead, molybdenum, nickel, selenium, and zinc. Mercury is specifically NOT included in the stored biosolids analysis because of the short holding time [28 days] required between sampling and analysis.

7.4 Increased sampling frequencies are specified for the parameters listed in Table 4. Sampling at a frequency at twice the minimum frequencies in Table 3 is required if concentrations listed in Table 4 are exceeded (based on the average of all analyses made during the previous cropping year).

Table 4 Increased Frequency of Sampling

Parameter (mg/kg dry weight basis)	
Arsenic	38
Cadmium	43
Copper	2150
Lead	420
Mercury	28
Molybdenum	38
Nickel	210
Selenium	50
Zinc	3750

8. Records

8.1 The Permittee shall keep records of the information necessary to show compliance with pollutant concentrations and loadings, pathogen reduction requirements, vector attraction reduction requirements and management practices as specified in Minnesota Rules, pt. 7041.1600, as applicable to the quality of biosolids produced.

9. Reporting Requirements

9.1 By December 31 following the end of each cropping year, the Permittee shall submit a Biosolids Annual Report for the land application of biosolids on a form provided by or approved by the MPCA. The report shall include the requirements in Minnesota Rules, part 7041.1700.

Chapter 8. Biosolids-Land Application

9. Reporting Requirements

9.2 The permittee shall submit a Biosolids Annual Report by December 31 of each year for biosolids storage and/or transfer activities occurring during the cropping year previous to December 31. The report must indicate whether or not biosolids were transferred and/or stored. If biosolids were transferred, the report must describe how much was transferred, where it was transferred to, the name of the facility that accepted the transfer and the contact person at that facility. "Cropping year" means a year beginning on September 1 of the year prior to the growing season and ending August 31 the year the crop is harvested. For example, the 2012 cropping year began September 1, 2011, and ended August 31, 2012.

9.3 For biosolids that are stored for more than two years, the Biosolids Annual Report must also include the analytical data from the representative sample of the biosolids generated during the cropping year.

9.4 The Permittee shall submit the Biosolids Annual Report to:

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

9.5 The Permittee must notify the MPCA in writing when 90 percent or more of any of the cumulative pollutant loading rates listed for any Land Application Sites has been reached for a site.

Chapter 9. Domestic Wastewater -- Pretreatment

1. Pretreatment - Definitions

1.1 An "Individual Control Mechanism" is a document, such as an agreement or permit, that imposes limitations or requirements on an individual industrial user of the POTW.

1.2 "Significant Industrial User" (SIU) means any industrial user that:

a. discharges 25,000 gallons per day or more of process wastewater;

b. contributes a load of five (5) % or more of the capacity of the POTW; or

c. is designated as significant by the Permittee or the MPCA on the basis that the SIU has a reasonable potential to adversely impact the POTW, or the quality of its effluent or residuals. (Minn. R. 7049.0120, Subp. 24)

2. Pretreatment - Permittee Responsibility to Control Users

2.1 It is the Permittee's responsibility to regulate the discharge from users of its wastewater treatment facility. The Permittee shall prevent any pass through of pollutants or any inhibition or disruption of the Permittee's facility, its treatment processes, or its sludge processes or disposal that contribute to the violation of the conditions of this permit or any federal or state law or regulation limiting the release of pollutants from the POTW. (Minn. R. 7049.0600)

Chapter 9. Domestic Wastewater -- Pretreatment

2. Pretreatment - Permittee Responsibility to Control Users

2.2 The Permittee shall prohibit the discharge of the following to its wastewater treatment facility:

a. pollutants which create a fire or explosion hazard, including any discharge with a flash point less than 60 degrees C (140 degrees F);

b. pollutants which would cause corrosive structural damage to the POTW, including any waste stream with a pH of less than 5.0;

c. solid or viscous pollutants which would obstruct flow;

d. heat that would inhibit biological activity, including any discharge that would cause the temperature of the waste stream at the POTW treatment plant headworks to exceed 40 degrees C (104 degrees F);

e. pollutants which produce toxic gases, vapors, or fumes that may endanger the health or safety of workers; or

f. any pollutant, including oxygen demanding pollutants such as biochemical oxygen demand, released at a flow rate or pollutant concentration that will cause interference or pass through. (Minn. R. 7049.0140)

2.3 The Permittee shall prohibit new discharges of non-contact cooling waters unless there is no cost effective alternative. Existing discharges of non-contact cooling water to the Permittee's wastewater treatment facility shall be eliminated, where elimination is cost-effective, or where an infiltration/inflow analysis and sewer system evaluation survey indicates the need for such removal.

2.4 If the Permittee accepts trucked-in wastes, the Permittee shall evaluate the trucked in wastes prior to acceptance in the same manner as it monitors sewered wastes. The Permittee shall accept trucked-in wastes only at specifically designated points. (Minn. R. 7049.0140, Subp. 4)

2.5 Pollutant of concern means a pollutant that is or may be discharged by an industrial user that is, or reasonably should be of concern on the basis that it may cause the permittee to violate any permit limits on the release of pollutants. The following pollutants shall be evaluated to determine if they should be pollutants of concern: pollutants limited in this permit, pollutants for which monitoring is required in this permit, pollutants that are likely to cause inhibition of the Permittee's POTW, pollutants which may interfere with sludge disposal, pollutants for which the Permittee's treatment facility has limited capacity. (Minn. R. 7049.0120, Subp. 13)

3. Control of Significant Industrial Users

3.1 The Permittee shall impose pretreatment requirements on SIUs which will ensure compliance with all applicable effluent limitations and other requirements set forth in this permit or any federal or state law or regulation limiting the release of pollutants from the POTW. These requirements shall be applied to SIUs by means of an individual control mechanism. (Minn. R. 7049.0600)

3.2 The Permittee shall not knowingly enter into an individual control mechanism with any user that would allow the user to contribute an amount or strength of wastewater that would cause violation of any limitation or requirement in the permit, or any applicable federal, state or local law or regulation. (Minn. R. 7049.0600 Subp. 3)

4. Monitoring of Significant Industrial Users

4.1 The Permittee shall obtain from SIUs specific information on the quality and quantity of the SIU's discharges to the Permittee's POTW. Except where specifically requested by the Permittee and approved by the MPCA, this information shall be obtained by means of representative monitoring conducted by the Permittee or by the SIU under requirements imposed by the Permittee in the SIU's individual control mechanism. Monitoring performed to comply with this requirement shall include all pollutants for which the SIU is significant and shall be done at a frequency commensurate with the significance of the SIU. (Minn. R. 7049.0710)

Chapter 9. Domestic Wastewater -- Pretreatment

5. Reporting and Notification

5.1 If a SIU discharges to the POTW during a given calendar year, the Permittee shall submit a Pretreatment Annual Report for that calendar year, due by January 31 of the following year. The Pretreatment Annual Report shall be submitted on forms provided by the agency or shall provide equivalent information.

The Permittee shall submit the pre-treatment report to the following address:

MPCA
Attn: WQ Submittals Center
520 Lafayette Road North
St. Paul, Minnesota 55155-4194 (Minn. R. 7049.0720)

5.2 The Permittee shall notify the MPCA in writing of any:

a. SIU of the Permittee's POTW which has not been previously disclosed to the MPCA;

b. anticipated or actual changes in the volume or quality of discharge by an industrial user that could result in the industrial user becoming an SIU as defined in this chapter; or

c. anticipated or actual changes in the volume or quality of discharges by a SIU that would require changes to the SIU's required local limits.

This notification shall be submitted within 30 days of identifying the IU as a SIU. Where changes are proposed, they must be submitted prior to changes being made. (Minn. R. 7049.0700, Subp. 1)

5.3 Upon notifying the MPCA of a SIU or change in a SIU discharge as required above, the Permittee shall submit the following information on forms provided by the agency or in a comparable format:

a. the identity of the SIU and a description of the SIU's operation and process;

b. a characterization of the SIU's discharge;

c. the required local limits that will be imposed on the SIU;

d. a technical justification of the required local limits; and

e. a plan for monitoring the SIU which is consistent with monitoring requirements in this chapter. (Minn. R. 7049.0700)

5.4 In addition, the Permittee shall, upon request, submit the following to the MPCA for approval:

a. additional information on the SIU, its processes and discharge;

b. a copy of the individual control mechanism used to control the SIU;

c. the Permittee's legal authority to be used for regulating the SIU; and

d. the Permittee's procedures for enforcing the requirements imposed on the SIU. (Minn. R. 7049.0700, Subp. 3)

5.5 The permittee shall notify MPCA of any of its industrial users that may be subject to national categorical pretreatment standards.

Chapter 9. Domestic Wastewater -- Pretreatment

5. Reporting and Notification

5.6 This permit may be modified in accordance with Minnesota Rules, ch. 7001 to require development of a pretreatment program approvable under the Federal General Pretreatment Regulation (40 CFR 403).

Chapter 10. Total Facility Requirements

1. General Requirements

General Requirements

1.1 Incorporation by Reference. The following applicable federal and state laws are incorporated by reference in this permit, are applicable to the Permittee, and are enforceable parts of this permit: 40 CFR pts. 122.41, 122.42, 136, 403 and 503; Minn. R. pts. 7001, 7041, 7045, 7050, 7052, 7053, 7060, and 7080; and Minn. Stat. Sec. 115 and 116.

1.2 Permittee Responsibility. The Permittee shall perform the actions or conduct the activity authorized by the permit in compliance with the conditions of the permit and, if required, in accordance with the plans and specifications approved by the Agency. (Minn. R. 7001.0150, subp. 3, item E)

1.3 Toxic Discharges Prohibited. Whether or not this permit includes effluent limitations for toxic pollutants, the Permittee shall not discharge a toxic pollutant except according to Code of Federal Regulations, Title 40, sections 400 to 460 and Minnesota Rules 7050, 7052, 7053 and any other applicable MPCA rules. (Minn. R. 7001.1090, subp.1, item A)

1.4 Nuisance Conditions Prohibited. The Permittee's discharge shall not cause any nuisance conditions including, but not limited to: floating solids, scum and visible oil film, acutely toxic conditions to aquatic life, or other adverse impact on the receiving water. (Minn. R. 7050.0210 subp. 2)

1.5 Property Rights. This permit does not convey a property right or an exclusive privilege. (Minn. R. 7001.0150, subp. 3, item C)

1.6 Liability Exemption. In issuing this permit, the state and the MPCA assume no responsibility for damage to persons, property, or the environment caused by the activities of the Permittee in the conduct of its actions, including those activities authorized, directed, or undertaken under this permit. To the extent the state and the MPCA may be liable for the activities of its employees, that liability is explicitly limited to that provided in the Tort Claims Act. (Minn. R. 7001.0150, subp. 3, item O)

1.7 The MPCA's issuance of this permit does not obligate the MPCA to enforce local laws, rules, or plans beyond what is authorized by Minnesota Statutes. (Minn. R. 7001.0150, subp.3, item D)

1.8 Liabilities. The MPCA's issuance of this permit does not release the Permittee from any liability, penalty or duty imposed by Minnesota or federal statutes or rules or local ordinances, except the obligation to obtain the permit. (Minn. R. 7001.0150, subp.3, item A)

1.9 The issuance of this permit does not prevent the future adoption by the MPCA of pollution control rules, standards, or orders more stringent than those now in existence and does not prevent the enforcement of these rules, standards, or orders against the Permittee. (Minn. R. 7001.0150, subp.3, item B)

1.10 Severability. The provisions of this permit are severable and, if any provisions of this permit or the application of any provision of this permit to any circumstance are held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

1.11 Compliance with Other Rules and Statutes. The Permittee shall comply with all applicable air quality, solid waste, and hazardous waste statutes and rules in the operation and maintenance of the facility.

Chapter 10. Total Facility Requirements

1. General Requirements

1.12 Inspection and Entry. When authorized by Minn. Stat. Sec. 115.04; 115B.17, subd. 4; and 116.091, and upon presentation of proper credentials, the agency, or an authorized employee or agent of the agency, shall be allowed by the Permittee to enter at reasonable times upon the property of the Permittee to examine and copy books, papers, records, or memoranda pertaining to the construction, modification, or operation of the facility covered by the permit or pertaining to the activity covered by the permit; and to conduct surveys and investigations, including sampling or monitoring, pertaining to the construction, modification, or operation of the facility covered by the permit or pertaining to the activity covered by the permit. (Minn. R. 7001.0150, subp.3, item I)

1.13 Control Users. The Permittee shall regulate the users of its wastewater treatment facility so as to prevent the introduction of pollutants or materials that may result in the inhibition or disruption of the conveyance system, treatment facility or processes, or disposal system that would contribute to the violation of the conditions of this permit or any federal, state or local law or regulation.

Sampling

1.14 Representative Sampling. Samples and measurements required by this permit shall be conducted as specified in this permit and shall be representative of the discharge or monitored activity. (40 CFR 122.41 (j)(1))

1.15 Additional Sampling. If the Permittee monitors more frequently than required, the results and the frequency of monitoring shall be reported on the Discharge Monitoring Report (DMR) or another MPCA-approved form for that reporting period. (Minn. R. 7001.1090, subp. 1, item E)

1.16 Certified Laboratory. A laboratory certified by the Minnesota Department of Health and/or registered by the MPCA shall conduct analyses required by this permit. Analyses of dissolved oxygen, pH, temperature, specific conductance, and total residual oxidants (chlorine, bromine) do not need to be completed by a certified laboratory but shall comply with manufacturers specifications for equipment calibration and use. (Minn. Stat. Sec. 144.97 through 144.98 and Minn. R. 4740.2010 and 4740.2050 through 4740.2120) (Minn. R. 4740.2010 and 4740.2050 through 2120)

1.17 Sample Preservation and Procedure. Sample preservation and test procedures for the analysis of pollutants shall conform to 40 CFR Part 136 and Minn. R. 7041.3200.

1.18 Equipment Calibration: Flow meters, pumps, flumes, lift stations or other flow monitoring equipment used for purposes of determining compliance with permit shall be checked and/or calibrated for accuracy at least twice annually. (Minn. R. 7001.0150, subp. 2, items B and C)

1.19 Maintain Records. The Permittee shall keep the records required by this permit for at least three years, including any calculations, original recordings from automatic monitoring instruments, and laboratory sheets. The Permittee shall extend these record retention periods upon request of the MPCA. The Permittee shall maintain records for each sample and measurement. The records shall include the following information (Minn. R. 7001.0150, subp. 2, item C):

a. The exact place, date, and time of the sample or measurement;

b. The date of analysis;

c. The name of the person who performed the sample collection, measurement, analysis, or calculation; and

d. The analytical techniques, procedures and methods used; and

e. The results of the analysis.

Chapter 10. Total Facility Requirements

1. General Requirements

1.20 Completing Reports. The Permittee shall submit the results of the required sampling and monitoring activities on the forms provided, specified, or approved by the MPCA. The information shall be recorded in the specified areas on those forms and in the units specified. (Minn. R. 7001.1090, subp. 1, item D; Minn. R. 7001.0150, subp. 2, item B)

Required forms may include:

DMR Supplemental Form
Individual values for each sample and measurement must be recorded on the DMR Supplemental Form which, if required, will be provided by the MPCA. DMR Supplemental Forms shall be submitted with the appropriate DMRs. You may design and use your own supplemental form; however it must be approved by the MPCA. Note: Required summary information MUST also be recorded on the DMR. Summary information that is submitted ONLY on the DMR Supplemental Form does not comply with the reporting requirements.

1.21 Submitting Reports. Discharge Monitoring Reports (DMRs), DMR supplemental forms, and related attachments shall be submitted electronically via the MPCA Online Services Portal after authorization is approved. Authorization must be applied for and approved prior to submittal via the Online Services Portal.

DMRs and DMR Supplemental Forms shall be electronically submitted by the 21st day of the month following the monitoring period end or as otherwise specified in this permit. Electronic DMR submittal must be complete on or before 11:59 PM of the 21st day of the month following the end of the monitoring period or as otherwise specified in this permit. A DMR shall be submitted for each required station even if no discharge occurred during the monitoring period. (Minn. R. 7001.0150, subps. 2.B and 3.H)

If electronic submittal is not possible, the Permittee must apply for an exception to electronic submittal. Exceptions requests for extreme conditions (no computer on-site is not an extreme condition) must at a minimum contain the extreme reason for the exception, actions to be taken, and date the facility will submit eDMR. All exception requests, and paper DMRs, DMR supplemental forms, and related attachments must be submitted by the 21st day of the month following the monitoring period end to:

MPCA
Attn: Discharge Monitoring Reports
520 Lafayette Road North
St. Paul, Minnesota 55155-4194.

Other reports required by this permit shall be submitted on or before the due date specified in the permit to:

MPCA
Attn: WQ Submittals Center
520 Lafayette Road North
St. Paul, Minnesota 55155-4194.

1.22 Incomplete or Incorrect Reports. The Permittee shall immediately submit an electronically amended report or DMR to the MPCA upon discovery by the Permittee or notification by the MPCA that it has submitted an incomplete or incorrect report or DMR. The amended report or DMR shall contain the missing or corrected data along with a cover letter explaining the circumstances of the incomplete or incorrect report. If it is impossible to electronically amend the report or DMR, the Permittee shall immediately notify the MPCA and the MPCA will provide direction for the amendment submittals. (Minn. R. 7001.0150 subp. 3, item G)

Chapter 10. Total Facility Requirements

1. General Requirements

1.23 Required Signatures. All DMRs, forms, reports, and other documents submitted to the MPCA shall be signed by the Permittee or the duly authorized representative of the Permittee. Minn. R. 7001.0150, subp. 2, item D. The person or persons that sign the DMRs, forms, reports or other documents must certify that he or she understands and complies with the certification requirements of Minn. R. 7001.0070 and 7001.0540, including the penalties for submitting false information. Technical documents, such as design drawings and specifications and engineering studies required to be submitted as part of a permit application or by permit conditions, must be certified by a registered professional engineer. (Minn. R. 7001.0540)

1.24 Detection Level. The Permittee shall report monitoring results below the reporting limit (RL) of a particular instrument as "<" the value of the RL. For example, if an instrument has a RL of 0.1 mg/L and a parameter is not detected at a value of 0.1 mg/L or greater, the concentration shall be reported as "<0.1 mg/L." "Non-detected," "undetected," "below detection limit," and "zero" are unacceptable reporting results, and are permit reporting violations. (Minn. R. 7001.0150, subp. 2, item B)

Where sample values are less than the level of detection and the permit requires reporting of an average, the Permittee shall calculate the average as follows:

a. If one or more values are greater than the level of detection, substitute zero for all nondetectable values to use in the average calculation.

b. If all values are below the level of detection, report the averages as "<" the corresponding level of detection.

c. Where one or more sample values are less than the level of detection, and the permit requires reporting of a mass, usually expressed as kg/day, the Permittee shall substitute zero for all nondetectable values. (Minn. R. 7001.0150, subp. 2, item B)

1.25 Records. The Permittee shall, when requested by the Agency, submit within a reasonable time the information and reports that are relevant to the control of pollution regarding the construction, modification, or operation of the facility covered by the permit or regarding the conduct of the activity covered by the permit. (Minn. R. 7001.0150, subp. 3, item H)

1.26 Confidential Information. Except for data determined to be confidential according to Minn. Stat. Sec. 116.075, subd. 2, all reports required by this permit shall be available for public inspection. Effluent data shall not be considered confidential. To request the Agency maintain data as confidential, the Permittee must follow Minn. R. 7000.1300.

Noncompliance and Enforcement

1.27 Subject to Enforcement Action and Penalties. Noncompliance with a term or condition of this permit subjects the Permittee to penalties provided by federal and state law set forth in section 309 of the Clean Water Act; United States Code, title 33, section 1319, as amended; and in Minn. Stat. Sec. 115.071 and 116.072, including monetary penalties, imprisonment, or both. (Minn. R. 7001.1090, subp. 1, item B)

1.28 Criminal Activity. The Permittee may not knowingly make a false statement, representation, or certification in a record or other document submitted to the Agency. A person who falsifies a report or document submitted to the Agency, or tampers with, or knowingly renders inaccurate a monitoring device or method required to be maintained under this permit is subject to criminal and civil penalties provided by federal and state law. (Minn. R. 7001.0150, subp.3, item G., 7001.1090, subps. 1, items G and H and Minn. Stat. Sec. 609.671)

1.29 Noncompliance Defense. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. (40 CFR 122.41(c))

Chapter 10. Total Facility Requirements

1. General Requirements

1.30 Effluent Violations. If sampling by the Permittee indicates a violation of any discharge limitation specified in this permit, the Permittee shall immediately make every effort to verify the violation by collecting additional samples, if appropriate, investigate the cause of the violation, and take action to prevent future violations. If the permittee discovers that noncompliance with a condition of the permit has occurred which could endanger human health, public drinking water supplies, or the environment, the Permittee shall within 24 hours of the discovery of the noncompliance, orally notify the commissioner and submit a written description of the noncompliance within 5 days of the discovery. The written description shall include items a. through e., as listed below. If the Permittee discovers other non-compliance that does not explicitly endanger human health, public drinking water supplies, or the environment, the non-compliance shall be reported during the next reporting period to the MPCA with its Discharge Monitoring Report (DMR). If no DMR is required within 30 days, the Permittee shall submit a written report within 30 days of the discovery of the noncompliance. This description shall include the following information:

a. a description of the event including volume, duration, monitoring results and receiving waters;

b. the cause of the event;

c. the steps taken to reduce, eliminate and prevent reoccurrence of the event;

d. the exact dates and times of the event; and

e. steps taken to reduce any adverse impact resulting from the event. (Minn. R. 7001.0150, subp. 3k)

1.31 Upset Defense. In the event of temporary noncompliance by the Permittee with an applicable effluent limitation resulting from an upset at the Permittee's facility due to factors beyond the control of the Permittee, the Permittee has an affirmative defense to an enforcement action brought by the Agency as a result of the noncompliance if the Permittee demonstrates by a preponderance of competent evidence:

a. The specific cause of the upset;

b. That the upset was unintentional;

c. That the upset resulted from factors beyond the reasonable control of the Permittee and did not result from operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or increases in production which are beyond the design capability of the treatment facilities;

d. That at the time of the upset the facility was being properly operated;

e. That the Permittee properly notified the Commissioner of the upset in accordance with Minn. R. 7001.1090, subp. 1, item I; and

f. That the Permittee implemented the remedial measures required by Minn. R. 7001.0150, subp. 3, item J.

Release

1.32 Unauthorized Releases of Wastewater Prohibited. Except for discharges from outfalls specifically authorized by this permit, overflows, discharges, spills, or other releases of wastewater or materials to the environment, whether intentional or not, are prohibited. However, the MPCA will consider the Permittee's compliance with permit requirements, frequency of release, quantity, type, location, and other relevant factors when determining appropriate action. (40 CFR 122.41 and Minn. Stat. Sec 115.061)

Chapter 10. Total Facility Requirements

1. General Requirements

1.33 Discovery of a release. Upon discovery of a release, the Permittee shall:

a. Take all reasonable steps to immediately end the release.

b. Notify the Minnesota Department of Public Safety Duty Officer at 1(800)422-0798 or (651)649-5451 (metro area) immediately upon discovery of the release. You may contact the MPCA during business hours at 1(800)657-3864 or (651)296-6300 (metro area).

c. Recover as rapidly and as thoroughly as possible all substances and materials released or immediately take other action as may be reasonably possible to minimize or abate pollution to waters of the state or potential impacts to human health caused thereby. If the released materials or substances cannot be immediately or completely recovered, the Permittee shall contact the MPCA. If directed by the MPCA, the Permittee shall consult with other local, state or federal agencies (such as the Minnesota Department of Natural Resources and/or the Wetland Conservation Act authority) for implementation of additional clean-up or remediation activities in wetland or other sensitive areas.

1.34 Sampling of a release. Upon discovery of a release, the Permittee shall:

a. Collect representative samples of the release. The Permittee shall sample the release for parameters of concern immediately following discovery of the release. The Permittee may contact the MPCA during business hours to discuss the sampling parameters and protocol. In addition, Fecal Coliform Bacteria samples shall be collected where it is determined by the Permittee that the release contains or may contain sewage. If the release cannot be immediately stopped, the Permittee shall consult with MPCA regarding additional sampling requirements. Samples shall be collected at least, but not limited to, two times per week for as long as the release continues.

b. Submit the sampling results on the Release Sampling Form (http://www.pca.state.mn.us/index.php/view-document.html?gid=18867). The Release Sampling Form shall be submitted to the MPCA with the next DMR or within 30 days whichever is sooner.

Bypass

1.35 Anticipated bypass. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if the bypass is for essential maintenance to assure efficient operation of the facility. The permittee shall submit prior notice, if possible at least ten days before the date of the bypass to the MPCA (40 CFR 122.41(m)(2) and 122.41(m)(3) and Minn. R. Ch. 7001.1090, subp. 1, J).

The notice of the need for an anticipated bypass shall include the following information:

a. The proposed date and estimated duration of the bypass;

b. The alternatives to bypassing; and

c. A proposal for effluent sampling during the bypass. Any bypass wastewater must enter waters of the state from outfalls specifically authorized by this permit. Therefore, samples shall be collected at the frequency and location identified in this permit or two times per week for as long as the bypass continues, whichever is more frequent.

Chapter 10. Total Facility Requirements

1. General Requirements

1.36 All other bypasses are prohibited. The MPCA may take enforcement action against the Permittee for a bypass, unless the specific conditions described in Minn. R. Ch. 7001.1090 subp. 1, K and 122.41(m)(4)(i) are met.

In the event of an unanticipated bypass, the permittee shall:

a. Take all reasonable steps to immediately end the bypass.

b. Notify the Minnesota Department of Public Safety Duty Officer at 1(800)422-0798 or (651)649-5451 (metro area) immediately upon commencement of the bypass. You may contact the MPCA during business hours at 1(800)657-3864 or (651)296-6300 (metro area). (Minn. Stat. Sec 115.061)

c. Immediately take action as may be reasonably possible to minimize or abate pollution to waters of the state or potential impacts to human health caused thereby. If directed by the MPCA, the Permittee shall consult with other local, state or federal agencies for implementation of abatement, clean-up, or remediation activities.

d. Only allow bypass wastewater as specified in this section to enter waters of the state from outfalls specifically authorized by this permit. Samples shall be collected at the frequency and location identified in this permit or two times per week for as long as the bypass continues, whichever is more frequent. The permittee shall also follow the reporting requirements for effluent violations as specified in this permit.

Operation and Maintenance

1.37 The Permittee shall at all times properly operate and maintain the facilities and systems of treatment and control, and the appurtenances related to them which are installed or used by the Permittee to achieve compliance with the conditions of the permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. The Permittee shall install and maintain appropriate backup or auxiliary facilities if they are necessary to achieve compliance with the conditions of the permit and, for all permits other than hazardous waste facility permits, if these backup or auxiliary facilities are technically and economically feasible Minn. R. 7001.0150. subp. 3, item F.

1.38 In the event of a reduction or loss of effective treatment of wastewater at the facility, the Permittee shall control production or curtail its discharges to the extent necessary to maintain compliance with the terms and conditions of this permit. The Permittee shall continue this control or curtailment until the wastewater treatment facility has been restored or until an alternative method of treatment is provided. (Minn. R. 7001.1090, subp. 1, item C)

1.39 Solids Management. The Permittee shall properly store, transport, and dispose of biosolids, septage, sediments, residual solids, filter backwash, screenings, oil, grease, and other substances so that pollutants do not enter surface waters or ground waters of the state. Solids should be disposed of in accordance with local, state and federal requirements. (40 CFR 503 and Minn. R. 7041 and applicable federal and state solid waste rules)

1.40 Scheduled Maintenance. The Permittee shall schedule maintenance of the treatment works during non-critical water quality periods to prevent degradation of water quality, except where emergency maintenance is required to prevent a condition that would be detrimental to water quality or human health. (Minn. R. 7001.0150. subp. 3, item F and Minn. R. 7001.0150. subp. 2, item B)

1.41 Control Tests. In-plant control tests shall be conducted at a frequency adequate to ensure compliance with the conditions of this permit. (Minn. R. 7001.0150. subp. 3, item F and Minn. R. 7001.0150. subp. 2, item B)

Changes to the Facility or Permit

Chapter 10. Total Facility Requirements

1. General Requirements

1.42 Permit Modifications. Except as provided under Minnesota Statutes, section 115.07, subdivisions 1 and 3, no person required by statute or rule to obtain a permit may construct, install, modify, or operate the facility to be permitted, nor shall a person commence an activity for which a permit is required by statute or rule until the agency has issued a written permit for the facility or activity. (Minn. R. 7001.0030)

Permittees that propose to make a change to the facility or discharge that requires a permit modification must follow Minn. R. 7001.0190. If the Permittee cannot determine whether a permit modification is needed, the Permittee must contact the MPCA prior to any action. It is recommended that the application for permit modification be submitted to the MPCA at least 180 days prior to the planned change.

1.43 No person required by statute or rule to obtain a permit may construct, install, modify, or operate the facility to be permitted except as provided under Minnesota Statutes, section 115.07, subdivisions 1 and 3, nor shall a person commence an activity for which a permit is required by statute or rule until the agency has issued a written permit for the facility or activity.

1.44 Plans, specifications and MPCA approval are not necessary when maintenance dictates the need for installation of new equipment, provided the equipment is the same design size and has the same design intent. For instance, a broken pipe, lift station pump, aerator, or blower can be replaced with the same design-sized equipment without MPCA approval.

If the proposed construction is not expressly authorized by this permit, it may require a permit modification. If the construction project requires an Environmental Assessment Worksheet under Minn. R. 4410, no construction shall begin until a negative declaration is issued and all approvals are received or implemented.

1.45 Report Changes. The Permittee shall give advance notice as soon as possible to the MPCA of any substantial changes in operational procedures, activities that may alter the nature or frequency of the discharge, and/or material factors that may affect compliance with the conditions of this permit. (Minn. R. 7001.0150, subp. 3, item M)

1.46 Chemical Additives. The Permittee shall receive prior written approval from the MPCA before increasing the use of a chemical additive authorized by this permit, or using a chemical additive not authorized by this permit, in quantities or concentrations that have the potential to change the characteristics, nature and/or quality of the discharge.

The Permittee shall request approval for an increased or new use of a chemical additive at least 60 days, or as soon as possible, before the proposed increased or new use.

This written request shall include at least the following information for the proposed additive:

a. The process for which the additive will be used;
b. Material Safety Data Sheet (MSDS) which shall include aquatic toxicity, human health, and environmental fate information for the proposed additive. The aquatic toxicity information shall include at minimum the results of: a) a 48-hour LC50 or EC50 acute study for a North American freshwater planktonic crustacean (either Ceriodaphnia or Daphnia sp.) and b) a 96-hour LC50 acute study for rainbow trout, bluegill or fathead minnow or another North American freshwater aquatic species other than a planktonic crustacean;
c. A complete product use and instruction label;
d. The commercial and chemical names and Chemical Abstract Survey (CAS) number for all ingredients in the additive (If the MSDS does not include information on chemical composition, including percentages for each ingredient totaling to 100%, the Permittee shall contact the supplier to have this information provided); and
e. The proposed method of application, application frequency, concentration, and daily average and maximum rates of use. (Minn. R. 7001.0170)

Chapter 10. Total Facility Requirements

1. General Requirements

1.47 Upon review of the information submitted regarding the proposed chemical additive, the MPCA may require additional information be submitted for consideration. This permit may be modified to restrict the use or discharge of a chemical additive and include additional influent and effluent monitoring requirements.

Approval for the use of an additive shall not justify the exceedance of any effluent limitation nor shall it be used as a defense against pollutant levels in the discharge causing or contributing to the violation of a water quality standard.

1.48 MPCA Initiated Permit Modification, Suspension, or Revocation. The MPCA may modify or revoke and reissue this permit pursuant to Minn. R. 7001.0170. The MPCA may revoke without reissuance this permit pursuant to Minn. R. 7001.0180.

1.49 TMDL Impacts. Facilities that discharge to an impaired surface water, watershed or drainage basin may be required to comply with additional permits or permit requirements, including additional restriction or relaxation of limits and monitoring as authorized by the CWA 303(d)(4)(A) and 40 CFR 122.44.l.2.i., necessary to ensure consistency with the assumptions and requirements of any applicable US EPA approved wasteload allocations resulting from Total Maximum Daily Load (TMDL) studies.

1.50 Permit Transfer. The permit is not transferable to any person without the express written approval of the Agency after compliance with the requirements of Minn. R. 7001.0190. A person to whom the permit has been transferred shall comply with the conditions of the permit. (Minn. R., 7001.0150, subp. 3, item N)

1.51 Facility Closure. The Permittee is responsible for closure and post-closure care of the facility. The Permittee shall notify the MPCA of a significant reduction or cessation of the activities described in this permit at least 180 days before the reduction or cessation. The MPCA may require the Permittee to provide to the MPCA a facility Closure Plan for approval.

Facility closure that could result in a potential long-term water quality concern, such as the ongoing discharge of wastewater to surface or ground water, may require a permit modification or reissuance.

The MPCA may require the Permittee to establish and maintain financial assurance to ensure performance of certain obligations under this permit, including closure, post-closure care and remedial action at the facility. If financial assurance is required, the amount and type of financial assurance, and proposed modifications to previously MPCA-approved financial assurance, shall be approved by the MPCA. (Minn. Stat. Sec. 116.07, subd. 4)

Chapter 10. Total Facility Requirements

1. General Requirements

1.52 Permit Reissuance. If the Permittee desires to continue permit coverage beyond the date of permit expiration, the Permittee shall submit an application for reissuance at least 180 days before permit expiration. If the Permittee does not intend to continue the activities authorized by this permit after the expiration date of this permit, the Permittee shall notify the MPCA in writing at least 180 days before permit expiration.

If the Permittee has submitted a timely application for permit reissuance, the Permittee may continue to conduct the activities authorized by this permit, in compliance with the requirements of this permit, until the MPCA takes final action on the application, unless the MPCA determines any of the following (Minn. R. 7001.0040 and 7001.0160):

a. The Permittee is not in substantial compliance with the requirements of this permit, or with a stipulation agreement or compliance schedule designed to bring the Permittee into compliance with this permit;

b. The MPCA, as a result of an action or failure to act by the Permittee, has been unable to take final action on the application on or before the expiration date of the permit;

c. The Permittee has submitted an application with major deficiencies or has failed to properly supplement the application in a timely manner after being informed of deficiencies.

Permit Modified: January 13, 2015

Permit Expires: September 30, 2019

Submittals and Actions Checklist
East Gull Lake WWTF

Permit #: MN0059871

This checklist is intended to assist you in tracking the reporting requirements of your permit. However, it is only an aid. PLEASE CONSULT YOUR PERMIT FOR THE EXACT REQUIREMENTS.

Please note: This checklist only details submittal requirements for the next five years. DMRs, Annual Reports, and many other submittals are required even after the expiration date of this permit, and continue to be due until the permit is either reissued or terminated.

Submit eDMRs:
Submit eDMRs via the MPCA Online Services Portal at: https://netweb.pca.state.mn.us/private/

Submit other WQ reports to:
Attention: Submittals Center
Minnesota Pollution Control Agency
520 Lafayette Rd N
St. Paul, MN 55155

MPCA Staff Contacts:
For eDMR-related questions:
Jennifer Satnik at (651)757-2692
For other questions:
Justin Barrick at (218)316-3858

2015

- [ ] Submit DMR (due before Jan 22)
- [ ] Submit DMR (due before Feb 22)
- [ ] Submit DMR (due before Mar 22)
- [ ] Submit DMR (due before Apr 22)
- [ ] Complete construction (due before Apr 29) {Permit Req't. 1.1.1}
- [ ] Submit DMR (due before May 22)
- [ ] Submit DMR (due before Jun 22)
- [ ] Submit DMR (due before Jul 22)
- [ ] Submit DMR (due before Aug 22)
- [ ] Submit DMR (due before Sep 22)
- [ ] Submit DMR (due before Oct 22)
- [ ] Submit DMR (due before Nov 22)
- [ ] Submit DMR (due before Dec 22)

2016

- [ ] Submit DMR (due before Jan 22)
- [ ] Submit DMR (due before Feb 22)
- [ ] Submit DMR (due before Mar 22)
- [ ] Submit DMR (due before Apr 22)
- [ ] Submit DMR (due before May 22)
- [ ] Submit DMR (due before Jun 22)
- [ ] Submit DMR (due before Jul 22)
- [ ] Submit DMR (due before Aug 22)
- [ ] Submit DMR (due before Sep 22)
- [ ] Submit DMR (due before Oct 22)
- [ ] Submit DMR (due before Nov 22)
- [ ] Submit DMR (due before Dec 22)

2017

- [ ] Submit DMR (due before Jan 22)
- [ ] Submit DMR (due before Feb 22)
- [ ] Submit DMR (due before Mar 22)
- [ ] Submit DMR (due before Apr 22)
- [ ] Submit DMR (due before May 22)
- [ ] Submit DMR (due before Jun 22)
- [ ] Submit DMR (due before Jul 22)
- [ ] Submit DMR (due before Aug 22)
- [ ] Submit DMR (due before Sep 22)
- [ ] Submit DMR (due before Oct 22)
- [ ] Submit DMR (due before Nov 22)
- [ ] Submit DMR (due before Dec 22)

2018

- [ ] Submit DMR (due before Jan 22)
- [ ] Submit DMR (due before Feb 22)

Submittals and Actions Checklist
East Gull Lake WWTF

This checklist is intended to assist you in tracking the reporting requirements of your permit. However, it is only an aid. PLEASE CONSULT YOUR PERMIT FOR THE EXACT REQUIREMENTS.

Please note: This checklist only details submittal requirements for the next five years. DMRs, Annual Reports, and many other submittals are required even after the expiration date of this permit, and continue to be due until the permit is either reissued or terminated.

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Submit eDMRs via the MPCA Online Services Portal at: https://netweb.pca.state.mn.us/private/

Submit other WQ reports to:
Attention: Submittals Center
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520 Lafayette Rd N
St. Paul, MN 55155

MPCA Staff Contacts:
For eDMR-related questions:
Jennifer Satnik at (651)757-2692
For other questions:
Justin Barrick at (218)316-3858

2018

- [ ] Submit DMR (due before Mar 22)
- [ ] Submit DMR (due before Apr 22)
- [ ] Submit DMR (due before May 22)
- [ ] Submit DMR (due before Jun 22)
- [ ] Submit DMR (due before Jul 22)
- [ ] Submit DMR (due before Aug 22)
- [ ] Submit DMR (due before Sep 22)
- [ ] Submit DMR (due before Oct 22)
- [ ] Submit DMR (due before Nov 22)
- [ ] Submit DMR (due before Dec 22)

2019

- [ ] Submit DMR (due before Jan 22)
- [ ] Submit DMR (due before Feb 22)
- [ ] Submit DMR (due before Mar 22)
- [ ] Submit a Mercury Pollutant Minimization Plan (due before Apr 3) {Permit Req't. 5.1.3}
- [ ] Submit an application for permit reissuance (due before Apr 3) {Permit Req't. 10.1.52}
- [ ] Submit DMR (due before Apr 22)
- [ ] Submit DMR (due before May 22)
- [ ] Submit DMR (due before Jun 22)
- [ ] Submit DMR (due before Jul 22)
- [ ] Submit DMR (due before Aug 22)
- [ ] Submit DMR (due before Sep 22)

Other Submittals

- [ ] The permittee shall submit in writing within 14 days of the installation of the 24 hour composite sampler for the North Plant - Squaw Point facility. {Permit Req't. 1.1.2}

Appendix B

MPCA Flow and Loading Determination Worksheets

Table 5: Determination of Design Loadings

		Unit Basis	ADW	AWW
Residential Waste	Population	336		
	Flow, GPD		25,200	52,100
	BOD_5, #/day	0.42	141	141
	TSS, #/day	0.25	84	84
	NH_3-N, #/day	N/A	N/A	N/A
	P, #/day	0.012	4.03	4.03
Out-of-Town Students and Workers	Number			
	Flow, GPD			
	BOD_5, #/day			
	TSS, #/day			
	NH_3-N, #/day			
	P, #/day			
Seasonal Residents	Number			
	Flow, GPD			
	BOD_5, #/day			
	TSS, #/day			
	NH_3-N, #/day			
	P, #/day			
Industrial	Flow, GPD			
	Rated Flow, GPD			
	BOD_5, #/day			
	TSS, #/day			
	NH_3-N, #/day			
	P, #/day			
Other (Specify)	Flow, GPD			
	Rated Flow, GPD			
	BOD_5, #/day			
	TSS, #/day			
	NH_3-N, #/day			
	P, #/day			
Infiltration	GPD			
Inflow	GPD			
Total	Flow, GPD			
	Rated Flow, GPD			
	BOD_5, mg/l			
	BOD_5, #/day			
	TSS, mg/l			
	TSS, #/day			
	NH_3-N, mg/l			
	NH_3-N, #/day			
	P, mg/l			
	P, #/day			

* It may be necessary to also test for TKN for certain industrial contributors.

PROJECT NAME East Gull Lake Facility Plan - Squaw Point WWTF

LOCATION East Gull Lake, Minnesota

COMPLETED BY B. Wolohan **DATE** 2/19/2017

Table 3: Determination of Design Flows

(A) For determination of peak hourly wet weather design flows (PHWW): Gallons Per Day

1	Present peak hourly dry weather flow	
2	Present peak hourly flow during high ground water period (no runoff)	
3	Present peak hourly dry weather flow [same as (1)]	-
4	Present peak hourly infiltration	=
5	Present hourly flow during high ground water period and runoff at point of greatest distance between Curves Y and Z	
6	Present hourly flow during high ground water (no runoff) at same time of day as (5) measurement	-
7	Present peak hourly inflow	= 60,000
8	Present peak hourly inflow adjusted for a 5-year 1-hour rainfall event	
9	Present peak hourly infiltration [same as (4)]	
10	Peak hourly infiltration cost effective to eliminate	-
11	Peak hourly infiltration after rehabilitation (where rehabilitation is cost effective)	=
12	Present peak hourly adjusted inflow [same as (8)]	
13	Peak hourly inflow cost effective to eliminate	-
14	Peak hourly inflow after rehabilitation (where rehabilitation is cost effective)	=
15	Population increase 120 @ 155 gpcd	33,500
16	Peak hourly flow from planned industrial increase	
17	Estimated peak hourly flow from future unidentified industries	
18	Peak hourly flow from other future increases	
19	Peak hourly wet weather design flow [(1)+(11)+(14)+(15)+(16)+(17)+(18)]	93,500

(B) For determination of peak instantaneous wet weather design flow (PIWW): Gallons Per Day

20	Peak hourly wet weather design flow [same as (19)]	93,500
21	Present peak hourly inflow adjusted for a 5-year 1-hour rainfall event [same as (8)]	-
22	Present peak inflow adjusted for a 25-year 1-hour rainfall event	+
23	Peak instantaneous wet weather design flow	= 93,500

(C) For determination of average dry weather design flow (ADW): Gallons Per Day

24	Present average dry weather flow	16,000
25	Population increase 120_@_77 gpcd	
26	Average flow from planned industrial increase	+ 9,200
27	Estimated average flow from other future unidentified industries	+
28	Average flow from other future increases	+
29	Average dry weather design flow [(24)+(25)+(26)+(27)+(28)]	= 25,200

(D) For determination of average wet weather design flow (30-day average for mechanical plants and 180-day average for controlled discharge ponds) (AWW): Gallons Per Day

30	Present average dry weather flow		16,000
31	Average infiltration after rehabilitation (where rehabilitation is cost effective)	+	
32	Average inflow after rehabilitation (where rehabilitation is cost effective)	+	26,900
33	Population increase 120_@_77 gpcd	+	9,200
34	Average flow from planned industrial increase	+	
35	Estimated average flow from other future unidentified industries	+	
36	Average flow from other future increases	+	
37	Average wet weather design flow [(30)+(31)+(32)+(33)+(34)+(35)+(36)]	=	52,100

(E) Critical data (including a graphical display similar to Figure 1), methodology, and a discussion on the following items shall be included with the above calculations:

38	Dates during which actual flow data was recorded and its probable degree of accuracy.
39	Ground water elevation data relative to the collection system, during the time period when flow data was recorded.
40	Rainfall data during the time period when flow data was recorded and how the amount of rainfall compares to normal seasons.
41	Probable degree of accuracy of flow reduction due to proposed or completed I/I correction or elimination of bypasses.

Table 5: Determination of Design Loadings

		Unit Basis	ADW	AWW
Residential Waste	Population	1,246		
	Flow, GPD		107,500	415,100
	BOD_5, #/day	0.38	473	473
	TSS, #/day	0.38	473	473
	NH_3-N, #/day	0.097	121	121
	P, #/day	0.017	21.2	21.2
Out-of-Town Students and Workers	Number			
	Flow, GPD			
	BOD_5, #/day			
	TSS, #/day			
	NH_3-N, #/day			
	P, #/day			
Seasonal Residents	Number			
	Flow, GPD			
	BOD_5, #/day			
	TSS, #/day			
	NH_3-N, #/day			
	P, #/day			
Industrial	Flow, GPD			
	Rated Flow, GPD			
	BOD_5, #/day			
	TSS, #/day			
	NH_3-N, #/day			
	P, #/day			
Other (Specify)	Flow, GPD			
	Rated Flow, GPD			
	BOD_5, #/day			
	TSS, #/day			
	NH_3-N, #/day			
	P, #/day			
Infiltration	GPD			
Inflow	GPD			
Total	Flow, GPD			
	Rated Flow, GPD			
	BOD_5, mg/l			
	BOD_5, #/day			
	TSS, mg/l			
	TSS, #/day			
	NH_3-N, mg/l			
	NH_3-N, #/day			
	P, mg/l			
	P, #/day			

* It may be necessary to also test for TKN for certain industrial contributors.

PROJECT NAME East Gull Lake Facility Plan - Pine Beach WWTF

LOCATION East Gull Lake, Minnesota

COMPLETED BY B. Wolohan **DATE** 2/19/2017

Table 3: Determination of Design Flows

(A) For determination of peak hourly wet weather design flows (PHWW): Gallons Per Day

1	Present peak hourly dry weather flow	
2	Present peak hourly flow during high ground water period (no runoff)	
3	Present peak hourly dry weather flow [same as (1)]	-
4	Present peak hourly infiltration	=
5	Present hourly flow during high ground water period and runoff at point of greatest distance between Curves Y and Z	
6	Present hourly flow during high ground water (no runoff) at same time of day as (5) measurement	-
7	Present peak hourly inflow	= 231,000
8	Present peak hourly inflow adjusted for a 5-year 1-hour rainfall event	
9	Present peak hourly infiltration [same as (4)]	
10	Peak hourly infiltration cost effective to eliminate	-
11	Peak hourly infiltration after rehabilitation (where rehabilitation is cost effective)	=
12	Present peak hourly adjusted inflow [same as (8)]	
13	Peak hourly inflow cost effective to eliminate	-
14	Peak hourly inflow after rehabilitation (where rehabilitation is cost effective)	=
15	Population increase 120 @ 155 gpcd	33,500
16	Peak hourly flow from planned industrial increase	
17	Estimated peak hourly flow from future unidentified industries	
18	Peak hourly flow from other future increases	
19	Peak hourly wet weather design flow [(1)+(11)+(14)+(15)+(16)+(17)+(18)]	264,500

(B) For determination of peak instantaneous wet weather design flow (PIWW): Gallons Per Day

20	Peak hourly wet weather design flow [same as (19)]	264500
21	Present peak hourly inflow adjusted for a 5-year 1-hour rainfall event [same as (8)]	-
22	Present peak inflow adjusted for a 25-year 1-hour rainfall event	+
23	Peak instantaneous wet weather design flow	= 264,500

(C) For determination of average dry weather design flow (ADW): Gallons Per Day

24	Present average dry weather flow	82,300
25	Population increase 120_@_77 gpcd	
26	Average flow from planned industrial increase	+ 9,200
27	Estimated average flow from other future unidentified industries	+
28	Average flow from other future increases	+ 16,000
29	Average dry weather design flow [(24)+(25)+(26)+(27)+(28)]	= 107,500

(D) For determination of average wet weather design flow (30-day average for mechanical plants and 180-day average for controlled discharge ponds) (AWW): Gallons Per Day

30	Present average dry weather flow		82,300
31	Average infiltration after rehabilitation (where rehabilitation is cost effective)	+	148,350
32	Average inflow after rehabilitation (where rehabilitation is cost effective)	+	148,350
33	Population increase 120_@_77 gpcd	+	9,200
34	Average flow from planned industrial increase	+	
35	Estimated average flow from other future unidentified industries	+	
36	Average flow from other future increases	+	26,900
37	Average wet weather design flow [(30)+(31)+(32)+(33)+(34)+(35)+(36)]	=	415,100

(E) Critical data (including a graphical display similar to Figure 1), methodology, and a discussion on the following items shall be included with the above calculations:

38	Dates during which actual flow data was recorded and its probable degree of accuracy.
39	Ground water elevation data relative to the collection system, during the time period when flow data was recorded.
40	Rainfall data during the time period when flow data was recorded and how the amount of rainfall compares to normal seasons.
41	Probable degree of accuracy of flow reduction due to proposed or completed I/I correction or elimination of bypasses.

Appendix C

Environmental Information Worksheet (EIW)

Appendix D

Preliminary Effluent Limits Review Letter

January 23, 2017

John M Friel, PE
Project Manager-SEH
P: (651) 490-2140

Dear Mr. Friel:

After our discussion on January 17 and the letter of intent that followed the next day, I have created the letter to focus on the preferred options. The following tables present the project's preliminary continuous discharge effluent limitations for each option.

The following table relates to option two with the north plant being decommissioned and its' flow being transferred to the south plant. The south plant will also incorporate the expanded flow (18,100gpd) from the north plant. Antidegradation requirements will be avoided by the cities choice of accepting a freeze in loading limits at pre-approved flows.

Table 1 (Option 2)

Recommended SD002 Discharge Effluent Limitations for East Gull Lake's Proposed Effluent Discharge increase to the Gull River (AWW SD002: .415mgd)

Pollutant or Pollutant Characteristic	Monthly Average or Range
5-Day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)	25 mg/L (37.51 kg/day)
Total Suspended Solids (TSS)	30 mg/L (45.01 kg/day)
Fecal Coliform Bacteria (April 1 through October 31)	200 Organisms/100 mL
pH	6.0-9.0
Total Phosphorous	664 (kg/yr)
Minimum Dissolved Oxygen (DO)	Monitoring consistent with current guidance
Mercury	Monitoring consistent with current guidance
Nitrogen	Monitoring consistent with current guidance
Sulfate	Monitoring consistent with current guidance

Frozen Values

The following table relates to option three with the north plant being decommissioned and its' flow being transferred to the south plant.

Table 2 (Option 3)

Recommended SD002 Discharge Effluent Limitations for East Gull Lake's Proposed Effluent Discharge increase to the Gull River (AWW SD002: .363mgd)

Pollutant or Pollutant Characteristic	Monthly Average or Range
5-Day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)	25 mg/L (37.51 kg/day)
Total Suspended Solids (TSS)	30 mg/L (45.01 kg/day)
Fecal Coliform Bacteria (April 1 through October 31)	200 Organisms/100 mL
pH	6.0-9.0
Total Phosphorous	664 (kg/yr)
Minimum Dissolved Oxygen (DO)	Monitoring consistent with current guidance
Mercury	Monitoring consistent with current guidance
Nitrogen	Monitoring consistent with current guidance
Sulfate	Monitoring consistent with current guidance

The effluent limitations in this letter are preliminary or draft values. After the antidegradation review is completed, if applicable, the next step is to write the permit and any related environmental review worksheet or environmental impact statement. Effluent limitations only become final after the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) permit has been public noticed, the public's comments considered and either our Commissioner or a delegated representative signs the permit.

If you have any questions on this message, please feel free to contact me.

Sincerely,

Michael Anderson
Research Scientist II
Minnesota Pollution Control Agency
Brainerd Office
Environmental Analysis & Outcomes Division
Tele: 218-316-3866
E-mail: Michael.J.Anderson@state.mn.us

SF-00006-05(4/86)

DEPARTMENT : POLLUTION CONTROL AGENCY

STATE OF MINNESOTA

Office Memorandum

DATE : 11/29/2016

TO : Mike Anderson
Effluent Limits Unit
Environmental Analysis and Outcomes Division

FROM : Liz Kaufenberg
Effluent Limits Unit
Environmental Analysis and Outcomes Division

PHONE : 651/757-2481

SUBJECT : Total Phosphorus Effluent Limit Review: East Gull Lake WWTF Preliminary Effluent Limit Review

Background

The purpose of this memorandum is to provide an assessment of the need for a total phosphorus (TP) preliminary effluent limit and the basis for such recommendation for National Pollution Discharge Elimination System (NPDES) permit number MN0059871 authorizing a surface water discharge from East Gull Lake wastewater treatment facility (WWTF). Currently, East Gull Lake WWTF has two individual surface discharge stations (SD001 and SD002) operating under the NPDES permit (Figure 1). SD001 is a continuously discharging aerated pond with an average wet weather design flow (AWWDF) of 0.0334 mgd and discharges to the Gull River. SD002 is a continuously discharging mechanical facility with an AWWDF of 0.363 mgd that also discharges to the Gull River. Gull River flows to the Crow Wing River before entering into the Mississippi River and reaching Lake Pepin. Both SD001 and SD002 currently have TP effluent limits (162 kg/yr for SD001 and 1.0 mg/L and 502 kg/yr for SD002). East Gull Lake is requesting preliminary effluent limits for four proposed discharge scenarios (Table 1).

East Gull Lake WWTF SD001 and SD002

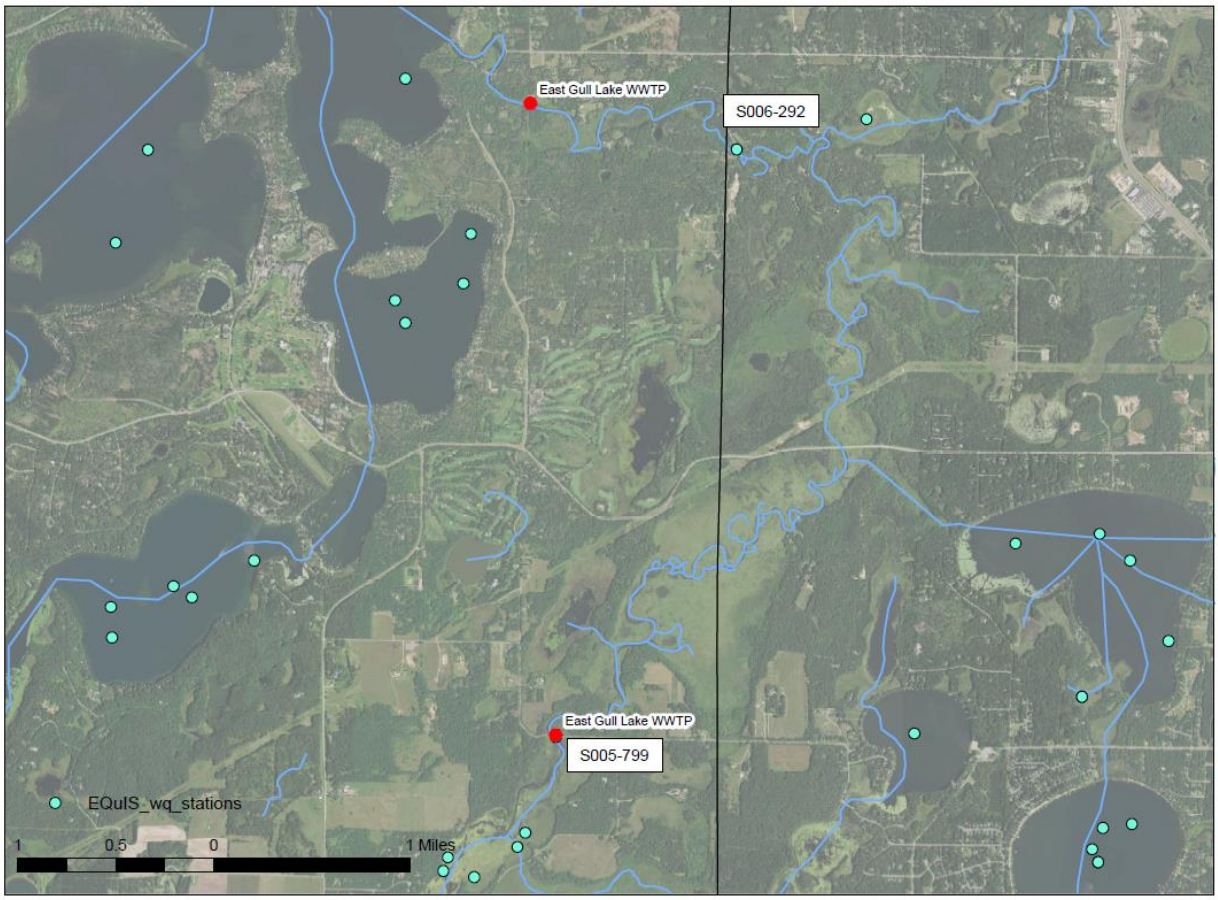

Figure 1. East Gull Lake WWTF SD001 (upstream location) and SD002 (downstream location).

Table 1. Preliminary effluent limit review discharge scenarios for East Gull Lake WWTF (SEH, Inc.).

	2038 Average Wet Weather Flow (AWW), gallons per day (gpd)		
Proposed Scenarios for Preliminary Effluent Limit Review	**North Plant (Squaw Point) SD 001**	**South Plant (Pine Beach) SD 002**	**Total Change in AWW Flow Discharged to Gull River**
Scenario 1 - Increase Flow to North Plant	52,100 (33,400 +18,700)	363,000	+ 18,700
Scenario 2 - Increase Flow to South Plant	0	415,100 (363,000 + 52,100)	+ 18,700
Scenario 3 - Transfer Current Permitted Flow from North to South Plant	0	396,400 (363,000 + 33, 400)	0
Scenario 4 - Overall Decrease in Flow	0	363,000	-33,400

River Water Quality

The Crow Wing River Watershed has site-specific river eutrophication standards (RES) of ≤ 0.075 mg/L TP and 0.013 mg/L chlorophyll-a (Chl-a) (Heiskary et al., 2008). The Crow Wing River Watershed TP review found no RES impairments or the reasonable potential (RP) to cause or contribute to a river impairment downstream of East Gull Lake WWTF. East Gull Lake WWTF was however, found to have RP to cause or contribute to Lake Pepin; therefore, Lake Pepin water quality based effluent limits (WQBELS) are needed and were determined sufficiently protective at the time of the watershed review (Kaufenberg, 2014).

Proposed Scenarios for Preliminary Effluent Limit Review

As mentioned, the current mass based TP WQBEL protective of Lake Pepin is 162 kg/yr (SD001) and 502 kg/yr (SD002). The total facility allocation is 664 kg/yr TP for East Gull Lake WWTF. East Gull Lake WWTF is one permit with two surface discharge stations, and is not proposing a new discharge location; therefore, it's appropriate to maintain their current allocation for Lake Pepin. East Gull Lake WWTF can either receive a mass cap for the proposed 4 discharge scenarios (Table 2) or go through an antidegradation review (7050.0250). The mass cap value varies depending on which discharge sceneario is being considered. Discharge scenarios 1 and 4 maintain current mass limits respective of the individual surface discharge stations (162 kg/yr for SD001 and 502 kg/yr for SD002). The proposed TP effluent limit for discharge scenarios 2 and 3 is 664 kg/yr. Maintaining the 664 kg/yr (allocation derived for Lake Pepin) complies with the waterbody in which is being protected for (Lake Pepin), in addition to not resulting in a net loading increase for the NPDES permit. Because the 664 kg/yr would not result in a net increase in permitted loading, this mass cap complies with the new antidegradation rules. Futhermore, East Gull Lake WWTF would maintain the 1.0 mg/L calendar month average limit for SD002.

Table 2. Preliminary effluent limit review discharge scenarios and associated TP limits for East Gull Lake WWTF.

	2038 Average Wet Weather Flow (AWW), gallons per day (gpd)			
Proposed Scenarios for Preliminary Effluent Limit Review	North Plant (Squaw Point) SD001	South Plant (Pine Beach) SD002	Total Change in AWW Flow Discharged to Gull River	Preliminary TP effluent limits for SD001 and SD002 (kg/yr)
Scenario 1 - Increase Flow to North Plant	52,100 (33,400 +18,700)	363,000	+ 18700	162 (SD001) 502 (SD002)
Scenario 2 - Increase Flow to South Plant	0	415,100 (363,000 + 52,100)	+ 18700	664
Scenario 3 - Transfer Current Permitted Flow from North to South Plant	0	396,400 (363,000 + 33, 400)	0	664
Scenario 4 - Overall Decrease in Flow	0	363,000	-33,400	502

Ambient monitoring data shows TP concentrations increasing between SD001 and SD002 over the course of approximate 8 river miles. It is anticipated that phosphorus is relatively conservative in the 8 mile reach, therefore, it is expected that the 162 kg/yr continuous loading from SD001 is reaching SD002. Thus, it is expected that water downstream of SD002 is currently receiving the combined permitted 664 kg/yr mass load. In fact, if potential discharge scenearios 2, 3, or 4 are chosen, an anticpated net decrease in TP loading is expected between SD001 and SD002. Maintaining the current mass allocation allows for WWTF flexibility without compromising the waterbody in which TP WQBEL limits set protective for. Future monitoring may lead to more restrictive limits for downstream lake or river.

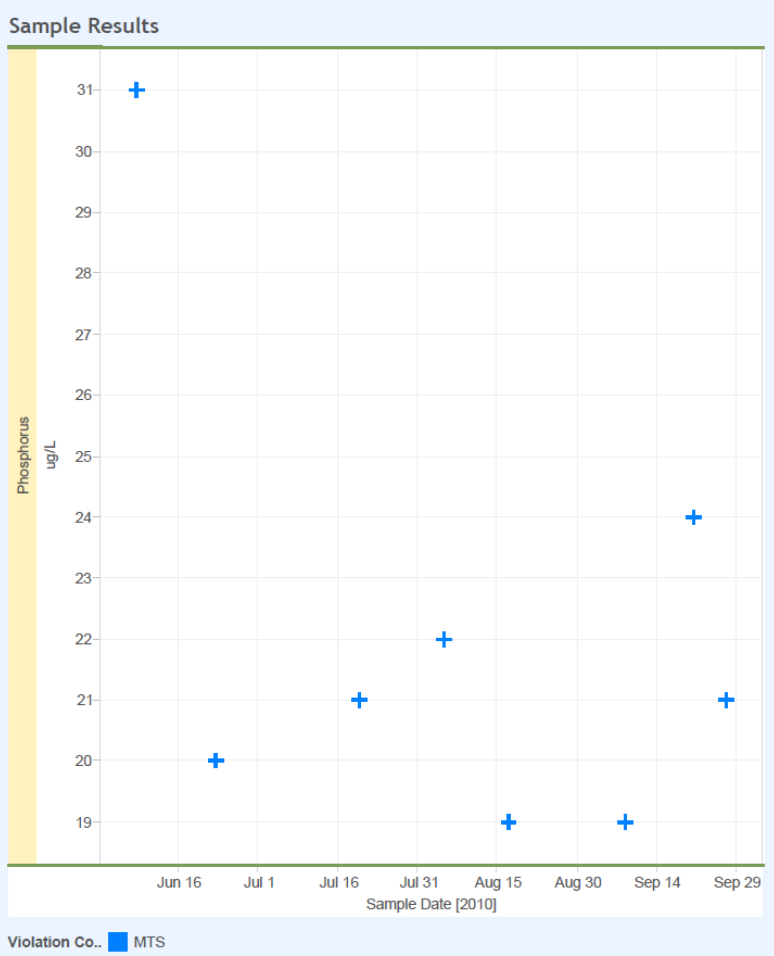

Figure 2. Total phosphorus concentrations (µg/L) collected June – September 2010 at Gull River (07010106-502) station S006-292 downstream of SD001 and upstream of SD002.

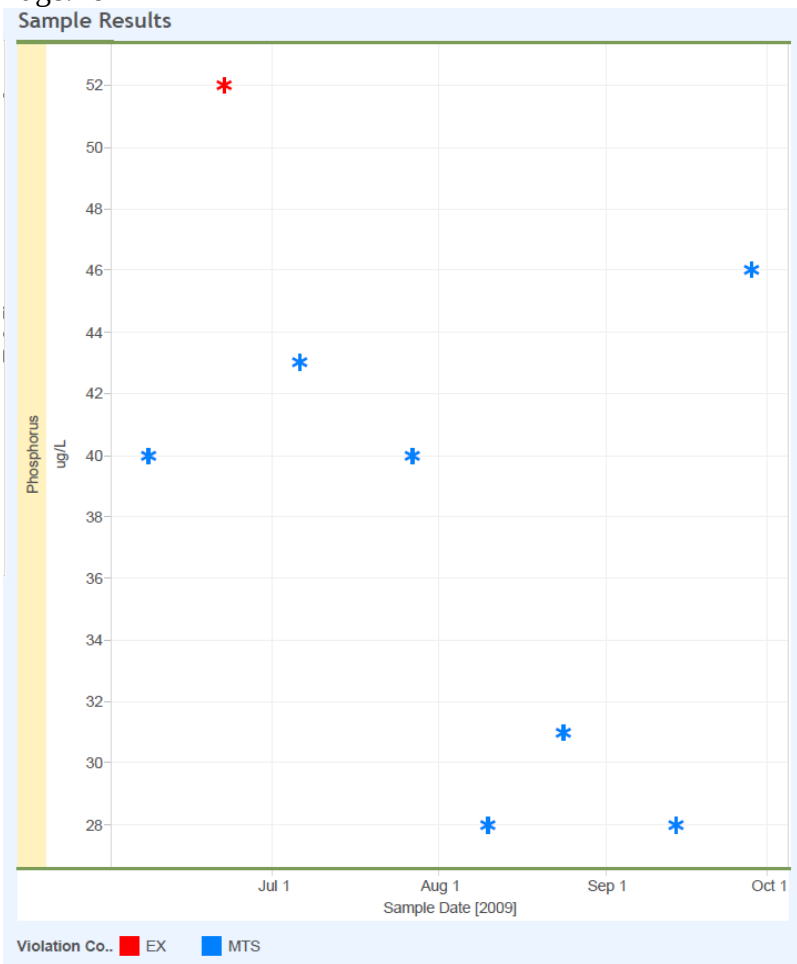

Figure 3. Total phosphorus concentrations (µg/L) collected June – September 2009 at Gull River (07010106-502) station S005-799 at SD002.

MPCA calculated the anticipated TP concentration in the Crow Wing River given current permitted discharge potential in comparison to potential discharge options 2 and 3 (which includes the mass cap option of 664 kg/yr for a single surface discharge station). Under current permitted conditions for all WWTFs discharging in the Crow Wing River Watershed, the anticipated TP concentration in the Crow Wing River is 0.073 mg/L (RES standard is 0.075 mg/L TP). In comparison, when the 664 kg/yr mass cap option is applied, the Crow Wing River anticipated TP concentration remains at 0.073 mg/L.

The following equation was used to calculate the RP of The Facilities to cause or contribute to a nutrient impairment.

Equation 1. TP concentration of Crow Wing River based on permitted flow for The Facilities.

$$Cr = \frac{QsCs + QeCe}{Qr}$$

Cr = downstream TP concentration of river at critical flow (80th percentile flow exceedance)
Qr = downstream river flow (80th percentile flow exceedance)
Qs = flow of river without WWTFs
Cs = concentration of river without WWTFs
Qe = design flow of WWTFs
Ce = long term effluent concentration, existing concentration limit or concentration target of mass limit

Current Permitted Potential
Qr = 458 mgd; based on permitted flow values and using Qr = Qs + Qe
Qs = 457 mgd; calculated using average daily flow from USGS gauge at the outlet of the watershed during June – September at 80th percentile flow exceedance and subtracting The Facilities' average daily flow during June – September, 2009 – 2013
Cs = 0.072 mg/L; average TP concentrations for those reaches not directly in the Crow Wing River, but rather concentrations of those reaches located throughout the watershed
Qe = 0.2 mgd; 70% of permitted design flow
Ce = 2.9 mg/L; combination of permitted and actual effluent concentration

Cr = 0.073 mg/L TP

Permitted Potential with East Gull Lake WWTF at full AWWDF and TP mass cap of 664 kg/yr
Qr = 458 mgd; based on permitted flow values and using Qr = Qs + Qe
Qs = 457 mgd; calculated using average daily flow from USGS gauge at the outlet of the watershed during June – September at 80th percentile flow exceedance and subtracting The Facilities' average daily flow during June – September, 2009 – 2013
Cs = 0.072 mg/L; average TP concentrations for those reaches not directly in the Crow Wing River, but rather concentrations of those reaches located throughout the watershed
Qe = 0.2 mgd; 70% of permitted design flow
Ce = 3.1 mg/L; combination of permitted and actual effluent concentration with East Gull Lake at 664 kg/yr

Cr = 0.073 mg/L TP

The resulting concentration, Cr, was 0.073 mg/L for **both** current permitted potential and permitted potential with East Gull Lake at full design flow and a TP mass cap of 664 kg/yr.

Summary
East Gull Lake WWTF is considering 4 potential discharge scenarios. Because East Gull Lake currently has a TP WQBEL, the facility can either receive a TP mass cap, in addition to its current 1.0 mg/L TP limit, or go through an antidegradation review. The map cap options respective of the 4 proposed discharge scearnios are outlined in Table 2. Finally, the permittee should be informed that more restrictive TP limits may be necessary following the completion of the Lake Pepin TMDL study and additional water quality monitoring.

References

Heiskary, S. and D. Wasley. 2008. Site specific eutrophication criteria for Lake Pepin. MPCA St. Paul 28 pp

Kaufenberg, L. 2014. Total phosphorus effluent tlimit review: Crow Wing River Watershed. MPCA St. Paul 10 pp

December 5, 2016

Brendan Wolohan
Project Engineer-SEH
P: (651) 490-2182

Dear Mr. Wolohan:

This message is a response to your October 10, 2016, request for draft effluent limitations for proposed East Gull Lake WWTF expanded discharges to the Gull River.

The Options involve increasing discharge flow to the north plant discharge point into the Gull River or eliminating the north plant and expanding/ moving flow to the south plant discharge point. There are 4 requested options:

Option 1: Increase flow to north plant, no change at south plant
Option 2: Increase flow to south plant, transfer flow from north plant(eliminate) to south plant
Option 3: Transfer flow from north plant(Eliminate) to south plant
Option 4: Eliminate north plant, no change at south plant

The following tables present the project's preliminary continuous discharge effluent limitations for each option.

Table 1 (Option 1)

Recommended SD001/SD002 Discharge Pre-Antidegradation Review Effluent Limitations for East Gull Lake's Proposed Effluent Discharge increase to the Gull River (AWWSD001/AWWSD002: .0521mgd/.363mgd)

Pollutant or Pollutant Characteristic	Monthly Average or Range	
	SD001	SD002
5-Day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)	25 milligrams per liter (3.16 kg/day)	25 mg/L (34.35 kg/day)
Total Suspended Solids (TSS)	45 mg/L (5.7 kg/day)	30 mg/L (41.1 kg/day)
Minimum Dissolved Oxygen (DO)	5.0 mg/L	5.0 mg/L
Fecal Coliform Bacteria (April 1 through October 31)	200 Org/100 mL	200 Org/100 mL
pH	6.0-9.0	6.0-9.0
Total Phosphorous	162 (kg/yr)	502 (kg/yr)

(represents loading freeze at nondeg design flow)

Mercury	Monitoring consistent with current guidance
Nitrogen	Monitoring consistent with current guidance
Sulfate	Monitoring consistent with current guidance

Table 2 (Option 2)

Recommended SD002 Discharge Pre-Antidegradation Review Effluent Limitations for East Gull Lake's Proposed Effluent Discharge increase to the Gull River (AWW SD002: .363mgd)

Pollutant or Pollutant Characteristic	Monthly Average or Range
5-Day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)	25 mg/L (37.51 kg/day)
Total Suspended Solids (TSS)	30 mg/L (45.01 kg/day)
Minimum Dissolved Oxygen (DO)	5.0 mg/L
Fecal Coliform Bacteria (April 1 through October 31)	200 Organisms/100 mL
pH	6.0-9.0
Total Phosphorous	664 (kg/yr)

(represents loading freeze at nondeg design flow)

Mercury	Monitoring consistent with current guidance
Nitrogen	Monitoring consistent with current guidance
Sulfate	Monitoring consistent with current guidance

Table 3 (Option 3)

Recommended SD002 Discharge Pre-Antidegradation Review Effluent Limitations for East Gull Lake's Proposed Effluent Discharge increase to the Gull River (AWW SD002: .363mgd)

Pollutant or Pollutant Characteristic	Monthly Average or Range
5-Day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)	25 mg/L (37.51 kg/day)
Total Suspended Solids (TSS)	30 mg/L (45.01 kg/day)
Minimum Dissolved Oxygen (DO)	5.0 mg/L
Fecal Coliform Bacteria (April 1 through October 31)	200 Organisms/100 mL
pH	6.0-9.0
Total Phosphorous	664 (kg/yr)

Mercury	Monitoring consistent with current guidance
Nitrogen	Monitoring consistent with current guidance
Sulfate	Monitoring consistent with current guidance

Table 4 (Option 4)

Recommended Continuous Discharge Effluent Limitations Review for East Gull Lake's Proposed Effluent Discharge to the Gull River (No change in discharge)

Pollutant or Pollutant Characteristic	Monthly Average or Range
5-Day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)	25 mg/L (34.35 kg/day)
Total Suspended Solids (TSS)	30 mg/L (41.1kg/day)
Minimum Dissolved Oxygen (DO)	5.0 mg/L
Fecal Coliform Bacteria (April 1 through October 31)	200 Organisms/100 mL
pH	6.0-9.0
Total Phosphorous	502 kg/yr
Mercury	Monitoring consistent with current guidance
Nitrogen	Monitoring consistent with current guidance
Sulfate	Monitoring consistent with current guidance

The purpose of the antidegradation provisions found in Minn. Rule 7050.0250 to 7050.0335 is to achieve and maintain the highest possible quality in surface waters of the state. To accomplish this purpose:

A. existing uses and the level of water quality necessary to protect existing uses shall be maintained and protected;
B. degradation of high water quality shall be minimized and allowed only to the extent necessary to accommodate important economic or social development;
C. water quality necessary to preserve the exceptional characteristics of outstanding resource value waters shall be maintained and protected; and
D. proposed activities with the potential for water quality impairments associated with thermal discharges shall be consistent with section 316 of the Clean Water Act, United States Code, title 33, section 1326.

As such, Options 1 and 2 will require review under the provisions of antidegradation as listed above unless the discharger decides to "fix" or "freeze" the mass load of pollutants at their present levels.

To address downstream water quality impairments a Total Maximum Daily Load (TMDL) study of the watersheds are being completed. The studies will determine the capacity of the watersheds to assimilate pollutant loads as the basis for recommendations of wasteload allocation for point sources and load allocation for nonpoint sources within the watershed. An appropriate balance of point and nonpoint source controls that attain water quality objectives will be selected with full stakeholder involvement. Based on the results of these TMDL studies, the permit may be reopened and effluent limitations for this facility may be re-examined. This permit will be modified or reissued as needed to incorporate effluent loading recommendations from the TMDL study.

The effluent limitations in this letter are preliminary or draft values. After the antidegradation review is completed, if applicable, the next step is to write the permit and any related environmental review worksheet or environmental impact statement. Effluent limitations only become final after the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) permit has been public noticed, the public's comments considered and either our Commissioner or a delegated representative signs the permit.

Please get back to me regarding which options your client selects and any requested information, so that we can start on the antidegradation review if needed. If you have any questions on this message, please feel free to contact me.

Sincerely,

Michael Anderson
Research Scientist II
Minnesota Pollution Control Agency
Brainerd Office
Environmental Analysis & Outcomes Division
Tele: 218-316-3866
E-mail: Michael.J.Anderson@state.mn.us

Appendix E

Squaw Point WWTF Improvements Detailed Cost Estimate

NORTH WWTF IMPROVEMENTS ALTERNATIVE
EAST GULL LAKE, MINNESOTA
SEH NO. EAGUL 136787

2/15/2017

OPINION OF PROBABLE COST

ITEM NO.	ITEM DESCRIPTION	UNIT OF MEASUREMENT	APPROXIMATE QUANTITY	UNIT PRICE	COST
GENERAL					
1	MOBILIZATION	LS	1.00	$211,000.00	$211,000.00
2	DEWATERING	LS	1.00	$15,000.00	$15,000.00
3	POND DEWATERING	LS	1.00	$25,000.00	$25,000.00
4	INTERIM TREATMENT	LS	1.00	$150,000.00	$150,000.00
5	POND 3 YARD PIPING	LF	100.00	$40.00	$4,000.00
6	POND 3 EXCAVATION - COMMON EXCAVATION	CY	25,000.00	$5.00	$125,000.00
7	INFLUENT STRUCTURE	EA	1.00	$20,000.00	$20,000.00
8	CONTROL STRUCTURES	EA	2.00	$20,000.00	$40,000.00
9	ELECTRICAL WIRING, SLAB FOR CONTROL PANEL, AND ELECTRICAL COMPONENTS	LS	1.00	$130,000.00	$130,000.00
10	GEOTEXTILE FOR SIDE SLOPE	SY	9,040.00	$3.50	$31,640.00
11	POND RIP RAP (9" ALONG SLOPE)	CY	343.88	$9.00	$3,094.88
12	SALVAGE RIP RAP AND POND SAND BEDDING - POND 1 & 2	LS	1.00	$100,000.00	$100,000.00
13	POND BEDDING 12" SAND	CY	600.00	$12.00	$7,200.00
14	FURNISH AND INSTALL HDPE LINER	SF	30,000.00	$1.25	$37,500.00
15	SILT FENCE	LF	2,500.00	$2.00	$5,000.00
16	TURF ESTABLISHMENT	SY	5,000.00	$4.00	$20,000.00
17	POND WATER BALANCE TESTS PRIOR TO AND AFTER CONSTRUCTION	LS	1.00	$25,000.00	$25,000.00
18	DEMO SAND FILTERS	LS	1.00	$5,000.00	$5,000.00
19	DEMO EXISTING BUILDING EQUIPMENT	LS	1.00	$15,000.00	$15,000.00
20	NEW BLOWERS FOR PONDS 1, 2, & 3	EA	5.00	$30,000.00	$150,000.00
21	NEW AIR PIPING & DIFFUSERS FOR PONDS 1, 2, & 3	LS	1.00	$75,000.00	$75,000.00
22	NEW UV DISINFECTION SYSTEM	LS	1.00	$100,000.00	$100,000.00
23	CHEMICAL TP REMOVAL SYSTEM	LS	1.00	$40,000.00	$40,000.00
24	NEW CLARIFIERS	EA	2.00	$250,000.00	$500,000.00

SUBTOTAL - CONSTRUCTION	**$1,834,000.00**
CONTINGENCY (15%)	$276,000.00
ENGINEERING (20%)	$367,000.00
LEGAL AND ADMIN (5%)	$92,000.00
MPCA ANTI-DEGRADATION REVIEW	$100,000.00
ROW / LAND ACQUISITION	$150,000.00
GRAND TOTAL	**$2,819,000.00**

S:\AE\E\Eagul\136787\2-proj-mgmt\25-cost-est\[North WWTF Upgrade Alternative Cost Estimate 012217.xlsx]O&M - Diffused Air

North WWTF Improvement Alternative- Operation and Maintenance Cost Estimate
East Gull Lake, Minnesota
20-Jan-17

Electrical Consumption		
3 x 25 HP Blowers (assumed size)	326,748.00	kW-hr/yr
Clarifier Mechanism	13,069.92	kW-hr/yr
UV Disinfection Equipment	3,650.00	kW-hr/yr
Chemical Feed Pumps	9,802.44	kW-hr/yr
Cost per kWHr		$ 0.05
	$ 17,783.52	per yr

Preventative Maintenance		
Pump Grease	$ 100.00	per yr
Mechanical Seal	$ 46.00	per yr (replace twice over 20 years)
Misc. Maintenance Cleaning/ Repair	$ 4,000.00	per yr
UV bulbs	$ 2,000.00	per yr
Blower Filters	$ 600.00	per yr

Year	Annual Electricity	Annual Labor	Annual Repairs	Annual Chemicals	Annual Misc.	Total	Present Worth
1	$ 17,783.52	$ 23,400.00	$ 6,746.00	$ 20,000.00	$ 2,000.00	$ 69,929.52	$ 69,929.52
2	$ 18,317.02	$ 24,102.00	$ 6,948.38	$ 20,600.00	$ 2,060.00	$ 72,027.40	$ 70,329.37
3	$ 18,866.53	$ 24,825.06	$ 7,156.83	$ 21,218.00	$ 2,121.80	$ 74,188.23	$ 71,580.29
4	$ 19,432.53	$ 25,569.81	$ 7,371.54	$ 21,854.54	$ 2,185.45	$ 76,413.87	$ 72,853.46
5	$ 20,015.51	$ 26,336.91	$ 7,592.68	$ 22,510.18	$ 2,251.02	$ 78,706.29	$ 74,149.27
6	$ 20,615.97	$ 27,127.01	$ 7,820.46	$ 23,185.48	$ 2,318.55	$ 81,067.48	$ 75,468.13
7	$ 21,234.45	$ 27,940.82	$ 8,055.08	$ 23,881.05	$ 2,388.10	$ 83,499.50	$ 76,810.45
8	$ 21,871.48	$ 28,779.05	$ 8,296.73	$ 24,597.48	$ 2,459.75	$ 86,004.49	$ 78,176.64
9	$ 22,527.63	$ 29,642.42	$ 8,545.63	$ 25,335.40	$ 2,533.54	$ 88,584.62	$ 79,567.13
10	$ 23,203.46	$ 30,531.69	$ 8,802.00	$ 26,095.46	$ 2,609.55	$ 91,242.16	$ 80,982.36
11	$ 23,899.56	$ 31,447.64	$ 9,066.06	$ 26,878.33	$ 2,687.83	$ 93,979.42	$ 82,422.76
12	$ 24,616.55	$ 32,391.07	$ 9,338.04	$ 27,684.68	$ 2,768.47	$ 96,798.81	$ 83,888.78
13	$ 25,355.04	$ 33,362.80	$ 9,618.18	$ 28,515.22	$ 2,851.52	$ 99,702.77	$ 85,380.87
14	$ 26,115.70	$ 34,363.69	$ 9,906.73	$ 29,370.67	$ 2,937.07	$ 102,693.85	$ 86,899.50
15	$ 26,899.17	$ 35,394.60	$ 10,203.93	$ 30,251.79	$ 3,025.18	$ 105,774.67	$ 88,445.14
16	$ 27,706.14	$ 36,456.44	$ 10,510.05	$ 31,159.35	$ 3,115.93	$ 108,947.91	$ 90,018.28
17	$ 28,537.33	$ 37,550.13	$ 10,825.35	$ 32,094.13	$ 3,209.41	$ 112,216.35	$ 91,619.39
18	$ 29,393.45	$ 38,676.63	$ 11,150.11	$ 33,056.95	$ 3,305.70	$ 115,582.84	$ 93,248.99
19	$ 30,275.25	$ 39,836.93	$ 11,484.61	$ 34,048.66	$ 3,404.87	$ 119,050.32	$ 94,907.57
20	$ 31,183.51	$ 41,032.04	$ 11,829.15	$ 35,070.12	$ 3,507.01	$ 122,621.83	$ 96,595.65
							$ 1,643,273.54

Appendix F

Forcemain Alternative Detailed Cost Estimate

FORCEMAIN ALTERNATIVE
EAST GULL LAKE FACILITY PLAN
SEH NO. EAGUL 136787

2/15/2017

OPINION OF PROBABLE COST

ITEM NO.	ITEM DESCRIPTION	UNIT OF MEASUREMENT	APPROXIMATE QUANTITY	UNIT PRICE	COST	TOTAL
GENERAL						
1	MOBILIZATION	LUMP SUM	1.00	$80,000.00	$80,000.00	
2	TRAFFIC CONTROL	LUMP SUM	1.00	$13,000.00	$13,000.00	
3	CLEAR & GRUB TREES	ACRE	6.50	$6,000.00	$39,000.00	
4	REMOVE BITUMINOUS PAVEMENT	SQ YD	1,550.00	$3.00	$4,650.00	
5	SAWING BIT PAVEMENT (FULL DEPTH)	LIN FT	415.00	$5.00	$2,075.00	
6	ROCK CONSTRUCTION ENTRANCE	EACH	3.00	$800.00	$2,400.00	$141,125.00
STREET						
7	AGGREGATE SURFACING, CL 5	CU YD	1,670.00	$20.00	$33,400.00	
8	BITUMINOUS STREET RESTORATION	SQ YD	1,350.00	$55.00	$74,250.00	$107,650.00
SANITARY SEWER						
9	COMMON EXCAVATION (P)	CU YD	1,000.00	$10.00	$10,000.00	
10	REMOVE MANHOLE	EACH	6.00	$800.00	$4,800.00	
11	REMOVE SANITARY SEWER	LIN FT	450.00	$3.00	$1,350.00	
12	FILL & ABANDON SEWER IN PLACE	LIN FT	2,500.00	$6.00	$15,000.00	
13	DEWATERING	EACH	17.00	$5,000.00	$85,000.00	
14	CONNECT TO EXISTING SANITARY SEWER	EACH	1.00	$2,000.00	$2,000.00	
15	CONNECT TO EXISTING SANITARY MANHOLE	EACH	4.00	$1,000.00	$4,000.00	
16	LINER PIPE - EXISTING GRAVITY SEWER	LIN FT	4,000.00	$40.00	$160,000.00	
17	6" HDPE PIPE FORCEMAIN - DIRECTIONAL DRILL	LIN FT	18,500.00	$45.00	$832,500.00	
18	6" HDPE PIPE FORCEMAIN - OPEN CUT	LIN FT	150.00	$30.00	$4,500.00	
19	COARSE FILTER AGGREGATE (CV)	CU YD	23.00	$25.00	$575.00	
20	FORCEMAIN FITTINGS	POUND	1,800.00	$8.00	$14,400.00	
21	AIR RELEASE MANHOLE	EACH	9.00	$5,000.00	$45,000.00	
22	CLEANOUT MANHOLE	EACH	8.00	$3,500.00	$28,000.00	
23	BYPASS PUMPING - L.S.1 TO NORTH WWTF	LUMP SUM	1.00	$30,000.00	$30,000.00	
24	BYPASS PUMPING - LINER PIPE	LUMP SUM	1.00	$30,000.00	$30,000.00	
25	SAMPLER BUILDING	LUMP SUM	1.00	$50,000.00	$50,000.00	$1,317,125.00
LIFT STATION NO. 1 UPGRADES						
26	SUBMERSIBLE LS PUMPS & APPURTENANCES	EACH	2.00	$45,000.00	$90,000.00	
27	REPLACEMENT PLUG VALVES	EACH	2.00	$1,500.00	$3,000.00	
28	REPLACEMENT CHECK VALVES	EACH	2.00	$1,800.00	$3,600.00	
29	PIPE SUPPORTS	EACH	2.00	$2,000.00	$4,000.00	
30	LS PIPING & FITTINGS - 4-INCH	LIN FT	30.00	$60.00	$1,800.00	
31	WET WELL COATINGS	SQ FT	400.00	$15.00	$6,000.00	
32	SCADA	LUMP SUM	1.00	$25,000.00	$25,000.00	
33	ELECTRICAL AND CONTROLS	LUMP SUM	1.00	$30,000.00	$30,000.00	
34	SITE WORK	LUMP SUM	1.00	$15,000.00	$15,000.00	
35	EXTERIOR LIGHTING	EACH	2.00	$7,250.00	$14,500.00	
36	BACKUP GENERATOR	EACH	1.00	$100,000.00	$100,000.00	$292,900.00
TURF RESTORATION						
37	SILT FENCE	LIN FT	1,700.00	$2.00	$3,400.00	
38	TURF RESTORATION	SQ YD	2,100.00	$5.00	$10,500.00	$13,900.00
				SUBTOTAL - CONSTRUCTION	**$1,872,700.00**	**$1,872,700.00**
				CONTINGENCY (15%)	$281,000.00	
				ENGINEERING (20%)	$375,000.00	
				LEGAL, FISCAL, AND ADMINISTRATIVE (5%)	$94,000.00	
				ROW / EASEMENT	$100,000.00	
				GRAND TOTAL	**$2,722,700.00**	

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POND DECOMMISSIONING
EAST GULL LAKE FACILITY PLAN
SEH NO. EAGUL136787

2/15/2017

OPINION OF PROBABLE COST

ITEM NO.	ITEM DESCRIPTION	UNIT OF MEASUREMENT	APPROXIMATE QUANTITY	UNIT PRICE	COST	TOTAL
GENERAL						
1	MOBILIZATION	LUMP SUM	1.00	$37,500.00	$37,500.00	
2	POND DEWATERING	LUMP SUM	1.00	$25,000.00	$25,000.00	
3	SALVAGE RIPRAP & STOCKPILE	LUMP SUM	1.00	$15,000.00	$15,000.00	
4	REMOVE BIOSOLIDS PONDS 1 & 2	GALLON	550,000.00	$0.11	$60,500.00	
5	DISPOSE / USE ON SITE SAND BIOSOLIDS	LUMP SUM	1.00	$10,000.00	$10,000.00	
6	REMOVE BEDDING MATERIAL PONDS 1 & 2	CU YD	800.00	$6.00	$4,800.00	
7	REMOVE LINER SYSTEMS PONDS 1 & 2	LUMP SUM	1.00	$15,000.00	$15,000.00	
8	REMOVE PIPING & EQUIPMENT PONDS 1 & 2	LUMP SUM	1.00	$10,000.00	$10,000.00	
9	REMOVE STEEL FILTER STRUCTURE	LUMP SUM	1.00	$5,000.00	$5,000.00	
10	ROCK CONSTRUCTION ENTRANCE	EACH	1.00	$1,000.00	$1,000.00	
11	TURF RESTORATION	SQ YD	18,000.00	$1.50	$27,000.00	
12	SILT FENCE	LIN FT	2,000.00	$2.00	$4,000.00	
13	SITE GRADING	LUMP SUM	1.00	$30,000.00	$30,000.00	
14	BUILDING DEMOLITION	LUMP SUM	1.00	$10,000.00	$10,000.00	$254,800.00
				SUBTOTAL - CONSTRUCTION	**$254,800.00**	**$254,800.00**
				CONTINGENCY (15%)	$38,000.00	
				ENGINEERING (20%)	$51,000.00	
				LEGAL, FISCAL, AND ADMINISTRATIVE (5%)	$13,000.00	
				ROW / EASEMENT	$0.00	
				GRAND TOTAL	**$356,800.00**	

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Forcemain Alternative- Operation and Maintenance Cost Estimate
East Gull Lake, Minnesota
1/6/2017

Electrical Consumption		
35 HP Pump	114,361.80	kW-hr/yr
Electriciy costs	0.08	$/kW-hr
	$8,992.22	per yr

Preventative Maintenance		
Pump Grease	$100.00	per yr
Mechanical Seal	$46.00	per yr (replace twice over 20 years)
Misc. Maintenance Cleaning/ Repair	$2,000.00	per yr

Year	Annual Electricity	Annual Labor	Annual Maintenance	Total	Present Worth
1	$8,992.22	$3,000.00	$2,146.00	$14,138.22	$14,138.22
2	$9,261.99	$3,090.00	$2,210.38	$14,562.37	$14,219.06
3	$9,539.85	$3,182.70	$2,276.69	$14,999.24	$14,471.97
4	$9,826.04	$3,278.18	$2,344.99	$15,449.22	$14,729.38
5	$10,120.82	$3,376.53	$2,415.34	$15,912.69	$14,991.36
6	$10,424.45	$3,477.82	$2,487.80	$16,390.07	$15,258.01
7	$10,737.18	$3,582.16	$2,562.44	$16,881.77	$15,529.39
8	$11,059.30	$3,689.62	$2,639.31	$17,388.23	$15,805.61
9	$11,391.08	$3,800.31	$2,718.49	$17,909.87	$16,086.74
10	$11,732.81	$3,914.32	$2,800.04	$18,447.17	$16,372.86
11	$12,084.79	$4,031.75	$2,884.04	$19,000.59	$16,664.08
12	$12,447.34	$4,152.70	$2,970.57	$19,570.60	$16,960.48
13	$12,820.76	$4,277.28	$3,059.68	$20,157.72	$17,262.15
14	$13,205.38	$4,405.60	$3,151.47	$20,762.45	$17,569.18
15	$13,601.54	$4,537.77	$3,246.02	$21,385.33	$17,881.68
16	$14,009.59	$4,673.90	$3,343.40	$22,026.89	$18,199.73
17	$14,429.87	$4,814.12	$3,443.70	$22,687.69	$18,523.44
18	$14,862.77	$4,958.54	$3,547.01	$23,368.32	$18,852.91
19	$15,308.65	$5,107.30	$3,653.42	$24,069.37	$19,188.24
20	$15,767.91	$5,260.52	$3,763.02	$24,791.46	$19,529.53
					$332,234.00

Appendix G

Lift Station Improvements Detailed Cost Estimates

LIFT STATION NO. 2 IMPROVEMENTS
EAST GULL LAKE, MINNESOTA
SEH NO. EAGUL 136787

2/15/2017

OPINION OF PROBABLE COST

ITEM NO.	ITEM DESCRIPTION	UNIT OF MEASUREMENT	APPROXIMATE QUANTITY	UNIT PRICE	COST
GENERAL					
1	MOBILIZATION	LS	1.00	$13,000.00	$13,000.00
2	WET WELL COATINGS	SF	600.00	$15.00	$9,000.00
3	BYPASS / TEMPORARY PUMPING	LS	1.00	$50,000.00	$50,000.00
4	ELECTRICAL AND CONTROLS	LS	1.00	$40,000.00	$40,000.00
5	EXTERIOR LIGHTING	EACH	2.00	$7,250.00	$14,500.00
6	SUBMERSIBLE LIFT STATION PUMPS - INCLUDES 2 PUMPS AND APPURTENANCES	EACH	2.00	$26,000.00	$52,000.00
7	SCADA IMPROVEMENTS	LS	1.00	$25,000.00	$25,000.00
8	BUILDING ROOF REPLACEMENT	LS	1.00	$5,000.00	$5,000.00
9	BUILDING UPGRADES - REPLACE DOOR, WINDOW, PAINTING, ETC.	LS	1.00	$7,000.00	$7,000.00
10	SITEWORK	LS	1.00	$2,500.00	$2,500.00
11	PIPING REPLACEMENT	LS	1.00	$8,000.00	$8,000.00
12	4" PLUG VALVE	EACH	2.00	$1,500.00	$3,000.00
13	4" CHECK VALVE	EACH	2.00	$1,800.00	$3,600.00
14	REPLACEMENT WELL PRESSURE TANK	LS	1.00	$3,000.00	$3,000.00

SUBTOTAL - CONSTRUCTION	**$235,600.00**
CONTINGENCY (15%)	$35,400.00
ENGINEERING (20%)	$47,200.00
LEGAL, FISCAL, ADMINISTRATIVE (5%)	$11,800.00
ROW / EASEMENT	$0.00
GRAND TOTAL	**$330,000.00**

Notes: Estimated MH Diameter 6' x 10' deep
Mobilizaiton is 5% of subtotal less mobilization

S:\AE\E\Eagul\136787\2-proj-mgmt\25-cost-est\[Lift Station Rehab Cost Estimate 021317.xlsx]LS No. 10

LIFT STATION NO. 5 IMPROVEMENTS
EAST GULL LAKE, MINNESOTA
SEH NO. EAGUL 136787

2/15/2017

OPINION OF PROBABLE COST

ITEM NO.	ITEM DESCRIPTION	UNIT OF MEASUREMENT	APPROXIMATE QUANTITY	UNIT PRICE	COST
GENERAL					
1	MOBILIZATION	LS	1.00	$22,600.00	$22,600.00
2	DEWATERING	LS	1.00	$50,000.00	$50,000.00
3	GROUND SUPPORT SYSTEM	LS	1.00	$50,000.00	$50,000.00
4	BYPASS / TEMPORARY PUMPING	LS	1.00	$15,000.00	$15,000.00
5	REMOVE MANHOLES	LS	2.00	$1,500.00	$3,000.00
6	REMOVE EXISTING FORCEMAIN, 4"	LS	1.00	$10,000.00	$10,000.00
7	WET WELL MANHOLE, 8FT DIAM.	LS	1.00	$26,000.00	$26,000.00
8	VALVE VAULT MANHOLE, 6FT DIAM.	LS	1.00	$15,000.00	$15,000.00
9	WET WELL COATINGS	SF	500.00	$15.00	$7,500.00
10	EXTENSION OF 8" PVC SANITARY SEWER - ADAPTER FLANGES INCLUDED (OPEN CUT)	LF	200.00	$50.00	$10,000.00
11	BACKFILL MATERIAL TO FILL MANHOLES	LS	1.00	$2,000.00	$2,000.00
12	AGGREGATE SURFACING - INCLUDES GRADING & SUBGRADE PREPARATION	CY	300.00	$40.00	$12,000.00
13	TURF RESTORATION - INCLUDES TOPSOIL, SEEDING, FERTILIZER & EROSION CONTROL BLANKET	SY	850.00	$5.00	$4,250.00
14	SILT FENCE, MACHINE SLICED	LF	500.00	$5.00	$2,500.00
15	ELECTRICAL AND CONTROLS	LS	1.00	$50,000.00	$50,000.00
16	PRE-ENGINEERED BUILDING COST	LS	1.00	$60,000.00	$60,000.00
17	EXTERIOR LIGHTING	EACH	2.00	$7,250.00	$14,500.00
18	SUBMERSIBLE LIFT STATION PUMPS - INCLUDES 2 PUMPS AND APPURTENANCES (5 HP)	EACH	2.00	$20,000.00	$40,000.00
19	SCADA IMPROVEMENTS	LS	1.00	$25,000.00	$25,000.00
20	BACKUP GENERATOR	LS	1.00	$90,000.00	$90,000.00
21	4-INCH PLUG VALVE - INCLUDES VALVE OPERATORS	EACH	2.00	$1,500.00	$3,000.00
22	4-INCH CHECK VALVE	EACH	2.00	$1,800.00	$3,600.00
23	LIFT STATION PIPING - 4-INCH DIP - INCLUDES FITTINGS FROM PUMPS TO VALVE VAULT	LS	1.00	$1,500.00	$1,500.00
24	CONNECT TO EXISTING SANITARY	LS	1.00	$2,000.00	$2,000.00
25	CONNECT TO EXISTING FORCEMAIN	LS	1.00	$2,000.00	$2,000.00
26	PIPE SUPPORTS	LS	1.00	$1,000.00	$1,000.00

SUBTOTAL - CONSTRUCTION	**$522,500.00**
CONTINGENCY (15%)	$78,400.00
ENGINEERING (20%)	$104,500.00
LEGAL, FISCAL, AND ADMIN (5%)	$26,200.00
ROW / EASEMENT	$0.00
TOTAL	**$731,600.00**

Notes: Extension of 8" PVC sanitary sewer gravity line accounts for lates location of LS. No. 5 from 2/8/2017

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LIFT STATION NO. 10 IMPROVEMENTS
EAST GULL LAKE, MINNESOTA
SEH NO. EAGUL 136787

2/22/2017

OPINION OF PROBABLE COST

ITEM NO.	ITEM DESCRIPTION	UNIT OF MEASUREMENT	APPROXIMATE QUANTITY	UNIT PRICE	COST
GENERAL					
1	MOBILIZATION	LS	1.00	$2,000.00	$2,000.00
2	BYPASS / TEMPORARY PUMPING	LS	1.00	$15,000.00	$15,000.00
3	WET WELL COATINGS	SF	250.00	$15.00	$3,750.00
4	SCADA IMPROVEMENTS	LS	1.00	$25,000.00	$25,000.00
				SUBTOTAL - CONSTRUCTION	**$20,800.00**
				CONTINGENCY (15%)	$3,200.00
				ENGINEERING (20%)	$4,200.00
				LEGAL, FISCAL, AND ADMIN (5%)	$1,100.00
				ROW / EASEMENT	$0.00
				TOTAL	**$29,300.00**

Notes:

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Appendix H

Public Hearing Documents – To follow as Addendum

Appendix I

Rate Study Model

City of East Gull Lake
Sewer Utility Rate Study
Base Model

Sewer Fund
Wastewater Fund 602
PFA Debt Fund 301
G.O. PIR Fund 304

			Actual			Preliminary	Budget	Projected									
			2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
1	Rates Inflation							3.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
2	Revenue growth assumption - non-usage		2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
3	Investment income yield		1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
4	Expense growth - general and administrative		3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
5	Expense growth - contractual		3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
6	Expense growth - non personnel		2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
9																	
10	**Beginning net assets**		**5,712,254**	**5,607,362**	**5,452,792**	**5,246,796**	**5,127,550**	**4,977,978**	**4,783,457**	**4,628,831**	**4,585,543**	**4,569,972**	**4,585,575**	**4,637,284**	**4,729,412**	**4,866,557**	**5,046,545**
11																	
12	Operating Revenues																
13	Sewer charges		491,254	487,319	478,708	501,411	496,696	511,597	552,525	596,727	644,465	696,022	751,704	811,840	876,787	946,930	1,022,685
14	Revenue due to growth						4,240	8,734	14,150	20,376	27,507	35,649	44,918	55,442	67,362	80,834	96,031
15	Total Operating Revenues		491,254	487,319	478,708	501,411	496,696	511,597	552,525	596,727	644,465	696,022	751,704	811,840	876,787	946,930	1,022,685
16																	
17	Operating Expenses																
18	Wages and salaries		155,066	153,940	202,966	152,430	161,161	165,996	170,976	179,105	184,478	190,012	195,713	201,584	207,632	213,861	220,277
21	Other supplies		20,636	37,619	23,161	32,577	39,300	40,479	41,693	42,944	44,232	45,559	46,926	48,334	49,784	51,278	52,816
22	Repairs and maintenance		168,056	191,631	148,820	150,905	172,400	177,572	182,899	199,524	205,510	211,675	218,025	224,566	231,303	238,242	245,390
25	Depreciation		318,868	331,078	334,493	344,528	354,864	365,510	376,475	387,769	399,402	411,384	423,726	436,437	449,531	463,017	476,907
26	Total Operating Expenses		662,626	714,268	709,440	680,439	727,725	749,556	772,043	809,342	833,623	858,631	884,390	910,922	938,250	966,397	995,389
27																	
28	Net Operations		(171,372)	(226,949)	(230,732)	(179,028)	(231,029)	(237,959)	(219,518)	(212,616)	(189,158)	(162,609)	(132,687)	(99,082)	(61,462)	(19,467)	27,296
29	Non operating revenues (expenses)																
30	Taxes		67,134	67,989	66,862	69,591	67,607	100,000	100,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000
31	Investment income		28	2	305	0	1,107	3,246	3,083	3,589	3,556	3,333	4,099	5,284	6,949	7,754	9,728
32	Connection Charges		45,939	39,354	32,886	12,750	32,000	32,000	32,000	32,000	32,000	32,000	32,000	32,000	32,000	32,000	32,000
33	Miscellaneous revenue (expense)		14,523	20,512	62,258	20,522	4,000	4,040	4,080	4,121	4,162	4,204	4,246	4,288	4,331	4,374	4,418
34	Interest and fiscal charges expense		(61,144)	(58,742)	(70,543)	(43,082)	(23,257)	(95,848)	(74,271)	(70,382)	(66,132)	(61,324)	(55,950)	(50,362)	(44,673)	(44,673)	(44,673)
39	Total non operating revenue (expenses)		66,480	69,115	91,768	59,782	81,457	43,439	64,893	169,328	173,586	178,213	184,395	191,211	198,607	199,455	201,473
40	Change Net prior to transfers		(104,892)	(157,834)	(138,964)	(119,246)	(149,572)	(194,521)	(154,626)	(43,288)	(15,572)	15,603	51,709	92,129	137,145	179,988	228,769
41	Transfers in			3,264													
42	Transfers out																
44	Net increase (decrease) in resources		(104,892)	(154,570)	(138,964)	(119,246)	(149,572)	(194,521)	(154,626)	(43,288)	(15,572)	15,603	51,709	92,129	137,145	179,988	228,769
42																	
43	Prior Period Adjustment				(67,032)												
44	**Ending net assets**		**5,607,362**	**5,452,792**	**5,246,796**	**5,127,550**	**4,977,978**	**4,783,457**	**4,628,831**	**4,585,543**	**4,569,972**	**4,585,575**	**4,637,284**	**4,729,412**	**4,866,557**	**5,046,545**	**5,275,313**
45	CIP Funding																
46	Purchase of Capital Assets		(189,260)	(15,970)	(130,079)	(16,312)	(33,750)	0	(3,265,270)	0	(56,275)	0	0	(1,203,309)	(63,339)	0	(67,196)
47	Bond Proceeds				0				3,250,000					1,200,000			
47	Special Assessments	Term / Rate	215,273	126,369	116,326	163,826	90,618	69,866	68,504	67,143	65,039	62,931	61,395	60,086	58,409	55,640	51,722
47	PFA P&I - Future	20 / 1.5%						0	0	(189,299)	(189,299)	(189,299)	(189,299)	(189,299)	(189,299)	(189,299)	(189,299)
47	Bond P&I - Future	20 / 2.5%						0	0	0	0	0	0		(76,977)	(76,977)	(76,977)
50	Bond P&I - Future	20 / 2.5%						0	0	0	0	0	0	0	0	0	0
51	Bond P&I - Future	20 / 2.5%						0	0	0	0	0	0	0	0	0	0
52	Payment on Interfund Loan		(72,000)	(72,944)													
53	Bond Prin - Existing		(371,400)	(377,450)	(383,900)	(378,000)	(48,300)	(257,150)	(224,450)	(225,600)	(225,600)	(224,050)	(229,050)	(229,500)	(235,000)	(235,000)	(235,000)
54																	
55	**Beginning Cash**		**645,333**	**446,869**	**301,767**	**115,913**	**110,708**	**324,568**	**308,273**	**358,906**	**355,632**	**333,327**	**409,897**	**528,377**	**694,922**	**775,393**	**972,762**
56	Add net operations (line 28)		(171,372)	(226,949)	(230,732)	(179,028)	(231,029)	(237,959)	(219,518)	(212,616)	(189,158)	(162,609)	(132,687)	(99,082)	(61,462)	(19,467)	27,296
57	Add back depreciation (line 25)		318,868	331,078	334,493	344,528	354,864	365,510	376,475	387,769	399,402	411,384	423,726	436,437	449,531	463,017	476,907
58	Add net non operating (line 39)		66,480	69,115	91,768	59,782	81,457	43,439	64,893	169,328	173,586	178,213	184,395	191,211	198,607	199,455	201,473
59	Add capital and bond (lines 45-52)		(417,387)	(339,995)	(397,653)	(230,486)	8,568	(187,284)	(171,216)	(347,756)	(406,135)	(350,418)	(356,954)	(362,021)	(506,205)	(445,635)	(516,749)
60	Net change in balance sheet items		4,947	21,649	16,270												
61	Special Assessments		0	0	0				0	0	0	0	0	0	0	0	0
63	**Ending Cash**		**446,869**	**301,767**	**115,913**	**110,708**	**324,568**	**308,273**	**358,906**	**355,632**	**333,327**	**409,897**	**528,377**	**694,922**	**775,393**	**972,762**	**1,161,689**
64	Other investments																
65	**Ending net assets**		**5,607,362**	**5,452,792**	**5,246,796**	**5,127,550**	**4,977,978**	**4,783,457**	**4,628,831**	**4,585,543**	**4,569,972**	**4,585,575**	**4,637,284**	**4,729,412**	**4,866,557**	**5,046,545**	**5,275,313**
65	Target minimum working capital		622,273	575,495	565,474	216,256	443,581	416,473	612,683	625,685	630,459	641,972	649,131	738,517	745,635	752,965	525,516
65	Actual working capital-cash balance		446,869	301,767	115,913	110,708	324,568	308,273	358,906	355,632	333,327	409,897	528,377	694,922	775,393	972,762	1,161,689
65	Over (Under) target working capital		(175,404)	(273,728)	(449,561)	(105,547)	(119,012)	(108,201)	(253,777)	(270,054)	(297,132)	(232,075)	(120,753)	(43,595)	29,758	219,797	636,172

EHLERS

Appendix J

Cost and Effectiveness Certification Form

Appendix K

Project Priority List and Scoring Worksheet

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

Project Priority List (PPL)

Wastewater Application

1. **Applicant name:** City of East Gull Lake
   - Project area: City of East Gull Lake
   - Town/city: East Gull Lake
   - Population: 1,004
   - County: Crow Wing
2. **Contact person:** Rob Mason
   - Address: 10790 Squaw Point Road
   - Phone: 218.828.9279 Fax: (218) 825-8422
   - E-mail: robegl@scicable.com
3. **Project consultants/Firm name (if applicable):** Short Elliott Hendrickson, Inc.
   - Contact name: John Friel
   - Address: 3535 Vadnais Center Drive
   - Phone: 651.490.2140 Fax:
   - E-mail: jfriel@sehinc.com
4. **Project area description:**

	☒ **Sewered:**	☐ **Unsewered** (submit map of project area)
a. Number of existing households:	555	
b. Number of non-residential users:	4	

Need or problem project addresses: (Check all that apply)

- ☐ Failing on-site systems # of failing systems:
- ☐ Connection to an existing system
- ☐ Rehab of an existing facility
- ☐ Rehab collection system
- ☐ Expansion of existing treatment plant
- ☒ New treatment and/or collection system
- ☐ Advanced treatment

5. **Please indicate if this project may be a Green Project Reserve (GPR), which are wastewater projects that are either categorical or non-categorical and have components or the entire project is applying to be determined GPR eligible.**

The U.S. Environmental Protection Agency (EPA) provided a guidance document listing examples of projects that will qualify for Green Project Reserve dollars. Below is a list of those examples. If the proposed project matches one or more of the examples, check the box next to the example that describes the project. For more information, see *CW Green Guidance* at http://www.pca.state.mn.us/water/wastewater-financial.html.

Categorical eligible project types

☐ 1. **Water Efficiency**

- ☐ a. Installation of water meters (applies only to drinking water distribution systems – contact the Minnesota Department of Health)
- ☐ b. Retrofit or replacement of water using fixtures, fittings, equipment or appliances
- ☐ c. Efficient landscape or agricultural irrigation equipment
- ☐ d. Systems to recycle gray water
- ☐ e. Reclamation, recycling, and reuse of existing rainwater, condensate, degraded water, stormwater, and/or wastewater streams.
- ☐ f. Collection system leak detection equipment
- ☐ g. Development and initial distribution of public education materials

☒ **2. Energy Efficiency**

- ☒ a. Energy efficient retrofits and upgrades to pumps and treatment processes
- ☐ b. Leak detection equipment for treatment works
- ☐ c. Producing clean power for 212 treatment works on site (wind, solar, hydroelectric, geothermal, biogas powered combined heat and power)
- ☐ d. Pro-rata share of capital costs for offsite publicly owned clean energy facilities that provide power to a treatment works.

☐ **3. Green Infrastructure**

- ☐ a. Implementation of comprehensive street tree or urban forestry programs, including expansion of tree box sizes to manage additional stormwater and enhance tree health.
- ☐ b. Implementation of green streets (combinations of green infrastructure practices in transportation rights-of-ways), for either new development, redevelopment or retrofits
- ☐ c. Implementation of water harvesting and reuse programs or projects, where consistent with state and local laws and policies.
- ☐ d. Implementation of wet weather management systems for parking areas which include: the incremental cost of porous pavement, bioretention, trees, green roofs, and other practices that mimic natural hydrology and reduce effective imperviousness at one or more scales.
- ☐ e. Establishment and restoration of riparian buffers, floodplains, wetlands and other natural features.
- ☐ f. Downspout disconnection to remove stormwater from combined sewers and storm sewers.
- ☐ g. Comprehensive retrofit programs designed to keep wet weather out of all types of sewer systems using green infrastructure technologies and approaches.

☐ **4. Environmentally Innovative Projects**

- ☐ a. Green Infrastructure/Low Impact development stormwater projects
- ☐ b. Decentralized wastewater treatment and/or reuse projects that reduce energy consumption, recharge aquifers and reduce water withdrawals and treatment costs
- ☐ c. Projects that employ development and redevelopment practices that preserve or restore site hydrologic processes through sustainable landscaping and site design.
- ☐ d. Projects that use water balance approaches (water budgets) at the project, local or state level that preserve site, local or regional hydrology. Such an effort could pilot and show-case efforts to plan and manage in a concerted manner, surface and groundwater withdrawals, stream base flow (aquatic species protection), wetland and floodplain storage, groundwater recharge and regional or local reuse and harvesting strategies using a quantified methodology.
- ☐ e. Projects that demonstrate the energy savings and climate change implications of sustainable site design practices and the use of green infrastructure such as green roofs, increased tree canopy, reduced water consumption and potable water use due to sustainable site designs, rainwater harvesting and reuse and reductions in hard or infrastructure needed to manage stormwater and Combined Sewers Overflow (CSOs).
- ☐ f. Projects that demonstrate the differential uses of water based on the level of treatment and potential uses as a means to reducing the costs of treating all water to potable water standards.
- ☒ g. Projects that identify and quantify the benefits of using integrated water resources management approaches.

☒ **5. Non-categorical (describe)**

Point source reduction of phosphorus load from the North WWTF to the South WWTF, which is capable of treating wastewater to higher standards. Energy reduction in operating a lift station instead of the existing North WWTF.

6. **Possible solution and cost estimates (if known):** Upgrade existing lift station to pump flow from pond system, exceeded design capacity & low TP reduction, to the activated sludge WWTF which is capable of meeting 1.0 mg/L TP effluent limit.
7. **Current project status:** Facility Plan phase
8. **Desired construction start date, if financing is available (month/year):** June, 2019

NOTE: Required attachments for unsewered area projects. A map of the project service area which has an identifiable scale, identifies all the structures with wastewater flows, and has the maximum impact zone clearly encircled.

On behalf of an eligible project as their authorized authority, I hereby submit this application for placement on the PPL:

Print Authorized Representaive Name: Rob Mason

Signature: Robert Mason

Title: City Administrator

Date: 2/15/2017

For more information, contact:

Bill Dunn, Clean Water Revolving Fund Coordinator at 651-757-2324 or bill.dunn@state.mn.us
www.pca.state.mn.us/water/wastewater-financial.html

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

PPL Wastewater Existing Facility Improvements Scoring Worksheet

Project Priority List (PPL)
Minnesota Rule Chapter 7077.0117

Doc Type: PPL Points Determination

MPCA Use Only
Project Number
Staff Engineer
Total Points
Date

Facility Information (please print)

Project name: East Gull Lake - WWTF Facility Plan

Applicant name (if different): City of East Gull Lake

Contact name: Rob Mason Title: City Administrator

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Instructions: This worksheet is used to score all requests for state financial assistance for wastewater improvement projects for Minnesota Pollution Control Agency (MPCA) permitted facilities. Scoring is based on the environmental criteria contained in Minnesota Rule Chapter 7077. The result of scoring is a ranked list called the Project Priority List (PPL) from which projects will be selected for funding.

Applicants must complete their sections of the worksheet and submit it with their requests for placement on the PPL. As part of completing the worksheet, the applicant must provide sufficient documentation to support the award of points. Complete application information is located on the MPCA website at http://www.pca.state.mn.us/ppl.

Complete this form if your proposal includes improvements to wastewater collection and/or treatment facilities that have an existing National Pollutant Discharge Elimination System (NPDES) Permit or a State Disposal System (SDS) Permit.

For more information, contact: Bill Dunn, Clean Water Revolving Fund Coordinator at 651-757-2324, Fax 651-297-8324, or bill.dunn@state.mn.us.

Applicant completes questions 15-40 and 85; MPCA completes 45-80, 90-95

Points

[15] Existing and proposed stabilization ponds located in karst areas and SDS facilities with high ground water table [subp. 6]

15.1 Does this project replace or rehabilitate stabilization ponds located over karst areas? ☐ Yes ☒ No

15.2 Does this project replace or rehabilitate wastewater treatment facilities having a disposal site (spray irrigation, rapid infiltration, etc.) with less than three feet of vertical separation from the treated wastewater discharge point to the seasonally high ground water table or to bedrock? ☐ Yes ☒ No

If Yes to either 15.1 or 15.2, enter 20 points ____

[20] Existing facility at or above 85% capacity [subp. 1]

Complete 20.1 *if project improves only the treatment facility or improves both the treatment facility and the collection facilities.*

20.1 Is this treatment facility at or above 85% of either its permitted hydraulic flow or organic loading capacity as determined by the last 12 month average wet weather flow (AWW) or average annual discharge, **and** will the project proposal appropriately resolve capacity issues either through expansion of treatment capacity or reduction of loadings? ☒ Yes ☐ No

Permitted hydraulic and/or organic loading capacity: Permitted AWW 33,400 gpd

Actual hydraulic and/or organic loading capacity: Actual AWW 30,653 gpd (Jun-Aug)

Complete 20.2 *if project improves only the collection facilities.*

20.2 Is this collection facility at or above 85% of the design peak instantaneous wet weather flow (PIWW) or provide documentation of other physical conditions, such as by-passing to show the peak flow has exceeded the design PIWW, **and** will the project proposal appropriately resolve capacity issues through expansion of collection facility capacity? ☐ Yes ☐ No

Design PIWW: ____

Documented peak flow: ____

If Yes to either 20.1 or 20.2, enter 5 points 5

[25] Existing age of treatment or collection facilities within the proposed project service area [subp. 2]
(*Age is determined by the construction year of all or a substantial portion of the existing facility addressed by project.)*

25.1 Last significant construction year of treatment or collection facilities, which are proposed to be repaired or replaced within the service area? ☐ Yes ☐ No

Enter Year: _____

25.2 Are the facilities 20 years or more old? If yes, attach documentation of last significant construction year. ☒ Yes ☐ No

If Yes, enter 20 points **20**

[30] Existing excessive infiltration/inflow (i/i) with proposed reduction plan [subp. 3]

30.1 Does this facility have excessive infiltration or inflow? (Minn. R. 7077.0105, subp. 12 and 13)

Calculate infiltration: _____ gallon/capita/day Greater than 120 gallon/capita/day? ☐ Yes ☒ No

Calculate inflow: _____ gallon/capita/day Greater than 275 gallon/capita/day? ☐ Yes ☒ No

30.2 Does the proposal include measures to correct excessive infiltration or inflow? ☒ Yes ☐ No

If Yes to both 30.1 and 30.2, enter 15 points

[35] Existing or proposed land (including sub-surface) discharge [subp. 4]

35.1 Does the facility currently land discharge treated wastewater effluent, will it continue to land discharge, **and** not create or contribute to known ground water nitrate levels over 10 mg/L? ☐ Yes ☒ No

35.2 Does the proposed alternative call for the consumptive use (nitrogen or volume) spray irrigation or on-land disposal systems, that are required by permit to denitrify (nitrate limit)? ☐ Yes ☒ No

If Yes to either 35.1 or 35.2, enter 20 points

[40] Existing stringent limit that exceeds secondary treatment [subp. 5]

40.1 Is the existing facility currently subject to CBOD or TSS permit limits that are more stringent than secondary treatment (25 mg/l and 30 mg/l), or has an ammonia, total nitrogen or phosphorus limit? (Minn. R. 7050.0211) Exclude facilities discharging to Class 7 waters that are subject to 15 CBOD. ☒ Yes ☐ No

If Yes, enter 10 points **10**

[45] Existing effluent discharge violations *(Enforcement staff)* [subp. 7]

45.1 Is the existing facility on the Significant Noncompliance List (CFR, title 40, section 123.45, appendix A) **and** would the proposed project designed to eliminate the problem? ☐ Yes ☐ No

If Yes, enter 5 points

[50] Existing repeated facility failures *(Enforcement staff)* [subp. 8]

50.1 Has the existing treatment or collection facility experienced bypasses, overflows and/or surcharges during two or more storm events within a 12-month period when operating at less than "peak instantaneous wet weather flow" **and** is the proposed project designed to eliminate such failures? ☐ Yes ☐ No

If Yes, enter 10 points

[55] Existing discharge to outstanding resource value water (ORVW) or impaired water (*Effluent Limits Coord.)* [subp. 9]

55.1 Does the existing facility currently discharge into an ORVW or Impaired water? ☐ Yes ☐ No

If Yes, enter 5 points

55.2 If yes, does the existing facility also have existing acute/chronic effluent discharge standards violations? (see question 45.1 or subp. 7)? ☐ Yes ☐ No

If Yes to both 55.1 and 55.2, enter 5 points

55.3 If yes, does the existing facility also have existing chronic failures? (see question 50.1 or subp. 8) ☐ Yes ☐ No

If Yes to 55.1, 55.2, and 55.3, enter 5 points

[60] Existing discharge near potable water intake (*Effluent Limits Coordinator)* [subp. 10]

60.1 Is there potable water intake within 25 miles downstream of the existing facility discharge? ☐ Yes ☐ No

If Yes, enter 5 points

[65] Existing endangered or threatened species (*Effluent Limits Coordinator)* [subp. 11]

65.1 Does the receiving water downstream from the existing facility discharge support any endangered or threatened species? ☐ Yes ☐ No

If Yes, enter 5 points ☐

[70] Proposed introduction of more stringent discharge limits for an existing facility (*Effluent Limits Coordinator)* [subp. 12]
Does this existing treatment facility need to meet more intensive and/or extensive wastewater treatment standards because of:

70.1 More stringent facility discharge limits as incorporated into MPCA permit revisions? ☐ Yes ☐ No

70.2 Discontinuation of an existing permit variance? ☐ Yes ☐ No

70.3 Need to treat additional hydraulic or organic loading capacities without increasing either the permitted frozen effluent mass limit or concentration of discharges to the receiving waters? ☐ Yes ☐ No

If Yes to 70.1, 70.2 or 70.3, enter 10 points ☐

[75] Existing receiving water classification *(Effluent Limits Coordinator)* [subp. 13]

Only the most strict classification can be used, 7 points maximum

75.1 Receiving water classification is 2A ☐ Yes ☐ No

If Yes to 75.1, enter 7 points ☐

75.2 Receiving water classification is 1, 2Bd ☐ Yes ☐ No

If No to 75.1 and Yes to 75.2, enter 5 points ☐

75.3 Receiving water classification is 2B, 2C, 2D ☐ Yes ☐ No

If No to 75.1 and 75.2 and Yes to 75.3, enter 3 points ☐

75.4 Receiving water classification is 7 ☐ Yes ☐ No

If No to 75.1, 75.2 and 75.3 and Yes to 75.4, enter 1 point ☐

[80] Project facility effluent to stream impact dilution ratio *(Effluent Limits Coordinator)* [subp. 14]

*For all discharges to rivers, streams, or ditches (flowing receiving water), calculate the facility effluent low flow by averaging the influent flow reported on the monthly discharge monitoring reports (DMRs) for the three consecutive months with the lowest **influent** flow in three climatic years, April 1 to March 31.*

80.1 What is the ratio of the **influent** low flow of the facility to the 7Q10 flow of the receiving water?

Dilution Ratio* = Wastewater Treatment Facility (WWTF) Low Flow (million gallons per day [mgd]) / Receiving water low flow (mgd)

(_____ mgd/ _____ mgd = Dilution Ratio) Dilution Ratio = ☐

*For all "Dilution Ratios" greater than 1.0 or if the 7Q10 receiving water flow = 0 mgd set dilution ratio = 1.0

Note: Round up calculated value for dilution ratio to the next whole number (e.g., 8.3 = 9). 15 x dilution ratio = ☐

[85] Proposed project implements corrective measures (*Effluent Limits Coordinator)* [subp. 15]

85.1 Will the project implement corrective measure(s) for problems identified in a study, such as: ☐ Yes ☐ No

- Clean Water Partnership Project
- Impaired Water Study
- EPA-approved Watershed Restoration Action Strategy
- Equivalent (other) study, e.g., County Water Plan

Type of Study: *Attach supporting documentation and identify relevant sections.*

If Yes, enter 5 points ☐

[90] Proposed project helps meet a total maximum daily load (TMDL) for a receiving water *(Effluent Limits Coord)* [subp. 16]

90.1 Does this project contribute to the achievement of a TMDL by being designed to reduce the discharge of pollutants as required by an Agency approved TMDL implementation plan or does the project require an National Pollutant Discharge Elimination System (NPDES) Permit or State Disposal System (SDS) Permit that will require the reduced discharge of pollutants based on a TMDL? ☐ Yes ☐ No

If Yes, enter 20 points ☐

[95] Propose project points reduction for new/expanded discharges into specified waters *(Effluent Limits Coord)* [subp. 17]

95.1 Does the proposed project involve a new or expanded discharge* to one or more of the following specified waters? ☐ Yes ☐ No

a) Outstanding Resource Value Waters (Minn. R. 7050.0180)

b) Impaired waters (Section 303(d) of the Clean Water Act)

c) Classification 2A, lake, or wetland that exceeds 200,000 gallons per day

* If new permit requirements include frozen effluent mass limits from the existing permit, the facility is not defined as expanding and negative points will not be assigned.

If Yes, enter minus 5 points ☐

[100] Project includes wastewater reuse

100.1 Does the project include the beneficial use of treated wastewater effluent that will reduce or replace the use of a groundwater, surface water, or potable water source? ☐ Yes ☐ No

100.2 Do the project components needed to beneficially use treated wastewater effluent account for at least 20% of the total eligible project cost? ☐ Yes ☐ No

100.3 Does the project receive points under item 35 (Minn. R. 7077.0117, subp. 4) for land discharge? ☐ Yes ☐ No

If Yes to both 100.1 and 100.2, enter 30 points ☐

Total ☐