



**National Pollutant Discharge Elimination System (NPDES)/
State Disposal System (SDS) Permit Program Fact Sheet
Permit Reissuance
MN0066079**

Permittee: City of Long Prairie
615 Lake Street South
Long Prairie, Minnesota 56347

Facility name: Long Prairie Wastewater Treatment Facility
25251 US Highway 71
Long Prairie, Minnesota 56347

Current permit expiration date: May 31, 2016

Public comment period begins: March 5, 2018

Public comment period ends: May 4, 2018

Receiving water: Long Prairie River - Class 2B, 3C, 4A, 4B, 5, 6 water

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Purpose and participation

Applicable statutes

This fact sheet has been prepared according to the 40 CFR § 124.8 and 124.56 and Minn R. 7001.0100, subp. 3 in regards to a draft National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) permit to construct and/or operate wastewater treatment facilities and to discharge into waters of the State of Minnesota.

Purpose

This fact sheet outlines the principal issues related to the preparation of this draft permit and documents the decisions that were made in the determination of the effluent limitations and conditions of this permit.

Public participation

You may submit written comments on the terms of the draft permit or on the Commissioner's preliminary determination. Your written comments must include the following:

1. A statement of your interest in the permit application or the draft permit.
2. A statement of the action you wish the Minnesota Pollution Control Agency (MPCA) to take, including specific references to sections of the draft permit that you believe should be changed.
3. The reasons supporting your position, stated with sufficient specificity as to allow the Commissioner to investigate the merits of your position.

You may also request that the MPCA Commissioner hold a public informational meeting. A public informational meeting is an informal meeting which the MPCA may hold to help clarify and resolve issues.

In accordance with Minn. R. 7000.0650 and Minn. R. 7001.0110, your petition requesting a public informational meeting must identify the matter of concern and must include the following: items one through three identified above; a statement of the reasons the MPCA should hold the meeting; and the issues you would like the MPCA to address at the meeting.

In addition, you may submit a petition for a contested case hearing. A contested case hearing is a formal hearing before an administrative law judge. Your petition requesting a contested case hearing must include a statement of reasons or proposed findings supporting the MPCA decision to hold a contested case hearing pursuant to the criteria identified in Minn. R. 7000.1900, subp. 1 and a statement of the issues proposed to be addressed by a contested case hearing and the specific relief requested. To the extent known, your petition should include a proposed list of witnesses to be presented at the hearing, a proposed list of publications, references or studies to be introduced at the hearing, and an estimate of time required for you to present the matter at hearing.

You must submit all comments, requests, and petitions during the public comment period identified on page one of this notice. All written comments, requests, and petitions received during the public comment period will be considered in the final decisions regarding the permit. If the MPCA does not receive any written comments, requests, or petitions during the public comment period, the Commissioner or other MPCA staff as authorized by the Commissioner will make the final decision concerning the draft permit.

Comments, petitions, and/or requests must be submitted by the last day of the public comment period to:

Holly Kvittem
Minnesota Pollution Control Agency
714 Lake Avenue, Suite 220
Detroit Lakes, Minnesota 56501

The permit will be reissued if the MPCA determines that the proposed Permittee or Permittees will, with respect to the facility or activity to be permitted, comply or undertake a schedule to achieve compliance with all applicable state and federal pollution control statutes and rules administered by the MPCA and the conditions of the permit and that all applicable requirements of Minn. Stat. ch. 116D and the rules promulgated thereunder have been fulfilled.

More detail on all requirements placed on the facility may be found in the Permit document.

Facility description*Background information**Facility location*

This Facility is an existing municipal wastewater treatment facility situated northwest of the city of Long Prairie. This Facility receives and treats influent from the City of Long Prairie, the Long Prairie water treatment plant, and four local industries: Long Prairie Packing, Central Bi-Products, Dan's Prize, and Daybreak Foods. This Facility is located in the NE ¼ of the SE ¼ of Section 7 and 8, Township 129 North, Range 33 West, city of Long Prairie, Todd County, Minnesota. This is a Class A Facility.

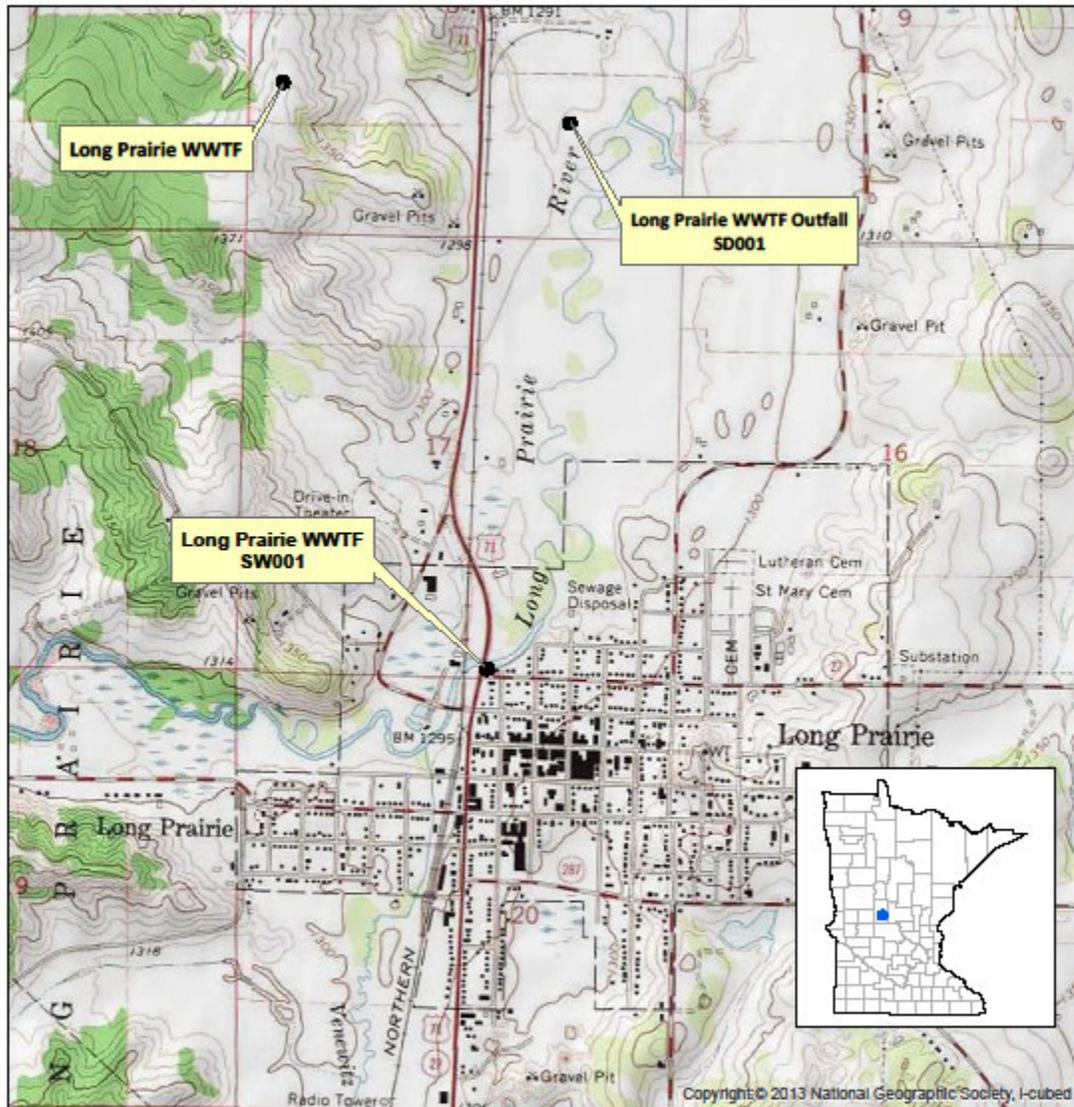
Outfall location

The outfall for the total facility discharge point (SD001) is located east of the Facility in Section 7, Township 129 North, Range 33 West. The latitude and longitude coordinates for the outfall SD001 are 45° 59' 39.4" - 94° 51' 32.5". The outfall discharges directly into the Long Prairie River.

Map of permitted facility

Topographic Map of Permitted Facility

MN0066079: Long Prairie Wastewater Treatment Facility
T129N, R33W, Section 08
Long Prairie Township, Todd County, Minnesota

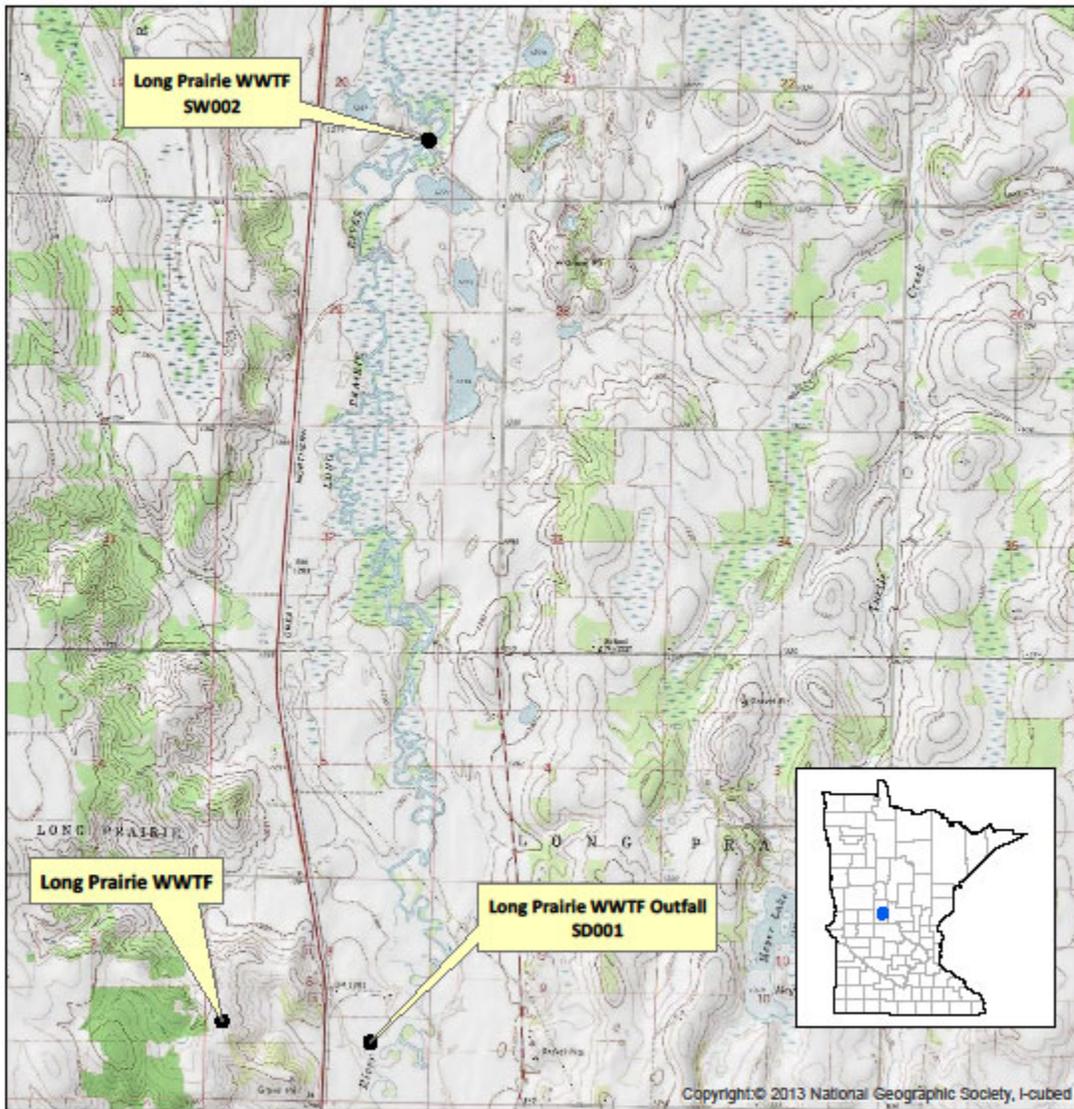


Map produced by: MPCA Staff, 2/4/2016
Scale: 1:20,694; Long Prairie WWTF

0 0.2 0.4 0.8 Miles

Topographic Map of Permitted Facility

MN0066079: Long Prairie Wastewater Treatment Facility
T129N, R33W, Section 08
Long Prairie Township, Todd County, Minnesota



Map produced by: MPCA Staff, 2/23/2018
Scale: 1:40,106; Long Prairie WWTF

0 0.425 0.85 1.7 Miles

Components and treatment technology

Current information

Major components of the facility include:

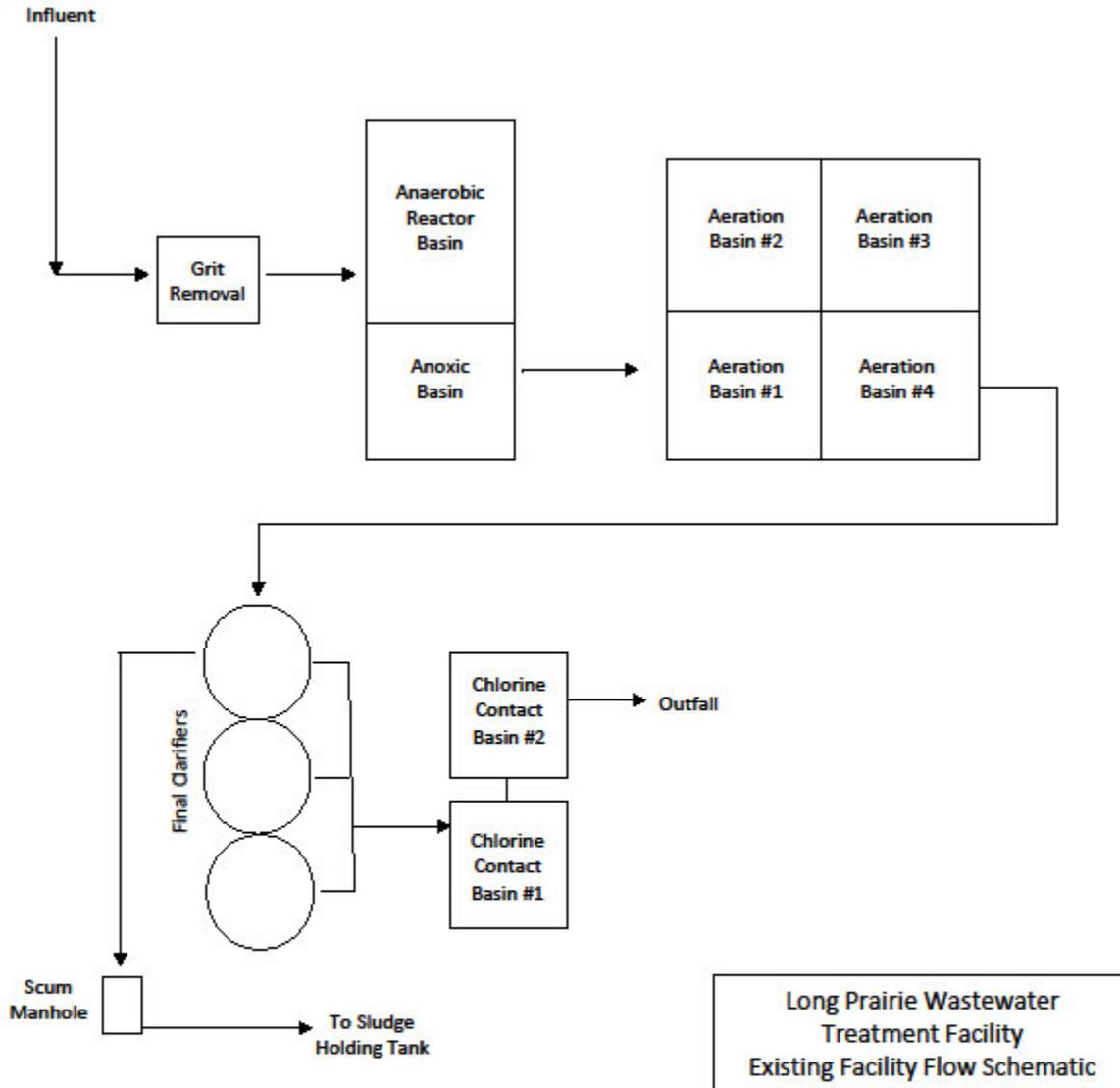
- Activated Sludge - extended aeration
- Anaerobic Contactor
- Chemical Addition for pH adjustment
- Dechlorination
- Disinfection (chlorination)
- Phosphorus Removal (chemical addition)
- Preliminary treatment - fine screen
- Preliminary treatment - flow equalization
- Preliminary treatment - grit removal
- Secondary Clarification
- Solids Thickening - Gravity Thickening
- Solids Treatment - Aerobic Storage Tank

Current Information:

The current Facility is rated for an average wet weather (AWW) design flow of 1.82 million gallons per day (mgd), with a five-day carbonaceous biochemical oxygen demand (CBOD₅) loading of 4,311 pounds per day (lbs/d), total suspended solids loading of 2,131 lbs/d, total Kjeldahl nitrogen loading of 976 lbs/d and a total phosphorus loading of 242 lbs/d. The average dry weather (ADW) flow of the Facility is 0.526 mgd.

The current Facility consists of a mechanically cleaned fine bar screen, a backup manual bar screen, an aerated grit chamber, two anaerobic basins, four aeration basins, three circular final clarifiers, two chlorine contact chambers with dechlorination, and post aeration equipment in the final section of the tank. The anaerobic basin and the anoxic basin preceding the aeration basins are to facilitate the ability to biologically remove phosphorus from the wastewater. The Facility also has chemical addition to assist in phosphorus removal. The Facility currently has a 12.67-acre stabilization pond available for flow equalization. There are six aerated solids storage tanks for sludge handling with telescoping valves to decant and assist in gravity thickening of the solids. Flows from Long Prairie Packing and Central Bi-products will be pretreated in pond systems prior to discharging to the city's mechanical plant. Due to the low Biochemical Oxygen Demand and high ammonia concentration, some of this industrial flow may bypass preliminary treatment and the anaerobic contractor basin and be discharged directly into the aeration basins. The addition of alkalinity will be necessary to completely nitrify the high ammonia wastewater from the industrial load. The Facility is a Class A Major Facility.

Flow schematic



Changes to facility or operation

The City of Long Prairie is planning an expansion of the Facility as additional treatment capacity is needed. Two of the significant industrial users the Facility accepts influent wastewater from are expanding their production resulting in an increase of wastewater sent to the Facility for treatment. The proposed Facility is rated for an AWW design flow of 2.479 mgd, an ADW flow of 2.01 mgd, with a CBOD₅ loading of 5,769 lbs/d, total suspended solids of 2,640 lbs/d, total phosphorus loading of 339 lbs/d, and total ammonia nitrogen loading of 1,371 lbs/d. The proposed upgrades to the Facility includes the addition of three new aeration basins and the conversion of the existing aeration basins into anoxic basins with the second basin being capable of operating as a swing zone. The upgrade will also include a new control building that includes a blower room, pump room, electrical and mechanical room and chemical feed rooms for carbon and alkalinity addition.

An anti-degradation review was completed as part of the proposed facility upgrade/expansion. As part of the expansion and anti-degradation review, the Facility is accepting mass cap limits for all the conventional pollutants (CBOD₅, TSS, ammonia-nitrogen, fecal coliform, pH, dissolved oxygen, total residual chlorine, and total phosphorus). The anti-degradation analysis and subsequent review demonstrate that water quality degradation for chloride cannot be avoided, but will be prudently and feasibly minimized; existing and beneficial uses will be protected; and the proposed activity is necessary to accommodate important economic or social changes in the geographic area. The proposed project will implement the best technology in practice and treatment. Therefore, the MPCA has made a preliminary determination that the project will satisfy anti-degradation standards in Minnesota Rules 7050.0265.

Significant industrial users (SIUs)

This Facility receives process wastewater from four SIUs: Long Prairie Packing, Central Bi-Products, Dan’s Prize, and Daybreak Foods. The Permittee is part of the MPCA’s Pretreatment Program. The SIUs are regulated through SIU Agreements with the city of Long Prairie and are enforced by the Permittee. Pollutants of concern are monitored and/or limited by the Permittee to an extent necessary to prevent interference or pass-through at the Facility. Each of the SIUs are monitored for flow, total suspended solids (TSS), 05 day carbonaceous biochemical oxygen demand (CBOD₅) and the results are submitted with the Pretreatment Annual Report at the end of each year. In addition to monitoring, the Permittee inspects each of these industries multiple times each year. The Facility will be expanding its operations this permit cycle to accommodate the growth of two of the SIUs; Long Prairie Packing and Dan’s Prize.

| Name | Total Average Flow (gpd) | Flow from process wastewater (gpd) | Flow from nonprocess wastewater (gpd) | Proposed Average Flow (gpd) | Principal product or raw materials used | Considered a SIU (Y/N) | Is there currently a control mechanism and/or local limits (Y/N) | Is the IU subject to categorical standards? (Y/N) |
|----------------------|--------------------------|------------------------------------|---------------------------------------|-----------------------------|---|------------------------|--|---|
| Long Prairie Packing | 820,000 | 820,000 | 0 | 1,000,000 | Raw beef, live cattle | Y | Y | N |
| Central Bi-Products | 187,000 | 187,000 | 0 | 187,000 | Animal feed | Y | Y | N |
| Dan’s Prize | 112,270 | 112,270 | 0 | 188,000 | Deli meat, raw meat (beef, turkey, ham) | Y | Y | N |

| | | | | | | | | |
|----------------|--------|--------|---|--------|---|---|---|---|
| Daybreak Foods | 22,660 | 22,660 | 0 | 22,660 | Raw egg yolks and egg whites, eggs in shell | Y | Y | N |
|----------------|--------|--------|---|--------|---|---|---|---|

Recent compliance history

A Compliance Evaluation Inspection (CEI) occurred on September 27, 2017 by Justin Barrick, Jeremy Sanoski, and Amanda Wilkens of the MPCA. The CEI consisted of a visual inspection of the facility and a discussion with Chad Bosl (Class A Operator), Dan Spieker (Public Works Director), and Brenda Thomes (City Administrator). There was also a review of the monthly discharge monitoring reports (DMRs) for the time period of September 2015 (previous MPCA inspection) to August 2017. The Facility’s biosolids land application sites were not inspected. Based on the results of the CEI, there were six violations of the terms and conditions set forth in the National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) permit that were documented as alleged in a letter of warning.

Summary of alleged violations:

- The Regulated Party’s effluent composite sampler was programmed to take time-proportioned samples (e.g. one sample every ten minutes) whereas, the limits and monitoring requirements of its NPDES/SDS permit require a 24-hour flow proportioned sample.
- The Regulated Party has been having its specific conductance limits and monitoring parameter analyzed by a contract laboratory which doesn’t allow it to be analyzed immediately as required of its NPDES/SDS permit.
- The Regulated Party’s laboratory result records contained Salinity results in parts per thousand (ppt) units; however, it failed to convert the results into the permit required parts per million (ppm) or milligram per liter (mg/L) units.
- The Regulated Party did not submit an updated version of its mercury minimization plan (MMP) prior to the permit required due date of December 3, 2015.
- The Regulated Party calibrated its flow meters once during 2015 and 2016; however, is planning on calibrating the flow meters a second time within 2017.
- The Regulated Party failed to check its total residual chlorine equipment against a known standard at least monthly.

Recent monitoring history

| Surface Discharge Station SD001 - Discharge Monitoring Report Summary from January 2016 through December 2016 | | | | | | | | | | | | | | | |
|---|-------|----------|------------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|--------|--------|
| Parameter Desc | Limit | Units | Limit Type | 16-Jan | 16-Feb | 16-Mar | 16-Apr | 16-May | 16-Jun | 16-Jul | 16-Aug | 16-Sep | 16-Oct | 16-Nov | 16-Dec |
| Bicarbonates (HCO3) | | mg/L | CalMoMax | 299 | 299 | 216 | 234 | 147 | 383 | 326 | 200 | 192 | 123 | 213 | 241 |
| BOD, Carbonaceous 05 Day (20 Deg C) (CBOD5) | 15 | mg/L | CalMoAvg | 2.5 | 2.6 | 3.2 | 2.4 | 2.3 | 4.5 | 1.9 | 1.7 | 1.4 | 1.8 | 2 | 2 |
| CBOD5 | 104 | kg/d | CalMoAvg | 8.7 | 8.3 | 10 | 11 | 12 | 26 | 10.9 | 7.9 | 7 | 8.2 | 6.9 | 6.3 |
| CBOD5 | 25 | mg/L | MxCalWkAvg | 4.1 | 3.1 | 4.3 | 2.7 | 3.5 | 11 | 3 | 2.4 | 1.8 | 2.1 | 2.6 | 4 |
| CBOD5 | 173.5 | kg/d | MxCalWkAvg | 15.2 | 9.5 | 13.9 | 13.2 | 17.6 | 62 | 17.7 | 11.5 | 9.2 | 9.6 | 8.2 | 12.1 |
| CBOD5 % Removal | 85 | % | MnCalMoAvg | 99 | 99 | 99 | 97.5 | 97.9 | 95.7 | 97.5 | 98.7 | 98.4 | 98.1 | 97.4 | 98 |
| Calcium, Total | | mg/L | CalMoMax | 101 | 101 | 96 | 88 | 81 | 84 | 89 | 69 | 75 | 44 | 80 | 88 |
| Chloride, Total | | mg/L | CalMoMax | 534 | 645 | 555 | 567 | 581 | 661 | 771 | 579 | 646 | 701 | 175 | 551 |
| Chlorine, Total Residual | 0.038 | mg/L | DailyMax | | | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0 | |
| Fecal Coliform | 200 | #/100ml | CalMoGeoMn | | | | 495 | 47 | 103 | 49 | 43 | 28 | 41 | | |
| Flow | | mgd | CalMoAvg | 0.787 | 0.811 | 0.81 | 1.066 | 1.3904 | 1.487 | 1.434 | 1.121 | 1.198 | 1.101 | 0.874 | 0.777 |
| Flow | | mgd | CalMoMax | 1.016 | 1.143 | 0.989 | 1.373 | 1.594 | 1.993 | 1.725 | 1.398 | 1.368 | 1.445 | 1.101 | 0.936 |
| Flow | | Mgal | CalMoTot | 24.405 | 23.51 | 25.114 | 31.966 | 43.1033 | 44.616 | 44.455 | 34.754 | 35.946 | 34.135 | 26.222 | 24.102 |
| Hardness, Calcium & Magnesium, Calculated (as CaCO3) | | mg/L | CalMoMax | 411 | 430 | 412 | 372 | 373 | 395 | 445 | 331 | 326 | 250 | 353 | 333 |
| Magnesium, Total (as Mg) | | mg/L | CalMoMax | 39 | 43 | 42 | 37 | 42 | 45 | 54 | 38 | 33 | 34 | 38 | 28 |
| Mercury, Total (as Hg) | | ng/L | CalQtrMax | | | 0 | | | 0.501 | | | 1.6 | | | 0 |
| Nitrite Plus Nitrate, Total (as N) | | mg/L | CalMoAvg | | | | 43 | | | | | 31 | | | |
| Nitrogen, Ammonia, Total (as N) | 5 | mg/L | CalMoAvg | | | | | | 1.6 | 0.15 | 0.1 | 0.01 | | | |
| Nitrogen, Ammonia, Total (as N) | 34 | kg/d | CalMoAvg | | | | | | 9.1 | 0.9 | 0.5 | 0.1 | | | |
| Nitrogen, Kjeldahl, Total | | mg/L | CalMoAvg | | | | 2.9 | | | | | 3.9 | | | |
| Oxygen, Dissolved | 6 | mg/L | CalMoMin | 8.9 | 8.7 | 8.1 | | | 8.7 | 7.3 | 8.8 | 6.2 | 7.3 | 9.7 | 6.3 |
| pH | 9 | SU | CalMoMax | 8.9 | 8.4 | 8.5 | 7.9 | 7.6 | 8.5 | 8 | 7.8 | 8 | 8 | 8 | 7.8 |
| pH | 6 | SU | CalMoMin | 7.1 | 7.2 | 6.9 | 6.9 | 6.9 | 6.4 | 6.8 | 6.3 | 6.2 | 6.2 | 6.4 | 6.4 |
| Phosphorus, Total (as P) | 1 | mg/L | 12MoMovAve | 0.55 | 0.56 | 0.56 | 0.56 | 0.57 | 0.6 | 0.6 | 0.6 | 0.6 | 0.62 | 0.62 | 0.6 |
| Phosphorus, Total (as P) | 2,029 | kg/yr | 12MoTotal | 909 | 907 | 907 | 917 | 922 | 956 | 952 | 926 | 974 | 957 | 936 | 935 |
| Phosphorus, Total (as P) | | mg/L | CalMoAvg | 0.52 | 0.6 | 0.68 | 0.62 | 0.57 | 0.78 | 0.54 | 0.56 | 0.74 | 0.63 | 0.64 | 0.61 |
| Phosphorus, Total (as P) | | kg/mo | CalMoTot | 48 | 54 | 64 | 75 | 96 | 132 | 91 | 73 | 101 | 81 | 64 | 56 |
| Potassium, Total (as K) | | mg/L | CalMoMax | 53 | 69 | 64 | 60 | 67 | 73 | 74 | 76 | 68 | 68 | 78 | 46 |
| Salinity, Total | | mg/L | CalMoMax | 1100 | 1300 | 1200 | 1100 | 1100 | 1100 | 1400 | 1200 | 1200 | 1400 | 1300 | 1000 |
| Sodium, Total (as Na) | | mg/L | CalMoMax | 381 | 427 | 380 | 342 | 320 | 365 | 412 | 321 | 356 | 391 | 466 | 372 |
| Solids, Total Dissolved (TDS) | | mg/L | CalMoMax | 1330 | 1570 | 1520 | 1370 | 1490 | 1490 | 1600 | 1340 | 1310 | 1540 | 1380 | 1350 |
| Solids, Total Suspended (TSS) | 30 | mg/L | CalMoAvg | 7.7 | 10 | 11 | 8.7 | 6 | 13 | 6 | 6.4 | 6.2 | 7.4 | 8.2 | 6.8 |
| TSS | 208 | kg/d | CalMoAvg | 26 | 34 | 36 | 39 | 33 | 72 | 35.2 | 28.6 | 30.2 | 33.3 | 28.5 | 21.6 |
| TSS | 45 | mg/L | MxCalWkAvg | 9.3 | 11 | 12 | 10 | 9.3 | 32 | 8.3 | 7 | 7.3 | 8.3 | 10 | 9.7 |
| TSS | 312 | kg/d | MxCalWkAvg | 30 | 38 | 39 | 49 | 48 | 180 | 49 | 33.3 | 36.3 | 39.7 | 32.3 | 32 |
| TSS % Removal | 85 | % | MnCalMoAvg | 95 | 95 | 94 | 89.6 | 88.9 | 45.1 | 85.4 | 88.7 | 86.8 | 89.5 | 92.2 | 92.7 |
| Specific Conductance | | umhos/cm | CalMoMax | 2220 | 2630 | 2330 | 2190 | 2110 | 2480 | 2730 | 2280 | 2390 | 2640 | 2490 | 2020 |
| Sulfate, Total (as SO4) | | mg/L | CalMoMax | 51 | 13 | 53 | 50 | 57 | 64 | 63 | 59 | 59 | 80 | 58 | 57 |

Receiving water(s)

Use classification

The Facility has a continuous discharge via surface discharge station SD001 to the Long Prairie River. This water is classified as a Class 2B, 3C, 4A, 4B, 5, 6 water.

Class 1 waters, domestic consumption. Domestic consumption includes all waters of the state that are or may be used as a source of supply for drinking, culinary or food processing use, or other domestic purposes and for which quality control is or may be necessary to protect the public health, safety, or welfare.

Class 2 waters, aquatic life and recreation. Aquatic life and recreation includes all waters of the state that support or may support fish, other aquatic life, bathing, boating, or other recreational purposes, and for which quality control is or may be necessary to protect aquatic or terrestrial life or their habitats or the public health, safety, or welfare.

Class 3 waters, industrial consumption. Industrial consumption includes all waters of the state that are or may be used as a source of supply for industrial process or cooling water, or any other industrial or commercial purposes, and for which quality control is or may be necessary to protect the public health, safety, or welfare.

Class 4 waters, agriculture and wildlife. Agriculture and wildlife includes all waters of the state that are or may be used for any agriculture purposes, including stock watering and irrigation, or by waterfowl or other wildlife and for which quality control is or may be necessary to protect terrestrial life and its habitat or the public health, safety, or welfare.

Class 5 waters, aesthetic enjoyment and navigation. Aesthetic enjoyment and navigation includes all waters of the state that are or may be used for any form of water transportation or navigation or fire prevention and for which quality control is or may be necessary to protect the public health, safety, and welfare.

Class 6 waters, other uses and protection of border wars. Other uses includes all waters of the state that serve or may serve that uses in subparts 2 to 6 or any other beneficial uses not listed in this part, including without limitation any such uses in this or any other state, province, or nation of any waters flowing through or originating in this state, and for which quality control is or may be necessary for the declared purposes in this part, to conform with the requirements of the legally constituted state of national agencies having jurisdiction over such waters, or for any other considerations the agency may deem proper.

There are no endangered or threatened species living in the receiving water.

More information on the classification of waters can be found in Minn. R. 7050.0140.

Impairments

The following table lists the current impairments for the receiving water and downstream waters:

| AUID or Lake ID | Waterbody | Assessment Category & Sub-Category | Pollutants or Impairments |
|-----------------|--------------------|------------------------------------|---|
| 07010108-505 | Long Prairie River | | Mercury in fish tissue, dissolved oxygen, fishes bioassessments |

Total Maximum Daily Load (TMDL) Study Name and Approval Date:

- Statewide Mercury TMDL, 2008
- Long Prairie River Watershed – Low Dissolved Oxygen, August 5, 2005
- Upper Mississippi River – Bacterial TMDL, November 20, 2014
- Mississippi River – St Cloud Watershed TMDL Report, May 14, 2015

- DRAFT South Metro Mississippi TMDL Turbidity Impairment
- DRAFT Lake Pepin – Excess Nutrients TMDL

Impacts of the Approved TMDLs on the Facility's Limits and Monitoring Requirements

Mercury – The mercury in fish tissue and mercury in water column impairments are located in the Long Prairie River, Crow Wing River, and Mississippi River.

Fish Bioassessments – This impairment is found within the Long Prairie River Watershed; the Long Prairie River Watershed Stressor ID Report and the Long Prairie River Watershed Monitoring and Assessment Report are completed however, a TMDL has not yet been developed. This impairment is also found within the Mississippi River – Saint Cloud Major Watershed; the Mississippi River – St. Cloud Stressor ID Report and the Mississippi River – St. Cloud Watershed Restoration and Protection Strategy Report have been completed; however, a TMDL has not yet been developed.

Escherichia coli, fecal coliform – These impairments are found within the Mississippi River – Sartell Watershed; a TMDL has not yet been developed to address this impairment; however, the Watershed Restoration and Protection Strategy (WRAPS) progress is underway.

Total Suspended Solids – This impairment is found within the Mississippi River; a draft South Metro Mississippi TMDL Turbidity Impairment has been completed; a waste load allocation is assigned to this facility.

PCBF, PFOS-F, PFOS-W – There are a number of Polychlorinated Biphenyls – Fish (PCBF), Perfluorooctane Sulfonate in Fish (PFOS-F) and Perfluorooctane Sulfonate in the water column (PFOS-W) impairments; TMDLs are not underway for PCBF or PFOS impairments at this time.

Nutrient/Eutrophication Biological Indicators – This impairment is found within Lake Pepin; the Lake Pepin – Excess Nutrients TMDL has not yet been completed.

Existing permit effluent limits

Technology based effluent limits (TBELs)

The five-day carbonaceous biochemical oxygen demand (CBOD₅), total suspended solids (TSS), and potential hydrogen (pH), fecal coliform, and percent removal limits are technology based limits developed for achieving secondary treatment standards. These limits are specified in 40 CFR 133.102 and Minn. R. 7050.0211 and Minn. R. 7053.0215.

Water quality based effluent limits (WQBELs)

The five-day carbonaceous biochemical oxygen demand (CBOD₅), total residual chlorine, total phosphorus, and nitrogen-ammonia are water quality based effluent limits. The residual chlorine limit is the final acute value for chlorine found in Minn. R. 7050.0222. The Facility also received a WQBEL whole effluent toxicity (WET) –chronic limit of 3.40 toxic units chronic (TUc).

Existing Limits and Monitoring Requirements for Surface Discharge Station SD001

SD 001: City of Long Prairie - Domestic WW

| Parameter | Limit | Units | Limit Type | Effective Period | Sample Type | Frequency | Notes |
|---|--------------|--------|--------------------------------|------------------|-------------------------|-------------|-------|
| Bicarbonates (HCO ₃) | Monitor Only | mg/L | Calendar Month Maximum | Jan-Dec | 24-Hour Flow Composite | 1 x Month | |
| BOD, Carbonaceous 05 Day (20 Deg C) | 104.0 | kg/day | Calendar Month Average | Jan-Dec | 24-Hour Flow Composite | 3 x Week | |
| BOD, Carbonaceous 05 Day (20 Deg C) | 15 | mg/L | Calendar Month Average | Jan-Dec | 24-Hour Flow Composite | 3 x Week | |
| BOD, Carbonaceous 05 Day (20 Deg C) | 173.5 | kg/day | Maximum Calendar Week Average | Jan-Dec | 24-Hour Flow Composite | 3 x Week | |
| BOD, Carbonaceous 05 Day (20 Deg C) | 25 | mg/L | Maximum Calendar Week Average | Jan-Dec | 24-Hour Flow Composite | 3 x Week | |
| BOD, Carbonaceous 05 Day (20 Deg C) Percent Removal | 85 | % | Minimum Calendar Month Average | Jan-Dec | Calculation | 3 x Week | |
| Calcium, Total (as Ca) | Monitor Only | mg/L | Calendar Month Maximum | Jan-Dec | 24-Hour Flow Composite | 1 x Month | |
| Chloride, Total | Monitor Only | mg/L | Calendar Month Maximum | Jan-Dec | 24-Hour Flow Composite | 1 x Month | |
| Chlorine, Total Residual | 0.038 | mg/L | Daily Maximum | Jan-Dec | Grab | 1 x Day | 7 |
| Fecal Coliform, MPN or Membrane Filter 44.5C | 200 | #100ml | Calendar Month Geometric Mean | Apr-Oct | Grab | 3 x Week | |
| Flow | Monitor Only | mgd | Calendar Month Average | Jan-Dec | Measurement, Continuous | 1 x Day | 5 |
| Flow | Monitor Only | mgd | Calendar Month Maximum | Jan-Dec | Measurement, Continuous | 1 x Day | 5 |
| Flow | Monitor Only | MG | Calendar Month Total | Jan-Dec | Measurement, Continuous | 1 x Day | 5 |
| Hardness, Calcium & Magnesium, Calculated (as CaCO ₃) | Monitor Only | mg/L | Calendar Month Maximum | Jan-Dec | 24-Hour Flow Composite | 1 x Month | |
| Magnesium, Total (as Mg) | Monitor Only | mg/L | Calendar Month Maximum | Jan-Dec | 24-Hour Flow Composite | 1 x Month | |
| Mercury, Total (as Hg) | Monitor Only | ng/L | Calendar Quarter Maximum | Jan-Dec | Grab | 1 x Quarter | 4 |
| Nitrite Plus Nitrate, Total (as N) | Monitor Only | mg/L | Calendar Month Average | Apr, Sep | 24-Hour Flow Composite | 1 x Month | |
| Nitrogen, Ammonia, Total (as N) | 34.0 | kg/day | Calendar Month Average | Jun-Sep | 24-Hour Flow Composite | 3 x Week | |
| Nitrogen, Ammonia, Total (as N) | 5 | mg/L | Calendar Month Average | Jun-Sep | 24-Hour Flow Composite | 3 x Week | |
| Nitrogen, Kjeldahl, Total | Monitor Only | mg/L | Calendar Month Average | Apr, Sep | 24-Hour Flow Composite | 1 x Month | |
| Oxygen, Dissolved | 6.0 | mg/L | Calendar Month Minimum | Jun-Mar | Grab | 1 x Day | |
| pH | 9.0 | SU | Calendar Month Maximum | Jan-Dec | Grab | 1 x Day | 1 |
| pH | 6.0 | SU | Calendar Month Minimum | Jan-Dec | Grab | 1 x Day | 1 |
| Phosphorus, Total (as P) | 1.0 | mg/L | 12 Month Moving Average | Jan-Dec | 24-Hour Flow Composite | 3 x Week | |
| Phosphorus, Total (as P) | 2029.00 | kg/yr | 12 Month Moving Total | Jan-Dec | 24-Hour Flow Composite | 3 x Week | 8 |

| | | | | | | | |
|---|--------------|--------|--------------------------------|---------|------------------------|-----------|---|
| Potassium, Total (as K) | Monitor Only | mg/L | Calendar Month Maximum | Jan-Dec | 24-Hour Flow Composite | 1 x Month | |
| Salinity, Total | Monitor Only | mg/L | Calendar Month Maximum | Jan-Dec | 24-Hour Flow Composite | 1 x Month | |
| Sodium, Total (as Na) | Monitor Only | mg/L | Calendar Month Maximum | Jan-Dec | 24-Hour Flow Composite | 1 x Month | |
| Solids, Total Dissolved (TDS) | Monitor Only | mg/L | Calendar Month Maximum | Jan-Dec | 24-Hour Flow Composite | 1 x Month | |
| Solids, Total Suspended (TSS) | 208.0 | kg/day | Calendar Month Average | Jan-Dec | 24-Hour Flow Composite | 3 x Week | |
| Solids, Total Suspended (TSS) | 30 | mg/L | Calendar Month Average | Jan-Dec | 24-Hour Flow Composite | 3 x Week | |
| Solids, Total Suspended (TSS) | 312.0 | kg/day | Maximum Calendar Week Average | Jan-Dec | 24-Hour Flow Composite | 3 x Week | |
| Solids, Total Suspended (TSS) | 45 | mg/L | Maximum Calendar Week Average | Jan-Dec | 24-Hour Flow Composite | 3 x Week | |
| Solids, Total Suspended (TSS) Percent Removal | 85 | % | Minimum Calendar Month Average | Jan-Dec | Calculation | 3 x Week | |
| Specific Conductance | Monitor Only | umh/cm | Calendar Month Maximum | Jan-Dec | 24-Hour Flow Composite | 1 x Month | 1 |
| Sulfate, Total (as SO4) | Monitor Only | mg/L | Calendar Month Maximum | Jan-Dec | 24-Hour Flow Composite | 1 x Month | |

Proposed permit effluent limits

Technology based effluent limits

The TSS and pH limits are technology based effluent limits (TBELs) and are developed for achieving secondary treatment standards. These limits are specified in 40 CFR §133.102 and Minn. R. 7050.0211 and Minn. R. 7053.0215.

State Discharge Restrictions (SDR)

The fecal coliform and calendar month average-total phosphorus limits are state discharge restrictions. These limits are specified in Minn. R. 7053.0215, subp. 1.

Water quality based limits

The CBOD₅, ammonia-nitrogen, dissolved oxygen total residual chlorine, and the 12-month moving total-total phosphorus limits are WQBELs. WQBELs are established to meet applicable water quality standards. Under 40 CFR 122.44 (d)(1)(i), all dischargers who have reasonable potential to cause or contribute to an exceedance of a water quality standard are required to have a WQBEL. Additional information regarding the development of the WQBELs is included below.

Background for Reasonable Potential Review

The discharge is located on the Long Prairie River which is a class 2B, 3C, 4A, 4B, 5, and 6 water. The discharger is proposing to expand to an average wet weather design flow (AWW) from a current AWW flow of 1.836 million gallons per day (mgd) to a new AWW flow of 2.48 mgd. The average dry weather design flow (ADWF) would expand from 0.53 mgd to 2.01 mgd. The dry weather design flow is used to calculate WQBELs under critical low flow stream conditions. The low flow condition is defined by the once in ten year weekly average flow (7Q₁₀), which is determined to be 4.42 mgd (6.84 cfs). The dilution ratio is 2.2:1, river low flow to effluent flow at the proposed ADWF.

The analysis below is based on data submitted to date for the currently permitted discharge and for projected effluent concentrations of the proposed expanded discharge.

Reasonable Potential for Chemical Specific Pollutants (40CFR122.44(d)(1))

Federal regulations require MPCA to evaluate the discharge to determine whether the discharge has the reasonable potential (RP) to cause or contribute to a violation of water quality standards. The Agency must use acceptable technical procedures, accounting for variability (coefficient of variation, or CV), when determining whether the effluent causes, has RP to cause, or contribute to an excursion of an applicable water quality standard. Projected effluent quality (PEQ) derived from effluent monitoring data is compared to Preliminary Effluent Limits (PELs) determined from mass balance inputs. Both determinations account for effluent variability. Where PEQ exceeds the PEL, there is RP to cause or contribute to a water quality standards excursion. When RP is indicated, the permit must contain a WQBEL for that pollutant. Because there is no chemical specific data in the current discharge monitoring reports (DMRs) or priority pollutant scans, RP evaluations cannot be done.

The facility has submitted three priority pollutant scans since 2015. None of the priority pollutant scans have values that would justify more intense monitoring or the need for any additional effluent limit.

The MPCA performed a RP analysis on the current discharge for mercury, chloride, TDS, specific conductance, bicarbonate and hardness (Image below). None of these parameters had RP to exceed a water quality standard. Mercury RP was not calculated because all mercury values were below the 6.9 ng/L water quality standard.

No WQBEL is needed for any of these parameters in the new permit.

| | A | B | C | E | F | G | I |
|----|-------------------|-------------------------|----------------|----------------|---------------|----------------|----------------|
| 6 | Parameter | | Chloride-2 | Bicarb | Hardness | TDS | Spec |
| 7 | ParameterUnits | | mg/L | mg-HCO3/L | mg-CaCO3/L | mg/L | us/cm |
| 8 | ADWL | Million Liters per Day | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| 9 | ADW | MGD | 0.53 | 0.53 | 0.53 | 0.53 | 0.53 |
| 10 | 7Q10L | Million Liters per Day | 16.71 | 16.71 | 16.71 | 16.71 | 16.71 |
| 11 | 7Q10M | MGD | 4.42 | 4.42 | 4.42 | 4.42 | 4.42 |
| 12 | 7Q10 | CFS | 6.84 | 6.84 | 6.84 | 6.84 | 6.84 |
| 13 | Stream Hardness | mg-CaCO3/L | NA | NA | NA | NA | NA |
| 14 | Effluent Hardness | mg-CaCO3/L | NA | NA | NA | NA | NA |
| 15 | BackConc | Stream Classification ↓ | 23.20 | 255.14 | 337.64 | 297.49 | 242.27 |
| 16 | cs | | 230 | 250 | 500 | 700 | 700 |
| 17 | ms | | 860.00 | NA | NA | NA | NA |
| 18 | FAV | | 1720.00 | NA | NA | NA | NA |
| 19 | WLAcS | | 1955.23 | 305.00 | 1854.46 | 4057.93 | 4518.55 |
| 20 | WLAms | | 7840.93 | | | | |
| 21 | CV | | 0.2356559 | 0.63346565 | 0.150997133 | 0.1495599 | 0.1495599 |
| 22 | VAR | | 0.0540465 | 0.33738519 | 0.022544096 | 0.022121665 | 0.022121665 |
| 23 | StdDevIn | | 0.2324791 | 0.58084868 | 0.150146914 | 0.148733538 | 0.148733538 |
| 24 | Duration | Days | 4.00 | 30.00 | 30.00 | 30.00 | 30.00 |
| 25 | Conv | | 7.31 | 5.45 | 7.46 | 8.24 | 8.35 |
| 26 | u | | 7.29 | 5.29 | 7.45 | 8.23 | 8.34 |
| 27 | LTAcS | | 1498.22 | 234.82 | 1739.96 | 3809.67 | 4242.11 |
| 28 | u1 | | 8.43 | | | | |
| 29 | LTAmS | | 4690.95 | | | | |
| 30 | CvsMs | | TRUE | | | | |
| 31 | DailyMaxLimit | | 2504.28 | 766.01 | 2439.59 | 5325.13 | 5929.59 |
| 32 | s2n | | 0.03 | 0.18 | 0.01 | 0.01 | 0.01 |
| 33 | sn | | 0.17 | 0.43 | 0.11 | 0.11 | 0.11 |
| 34 | uN | | 7.30 | 5.37 | 7.46 | 8.24 | 8.35 |
| 35 | MoAvLimit | | 1940.26 | 433.04 | 2061.30 | 4506.25 | 5017.76 |
| 39 | MaxValue | | 1180.00 | 309.00 | 444.00 | 1670.00 | 2480.00 |
| 40 | MaxvalueFlag | | Greater | Greater | Less | Greater | Greater |
| 41 | DataP | Quantity | 55.00 | 39.00 | 39.00 | 39.00 | 39.00 |
| 42 | LesstenDP | | No | No | No | No | No |
| 43 | PEQPValue | | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| 44 | S | | 0.23 | 0.58 | 0.15 | 0.15 | 0.15 |
| 45 | Pn | | 0.95 | 0.93 | 0.93 | 0.93 | 0.93 |
| 46 | PEQFCalc | | 1.01 | 1.12 | 1.03 | 1.03 | 1.03 |
| 47 | PEQflag1 | | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 |
| 48 | PEQflag2 | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| 49 | PEQ | | 1187.85 | 346.62 | 457.38 | 1719.85 | 2554.04 |
| 50 | DailyMaxT | | FALSE | FALSE | FALSE | FALSE | FALSE |
| 51 | MonthlyT | | FALSE | FALSE | FALSE | FALSE | FALSE |
| 52 | FAVT | | FALSE | FALSE | FALSE | FALSE | FALSE |
| 53 | RP | | No | No | No | No | No |
| 54 | | | | | | | |

Expanded Discharge

As part of the proposed expansion and due to an increase in chloride loading amounts, degradation to water quality cannot be avoided but will be prudently and feasibly minimized; existing and beneficial uses will be protected; and the proposed project will implement the best technology in practice and treatment. After a review of available data, the MPCA concluded that while there would be an increase in chloride concentrations in the Long Prairie River at river 7Q10 flows, and would constitute degraded water quality with respect to chloride, the increase in chloride concentrations would not cause a violation of the 230 mg/L chloride water quality standard at 7Q10 flow conditions. Since the expansion will not cause or contribute to a violation of the 230 mg/L chloride water quality standard, a chloride limit is not required to be placed in the Facility's NPDES/SDS permit. The proposed expansion will not cause degradation to water quality for any parameter other than chloride because the Facility is accepting mass cap limits for the following conventional pollutants: CBOD₅, TSS, ammonia-nitrogen, fecal coliform, pH, dissolved oxygen, total residual chlorine, and total phosphorus. By accepting mass cap limits for these parameters, the Facility will not discharge an increase pollutant load for any of them. A copy of the complete anti-degradation review and MPCA conclusions is available upon request.

Reasonable Potential for chronic Whole Effluent Toxicity (WET)

The Permittee currently has a limit of 3.4 TUc that is associated with the SD001 monitoring station in the permit. The Permittee submitted nine chronic WET tests since 2012 and all of them have < 1.0 TUc. Minn. R. 7052.0240, Subp. 5 requires effluent monitoring data be evaluated against a potential WET effluent limitation to determine if an effluent limitation is needed (RP). Since the effluent had no measurable toxicity the facility does not have RP for WET.

Until the Facility initiates operation of the expanded Facility, the existing TUc limit will remain 3.4 TUc. Once the expanded Facility is operational, the TUc effluent limit will be adjusted downward from 3.4 TUc to 3.2TUc to protect the receiving water from chronic toxicity at the new ADWDF. WET monitoring in this permit will occur on an annual basis.

Total Phosphorus (TP) WQBEL

Federal law [40 CFR 122.44(d)] restricts mass increases of pollutants upstream of an impaired water and requires water quality based effluent limits (WQBEL) to be established for pollutant parameters where it is found that a NPDES/SDS discharger has the reasonable potential (RP) to cause or contribute to an excursion above a state water quality standard (WQS). An effluent limits analysis was completed on the Long Prairie Wastewater Treatment Facility (WWTF) to determine if the WWTF's discharge has RP to cause or contribute to an exceedance of a state water quality standard or contribute to any downstream impairment. As a result of the analysis, total phosphorus effluent limits were established for the Long Prairie WWTF to ensure protection of downstream waters and to comply with Lake Eutrophication Standards and State Discharge Restrictions. A summary of the effluent limits analysis and the assigned total phosphorus limit(s) are included below. For additional details regarding the effluent limits analysis, please see the "*Total phosphorus effluent limit review: Long Prairie River Watershed*". A copy of the MPCA memorandum is available upon request.

Lake Eutrophication Standards

Effluent from the Long Prairie Wastewater Treatment Facility (WWTF) is discharged upstream of Lake Pepin which currently exceeds numeric lake eutrophication standards (LES). Lake Pepin is located in the Central Ecoregion. Summer average total phosphorus (TP) and chlorophyll-a (Chl-a) are <100 µg/L (0.100 mg/L) and <18 µg/L (0.018 mg/L), respectively. Eutrophication standards for lakes, shallow lakes, and reservoirs can be found in Minn. R. 7050.0222 (<https://www.revisor.mn.gov/rules/?id=7050.0222>). Federal law [40 CFR 122.44(d)] restricts mass increases upstream of impaired waters and states that NPDES/SDS permits for all dischargers that have the reasonable potential (RP) to cause or contribute to downstream impaired waters are required to contain water quality effluent based limits (WQBELs) derived from the water quality standard (WQS). When determining RP, the Code of Federal Regulations also states that MPCA shall use procedures which account for existing controls on point and nonpoint sources of pollution. Permittees are found to have RP for TP if: 1) they discharge upstream of a nutrient impaired waterbody, 2) they discharge at TP

concentrations greater than the ambient target, and 3) there is no geographical barrier capable of trapping a significant mass of nutrients between the outfall and the impairment. For all reasons listed above, the Long Prairie WWTF is found to have RP for TP upstream of Lake Pepin. Therefore, the Long Prairie WWTF is assigned a 12-month moving total mass TP WQBEL as a result of the Waste Load Allocation (WLA) derived from the WQS. Draft WLAs in combination with other point and nonpoint allocations are calculated to achieve the nutrient/eutrophication WQS for Lake Pepin.

Currently there are more than 500 dischargers upstream of Lake Pepin with RP. The gross WLA was split between the affected dischargers, in consideration of facility size and type. More detail regarding the method used to split the gross WLA into individual WLAs is provided in the MPCA memorandum for the watershed effluent limit analysis.

The TP effluent limit assigned to the Long Prairie WWTF to protect for eutrophication impairment in Lake Pepin is 2,029 kg/yr as a 12-month moving total.

River Eutrophication Standards (RES)

The Long Prairie River Watershed analysis demonstrated that the Long Prairie Wastewater Treatment Facility (WWTF) does not have reasonable potential (RP) to cause or contribute to a river eutrophication impairment in the Long Prairie River Watershed, under permitted effluent conditions. As such, the existing limits (2,029 kg/yr and 1.0 mg/L) in the permit are sufficient to protect the immediate receiving waters.

Detailed information regarding the total phosphorus (TP) limit evaluation can be found in the 2016 MPCA memorandum titled, *"Total Phosphorus effluent limit review: Long Prairie River Watershed."* A copy of the MPCA memorandum is available upon request from the MPCA.

State Discharge Restrictions (SDR)

The permit includes a SDR limit of 1.0 mg/L, January-December, Calendar Month Average limit. This limit was assigned pursuant to Minn. R. 7053.0255.

Proposed Limits and Monitoring Requirements for Surface Discharge Station SD001

| Parameter | Discharge Limitations | | Monitoring Requirements | | | |
|--|--------------------------------------|--------------------------------------|------------------------------|-------------|-------------------------|----------|
| | Limit and Units | | Frequency | Sample Type | Effective Period | |
| Bicarbonates (HCO₃) | Monitor only. calendar month maximum | | Milligrams per liter | 1 x month | 24-Hour Flow Composite | Jan-Dec |
| BOD, Carbonaceous 05 Day (20 Deg C) | 104 calendar month average | 173.5 maximum calendar week average | kilograms per day | 3 x week | 24-Hour Flow Composite | Jan-Dec |
| BOD, Carbonaceous 05 Day (20 Deg C) | 15 calendar month average | 25 maximum calendar week average | milligrams per liter | 3 x week | 24-Hour Flow Composite | Jan-Dec |
| BOD, Carbonaceous 05 Day (20 Deg C) % Removal | 85 minimum calendar month average | | percent | 1 x month | Calculation | Jan-Dec |
| Calcium, Total (as Ca) | Monitor only. calendar month maximum | | Milligrams per liter | 1 x month | 24-Hour Flow Composite | Jan-Dec |
| Chloride, Total | Monitor only. calendar month maximum | | Milligrams per liter | 1 x month | 24-Hour Flow Composite | Jan-Dec |
| Chlorine, Total Residual | 0.038 daily maximum | | Milligrams per liter | 1 x day | Grab | Jan-Dec |
| Fecal Coliform, MPN or Membrane Filter 44.5C | 200 calendar month geometric mean | | organisms per 100 milliliter | 3 x week | Grab | Apr-Oct |
| Flow | Monitor only. calendar month total | | million gallons | 1 x day | Measurement, Continuous | Jan-Dec |
| Flow | Monitor only. calendar month average | Monitor only. calendar month maximum | million gallons per day | 1 x day | Measurement, Continuous | Jan-Dec |
| Hardness, Calcium & Magnesium, Calculated (as CaCO₃) | Monitor only. calendar month maximum | | Milligrams per liter | 1 x month | 24-Hour Flow Composite | Jan-Dec |
| Magnesium, Total (as Mg) | Monitor only. calendar month maximum | | Milligrams per liter | 1 x month | 24-Hour Flow Composite | Jan-Dec |
| Mercury, Dissolved (as Hg) | Monitor only. calendar month maximum | | nanograms per liter | 1 x month | Grab | May, Sep |
| Mercury, Total (as Hg) | Monitor only. calendar month maximum | | nanograms per liter | 1 x month | Grab | May, Sep |
| Nitrite Plus Nitrate (N) | Monitor only. calendar month average | | milligrams per liter | 1 x month | 24-Hour Flow Composite | Jan-Dec |
| Nitrogen, Ammonia (N) | 34 calendar month average | | Kilograms per day | 1 x month | 24-Hour Flow Composite | Jun-Sep |
| | 5 calendar month average | | Milligrams per liter | | | |
| Nitrogen, Ammonia (N) | Monitor only. calendar month average | | Milligrams per liter | 1 x month | 24-Hour Flow Composite | Oct-May |
| Nitrogen, Kjeldahl, Total | Monitor only. calendar month average | | milligrams per liter | 1 x month | 24-Hour Flow Composite | Jan-Dec |
| Nitrogen, Total (N) | Monitor only. calendar month average | | milligrams per liter | 1 x month | 24-Hour Flow Composite | Jan-Dec |
| Oxygen, Dissolved | Monitor only. calendar month minimum | | Milligrams per liter | 1 x day | Grab | Apr-May |
| Oxygen, Dissolved | 6.0 calendar month minimum | | milligrams per liter | 1 x day | Grab | Jun-Mar |
| pH | 6.0 calendar month minimum | 9.0 calendar month maximum | standard units | 1 x day | Grab | Jan-Dec |
| Phosphorus, Total (P) | Monitor only. calendar month average | | kilograms per day | 1 x week | 24-Hour Flow Composite | Jan-Dec |
| Phosphorus, Total (P) | Monitor only. calendar month average | | milligrams per liter | 1 x week | 24-Hour Flow Composite | Jan-Dec |
| Phosphorus, Total (P) | 1.0 12-month moving average | | milligrams per liter | 1 x month | Calculation | Jan-Dec |
| Phosphorus, Total (P) | 2,029 12-month moving total | | kilograms per year | 1 x month | Calculation | Jan-Dec |
| Potassium, Total (as K) | Monitor only. calendar month maximum | | milligrams per liter | 1 x month | 24-Hour Flow Composite | Jan-Dec |
| Sodium, Total (as Na) | Monitor only. calendar month maximum | | Milligrams per liter | 1 x month | 24-Hour Flow Composite | Jan-Dec |
| Solids, Total Dissolved (TDS) | Monitor only. calendar month average | | milligrams per liter | 1 x month | 24-Hour Flow Composite | Jan-Dec |

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| | | | | | | |
|--|--------------------------------------|-----------------------------------|----------------------|-----------|------------------------|----------|
| Solids, Total Suspended (TSS) | 208 calendar month average | 312 maximum calendar week average | kilograms per day | 3 x week | 24-Hour Flow Composite | Jan-Dec |
| Solids, Total Suspended (TSS) | 30 calendar month average | 45 maximum calendar week average | milligrams per liter | 3 x week | 24-Hour Flow Composite | Jan-Dec |
| Solids, Total Suspended (TSS) % Removal | 85 minimum calendar month average | | percent | 1 x month | Calculation | Jan-Dec |
| Solids, Total Suspended (TSS), grab (Mercury) | Monitor only. calendar month maximum | | milligrams per liter | 1 x month | Grab | May, Sep |
| Specific Conductance | Monitor only. calendar month maximum | | Micromhos per cm | 1 x month | 24-Hour Flow Composite | Jan-Dec |
| Sulfate, Total (as SO₄) | Monitor only. calendar month maximum | | Milligrams per liter | 1 x month | 24-Hour Flow Composite | Jan-Dec |

Additional requirements

Pollutant minimization plans (PMP)

Mercury Minimization Plan (MMP)/Mercury

The draft permit contains requirements for mercury monitoring and for submittal of a MMP or an updated MMP. These requirements were added in response to the U.S. Environmental Protection Agency's approval of the Minnesota state-wide Mercury TMDL plan.

This permit contains requirements for mercury monitoring. These requirements were added in response to the U.S. Environmental Protection Agency's approval of the Minnesota statewide Mercury Total Maximum Daily Load (TMDL) plan. More information on the TMDL can be found on the MPCA internet site at <http://www.pca.state.mn.us/wfhy9ef>. Specific mercury monitoring requirements are found in the Surface Discharge Station sections of this permit. Those requirements may include sampling for TSS via a grab sample taken at the same time as the total and dissolved mercury grab samples are taken.

Nitrogen

Nitrogen is a pollutant that can negatively impact the quality of Minnesota's water resources, including water used for drinking. Studies have shown that nitrogen in lakes and streams has a toxic effect on aquatic life such as fish. Like phosphorus, nitrogen is a nutrient that promotes algae and aquatic plant growth often resulting in decreased water clarity and oxygen levels. In September 2014, the MPCA completed the final draft of the [Statewide Nutrient Reduction Strategy](http://www.pca.state.mn.us/zihy1146) (<http://www.pca.state.mn.us/zihy1146>) which identifies goals and milestones for nitrogen reductions for both point and non-point nitrogen sources within Minnesota. To gain a better understanding of the current nitrogen concentrations and loadings received by and discharged from the Facility additional effluent nitrogen monitoring has been added to the Permit. This monitoring has been added in accordance with Minnesota Statutes Chapter 115.03.

The draft Permit includes influent monitoring for nitrite plus nitrate-nitrogen, total Kjeldahl nitrogen, and total nitrogen at a frequency of once per month. The draft Permit includes effluent monitoring for Ammonia Nitrogen, Nitrite plus Nitrate-Nitrogen, Total Kjeldahl Nitrogen, Total Nitrogen and Total Dissolved Solids at a frequency of once per month for the five-year term of the Permit. The previously permitted June-September ammonia nitrogen limits have been carried forward into this permit reissuance.

This additional monitoring will provide the data necessary to develop a better understanding of the total nitrogen concentrations and loadings that is currently being received and discharged from municipal and industrial wastewater treatment plants. Once a more extensive total nitrogen data set is established nitrogen reduction work can begin to achieve the necessary reductions to meet the goal of a 20% reduction in total nitrogen loads from point source dischargers by 2025. The changes and/or increases in total nitrogen monitoring in wastewater Permits as a result of the Statewide Nutrient Reduction Strategy is outlined in the Minnesota NPDES Wastewater Permit Nitrogen Monitoring Implementation Plan document located on the MPCA wastewater Permits webpage at: <http://www.pca.state.mn.us/index.php/water/water-types-and-programs/wastewater/wastewater-permits/index.html>.

Salty Discharge Monitoring

In recent years, the MPCA staff have become aware of issues associated with "salty discharges" from industrial and municipal discharges. As a result, the MPCA staff began to request additional monitoring for these facilities and also began assigning effluent limits to facilities that already have data which shows RP to exceed a water quality standard.

Industrial and municipal facilities that have a stream to effluent dilution ratio of less than 5:1 or that have salty waste streams from concentrated treatment technologies (e.g. reverse osmosis, ion exchange, membrane filtration, cooling tower blowdown, etc.) or that have food processing industries using density based (saline) sorting processes are required to complete the analyses for the following salty parameters: chloride, calcium and magnesium hardness as

CaCO₃, specific conductance, total dissolved salts (solids), sulfates as SO₄, bicarbonates (HCO₃), sodium, calcium, magnesium, and potassium. These analyses are required to be sampled once per month from the effluent waste stream.

Since the Facility has four SIUs that discharge processing wastewater, the draft permit contains the above-mentioned requirements on each of the monitored stations. If salty discharge monitoring results indicate a reasonable potential for any of the parameters to exceed water quality standards, the Permittee will be required to submit an application for permit modification. If necessary, a compliance schedule will be added to the permit to ensure progress towards meeting the water quality standards.

The Permittee may request a reduction in monitoring for the salty discharge parameters if after a minimum of two years of data collection the monitoring data does not indicate a reasonable potential to exceed a water quality standard.

Compliance schedules

There is a compliance –construction schedule included in the draft permit for voluntary construction work to support the expansion of the Facility's operations.

The City of Long Prairie is planning an expansion of the Long Prairie Wastewater Treatment Facility (Facility) as additional treatment capacity is needed. Two of the significant industrial users from which the Facility accepts influent wastewater are expanding their production resulting in an increase in wastewater sent to the Facility for treatment. The Facility is proposing to expand their operation to accommodate an increase in average wet weather design flow (AWWF) from the existing 1.82 million gallons per day (mgd) to 2.479 mgd. The proposed expansion also includes the addition of three new aeration basins and the conversion of the existing aeration basins into anoxic basins with the second basin being capable of operating as a swing zone. The upgrade will also include a new control building that includes a blower room, pump room, electrical and mechanical room and chemical feed rooms for carbon and alkalinity addition.

Refer to the "Compliance Construction Schedule" in the draft permit for further information on the construction schedule.

Variances

There are no variances in the draft permit.

Industrial Stormwater Permit Coverage within the NPDES Permit – No Exposure

On April 5, 2015, the Industrial Stormwater General Permit (MNR050000) was reissued. This permit addresses stormwater discharges associated with industrial activity for facilities that discharge stormwater to waters of the state, including Municipal Separate Storm Sewer Systems. The General Permit also addresses stormwater discharges associated with industrial activities that provide on-site infiltration of industrial stormwater discharges associated with the facility.

For both industrial and municipal wastewater treatment facilities, in lieu of obtaining coverage under both the General Permit and the individual NPDES permit, the MPCA has added the necessary industrial stormwater requirements language and limits and monitoring to this permit so that coverage under this NPDES permit alone will cover both permits. This Facility has applied for and obtained a Certificate of No Exposures; therefore, this permit includes language regarding the No Exposure exclusion.

Total facility requirements (TFR)

All NPDES/SDS Permits issued by the state of Minnesota contain certain conditions that remain the same, regardless of the size, location, or type of discharge. The standard conditions satisfy the requirements are outlined in 40 CFR § 122.41, Minn. R. 7001.0150, and 7001.1090. These conditions are listed in the Total Facility Requirements chapter of the

NPDES/SDS Permit. These requirements cover a wide range of areas, including recordkeeping, sampling, equipment calibration, equipment maintenance, reporting, facility upsets, bypasses, solids handling, changes in operation, facility inspections, and permit modification and reissuance.

Antidegradation and anti-backsliding

Changes to the facility may result in an increase in pollutant loading to surface waters or other causes of degradation to surface waters. If a change to the facility will result in a net increase in pollutant loading or other causes of degradation that exceed the maximum loading authorized through conditions specified in the existing permit, the changes to the facility are subject to antidegradation requirements found in Minn. R. 7050 to 7050.0335.

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

Any point source discharger of sewage, industrial, or other wastes for which a NPDES permit has been issued by the agency that contains effluent limits more stringent than those that would be established by Minn. R. 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.

An anti-degradation review was completed as part of the proposed facility upgrade/expansion. As part of the expansion and anti-degradation review, the Facility is accepting mass cap limits for all the conventional pollutants (CBOD₅, TSS, ammonia-nitrogen, fecal coliform, pH, dissolved oxygen, total residual chlorine, and total phosphorus). The anti-degradation analysis and subsequent review demonstrate that water quality degradation for chloride cannot be avoided, but will be prudently and feasibly minimized; existing and beneficial uses will be protected; and the proposed activity is necessary to accommodate important economic or social changes in the geographic area in which degradation of existing high water quality is degraded. The proposed project will implement the best technology in practice and treatment. Therefore, the MPCA has made a preliminary determination that the project will satisfy anti-degradation standards in Minnesota Rules 7050.0265. A copy of the complete anti-degradation review and MPCA conclusions is available upon request.