



CITY OF MARSHALL
Special City Council Meeting
A g e n d a
Tuesday, June 28, 2022 at 4:00 PM
City Hall, 344 West Main Street

CALL TO ORDER

OLD BUSINESS

NEW BUSINESS

- [1.](#) Discuss City Response to MPCA Notification of new Wastewater Permit Limits.

ADJOURNMENT

Disclaimer: These agendas have been prepared to provide information regarding an upcoming meeting of the Common Council of the City of Marshall. This document does not claim to be complete and is subject to change.



CITY OF MARSHALL AGENDA ITEM REPORT

Meeting Date:	Tuesday, June 28, 2022
Category:	INFORMATION ONLY
Type:	INFO
Subject:	Discuss City Response to MPCA Notification of new Wastewater Permit Limits.
Background Information:	<p>The purpose of this work session is to educate and inform the City Council about the status of our Wastewater Facility's National Pollution Discharge Elimination System (NPDES) discharge permit renewal and staff's proposed response and direction with the MPCA.</p> <p>Marshall's NPDES permit has been expired since 5/1/2019 and we have continued to comply with the requirements in the 2014 permit while the MPCA finished up on new standards for our receiving waters. On 4/1/2022 we received our New Limits Notification letter. This is a precursor to a draft of our new permit, and it outlines six new parameters that we will need to meet.</p> <p>Staff has been working with Bolton & Menk and MESERB to answer the questions raised in the letter and to express our concerns to the MPCA. Our response letter is due back to the MPCA by July 31st, 2022 and will be considered as our draft permit is drawn up.</p> <p>Enclosed with this memo is the MPCA New Limits Letter, the draft proposed city response letter, and a draft letter to be sent to our Significant Industrial Users (SIUs). The proposed new limits may impact our local industries, so we need to keep them informed. SIUs included: Viessman Trucking, Turkey Valley Farms, SF Global Supply Chain (Schwans), Archer Daniels Midland, and Lyon County Landfill.</p>
Fiscal Impact:	The requirements that ultimately are included in our next NPDES permit can have huge financial impacts for our facility and local industries.
Alternative/ Variations:	No alternative actions recommended.
Recommendation:	that the Council approve the response letter to the MPCA and the letter to be sent to the Significant Industrial Users.

April 1, 2022

VIA EMAIL

 The Honorable Robert J. Byrnes
 Mayor, City of Marshall
 344 W Main St
 Marshall, MN 56258

 RE: New Limit Notification
 Marshall Wastewater Treatment Facility
 NPDES/SDS Permit No. MN0022179
 T112N, R41W, Section 33, Marshall, Lyon County, Minnesota

Dear Mayor Byrnes:

As discussed in our phone call on April 1, 2022, the Minnesota Pollution Control Agency (MPCA) has completed a review of recent monitoring data collected from the city of Marshall (Permittee) Wastewater Treatment Facility (Facility) and downstream receiving waters as part of the permit reissuance process. Based on the review of this data, the MPCA has determined the need for new water quality based effluent limits (WQBELs) to be placed in the reissued permit to ensure compliance with water quality standards. The Facility will be required to meet the following new total chloride, total copper, total phosphorus, total dissolved solids (TDS), sulfate, and chronic whole effluent toxicity (WET) effluent limits included in Table 1 below.

Table 1. Summary of new effluent limits for the Marshall WWTF

Parameter	Limit	Season	Limit type	Basis
Total chloride ¹	261 mg/L	Jan-Dec	Calendar Month Average	WQBEL
	302 mg/L		Daily Maximum	
Total Copper ¹	42 ug/L	Jan-Dec	Calendar Month Average	WQBEL
	26 ug/L		Daily Maximum	
Total phosphorus	13.3 kg/day	Jun-Sept	Calendar Month Average	WQBEL
Chronic WET	1.2 TUc	Test battery results due semi-annually. Limit becomes effective following completion of the Toxicity Reduction Evaluation (TRE).		WQBEL
Sulfate	769 mg/L	Jan-Dec	Calendar Month Average	WQBEL
	991 mg/L		Daily Maximum	
TDS	3,771 mg/L	Jan-Dec	Calendar Month Average	WQBEL
	4,338 mg/L		Daily Maximum	

¹ The current permit contains a schedule of compliance to attain compliance with the final effluent limits as soon as possible but no later than April 1, 2024.

Information requested pertaining to the existing schedules of compliance total chloride:

The current permit contains a schedule of compliance (SOC) for the total chloride limits listed in Table 1. The SOC required the permittee to attain compliance with the final limits “as soon as possible but no later than April 1, 2024.”

The most recent Chloride Reduction Progress Report, submitted on June 25, 2021, indicates that the permittee plans to continue source reduction and control efforts and plans to follow the requirements of the SOC contained in the current permit. The remaining SOC requirements are as follows:

- 1. By 90 days after the issuance of the next permit, the permittee shall submit a Chloride Compliance Update based on any revisions of the final effluent limits and effectiveness of the chloride reduction program. If results of the chloride reduction plan are not adequate to meet the reissued effluent limits, the Permittee shall develop a Chloride Compliance Plan/Wastewater Facility Plan that details the steps, including but not limited to; a combination of available treatment technologies, pollution prevention activities, and an estimate of associated costs of construction and operation of the available technologies. The Plan shall also include a proposed timeline that could lead to final compliance with the water quality based effluent limits by April 1, 2024.*
- 2. One year after the reissuance of the next permit, the permittee shall submit a Chloride Plan/Wastewater Facility Plan.*
- 3. Within 60 days of submitting the Wastewater Facility Plan, the permittee shall, in concert with the MPCA, determine if implementation of the Compliance Plan will lead to compliance with the final chloride limits. If it is determined that compliance is not technically or economically feasible, the permittee may submit an application for a variance by 180 days prior to the expiration of the next reissued permit.*

Since the Facility has not yet demonstrated the ability to comply with the final chloride limits, the MPCA intends to include the existing chloride SOC in the reissued permit, editing the interim dates and requirements as needed to align with the fact that the City has already constructed a central softening WTP and to align with the actual expected permit reissuance date and the final compliance date of April 1, 2024. **Within thirty days after receipt of this letter, the City shall provide an updated schedule of actions to attain compliance with the total chloride limit as soon as possible but no later than April 1, 2024.**

Information requested pertaining to the existing SOC for total copper:

The current permit contains a SOC for the total copper limits listed in Table 1. The SOC required the permittee to attain compliance with the final limits “as soon as possible but no later than April 1, 2024.”

The most recent Copper Compliance Progress Report, submitted on June 25, 2021, indicated that following the optimization of the polyphosphate feed system at the water treatment plant (WTP) in 2014, the Facility has consistently maintained compliance with proposed copper limits listed in Table 1. This agrees with recent MPCA review of the Facility’s data.

Since the Facility has been complying with both the total copper daily maximum limit of 42 micrograms per liter (ug/L) and total copper monthly average limit of 26 ug/L since the end of 2014/beginning of 2015, the MPCA will consider the “as soon as possible” date for compliance with these limits to be the issuance date of the reissued permit. Therefore, the MPCA intends to include these limits as final limits effective immediately upon the reissuance of the permit.

Information requested pertaining to the newly proposed RES based total phosphorus limit:

The 13.3 kilograms per day (kg/day) total phosphorus limit is based on the River Eutrophication Standards (RES) and was set to protect aquatic life and recreation from problems associated with excessive nutrients (Minn. R. 7050.0222). General information regarding RES limits can be found at: <https://www.pca.state.mn.us/water/phosphorus-wastewater>.

The WQBEL of 13.3 kg/day is based off a five-year long-term average wasteload allocation (WLA) of 6.32 kg/day, June-September. The long-term average WLA of 6.32 kg/day is based on achieving RES 150 µg/L in the Redwood and Minnesota Rivers. The MPCA projects that by complying with the 13.3 kg/day monthly limit, the Marshall Facility will have to average 6.32 kg/day, June-September, over a five-year/long-term period. After the five year permit cycle, the MPCA will evaluate the facility’s discharge and the downstream water quality. And if necessary, adjust the facility’s 13.3 kg/day monthly average limit down to ensure that the long-term average WLA of 6.32 kg/day is achieved during the June-September effective period.

This new limit will apply in addition to the Facility’s existing lake eutrophication based total phosphorus limit of 4,973 kilograms per year, effective January through December and expressed as a 12-month moving total. The Facility will also need to continue coverage under the Minnesota River Basin General Phosphorus Permit (MNG420000) until the new limit is incorporated into the permit and the Facility is compliant with the new limit. At that point, the Facility can be excluded from coverage under MNG420000.

Regarding the proposed 13.3 kg/day total phosphorus limit, upon initial review by the MPCA it appears that the Facility can comply with the new limit under current conditions but the MPCA is concerned that the Facility will not be able to comply at design flow. **Please provide a response to the items below.** The MPCA suggests that you work with your engineer to develop this response.

1. An evaluation of the Facility’s capability of maintaining compliance with the limit during the next 5-year permit term,
2. Estimated increases in flow and loading over the next 5-year permit term,
3. Projected population/industry growth in the next 5-year permit term,
4. Projected operating conditions that when reached would likely result in noncompliance with the limit, and
5. Timeline and milestone events that will trigger the need to take action to assure that the Facility will remain in compliance.

If it is determined by your response that the Facility cannot comply with the final limit immediately and that actions need to be taken by the Permittee to ensure compliance with the final limit the reissued permit may include a compliance schedule or special conditions that provide the time necessary to ensure compliance with the final limit. The timeframe to complete the actions must be determined to be as soon as possible in accordance with CFR 122.47.

Discussion of Chronic Whole Effluent Toxicity (WET) Limit

As part of the permit reissuance process, a reasonable potential evaluation was done on the chronic WET tests to determine if there was cause to exceed the WET monitoring threshold value of 1.2 Toxic Unit chronic (TUC). Because the Facility has entered into a Toxicity Reduction Evaluation (TRE), the Facility will now have a chronic WET limit. This chronic WET limit is 1.2 TUC and is a daily maximum limit, which must be met at the outfall SD001. This chronic WET limit will come into effect after the Facility has completed the TRE. The Facility must receive confirmation from the MPCA that the TRE is finalized before the Facility can end the TRE process.

During the TRE process, the Facility will provide one chronic WET test each year to the MPCA in order to fulfill their chronic WET requirement. Once the TRE has been completed, the Facility will be required to perform semiannual chronic WET tests for the remainder of the life of the permit after the TRE is finalized and approved by the MPCA. If the permittee fails any of the chronic WET tests, they must do two chronic WET repeat tests and pass both chronic WET tests to not enter back into a TRE process.

Information on a SOC pertaining to the newly proposed TDS and sulfate limits:

Upon initial review by the MPCA it appears that the Facility cannot comply with the final TDS or sulfate limits under current conditions or at design flow.

If the permittee chooses to pursue a SOC for any of the proposed limits, the permittee must provide a response outlining the actions that will be taken to achieve compliance with each of the final limits and the timeframe needed to complete each action. The timeframe to complete the actions must be determined to be as soon as possible in accordance with CFR 122.47. The as soon as possible time frame is a case specific determination and, when adequately justified, has ranged from 1 to 20 years.

Please provide a response to the items below. The MPCA suggests that you work with your engineer to develop this response. The MPCA will use your response to develop a compliance schedule or special conditions to be included in the reissued permit that identifies the actions that need to be taken, the timeframes for completion of each action, and the final date to attain compliance with the new limit(s).

1. An evaluation of the Facility's ability to comply with the new limit(s).
2. A summary of the current debt service on existing municipal wastewater infrastructure (Minn. Stat. 115.456). A form to record and report the financial data necessary for this evaluation can be found at: <https://www.pca.state.mn.us/sites/default/files/wq-wwprm7-70b.xls>.

3. A description of the steps/actions that will need to be taken to meet the limit(s) as soon as possible. Possible steps/actions include, but are not limited to:
 - a. when a facility plan will be submitted,
 - b. when plans and specs will be submitted,
 - c. when construction will begin, and
 - d. when initiation of operation of the upgraded Facility will occur
4. A proposed compliance schedule that will end in achieving compliance with the new limit(s) as soon as possible. The schedule shall include:
 - a. dates associated with each step/action that will be completed, and
 - b. the final as soon as possible date when compliance can be achieved

Information on applying for a variance(s) to the newly proposed TDS and/or sulfate limits:

The reasonable potential analysis conducted as part of the permit reissuance process indicated reasonable potential to cause or contribute to the excursion above a water quality standard for both total dissolved salts (measured as total dissolved solids) and total sulfate. The effluent limits in Table 1 were derived from water quality standards pursuant to 40 CFR 122.44 (d)(1)(vii)(A).

If the permittee finds that complying with the final limits for TDS and/or sulfate would result in significant widespread economic and social impacts, the permittee can use this form to apply for a sulfate variance or to apply for a sulfate and TDS variance:

<https://www.pca.state.mn.us/sites/default/files/wq-wwprm2-10b.docx>. It should be noted that a TDS variance application would qualify as a “streamlined chloride variance.” If the permittee chooses to apply for a TDS only variance, the permittee can utilize the streamlined chloride variance application located here: <https://www.pca.state.mn.us/sites/default/files/wq-wwprm2-10e.docx>. A sulfate variance would not be considered a streamlined variance and would be subject to a full variance application and the applicable variance fee.

The permittee may choose to use this alternative analysis as supporting information if it develops a variance application for sulfate to aid in the financial analysis: *Analyzing Alternatives for Sulfate Treatment in Municipal Wastewater*:

<https://www.pca.state.mn.us/sites/default/files/wq-rule4-15pp.pdf>.

Additional information relating to variances can be found on the MPCA’s Water Quality Variance webpage: <https://www.pca.state.mn.us/water/water-quality-variances>

Nitrogen Standard Development Information

Please be aware that the MPCA is currently in the process of adopting nitrate and ammonia water quality standards for protection of aquatic life. Early indications suggest that the MPCA will likely recommend a new nitrogen limit in your next permit action, following completion of the nitrate and ammonia water quality standard rulemaking. The MPCA encourages the Permittee to consider the potential for future nitrogen limits in their next reissuance as they plan/design any facility upgrades.

Additional information on the MPCA’s review and development of the effluent limits for your Facility can be found in the effluent limits documents enclosed with this letter.

The Honorable Robert J. Byrnes

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April 1, 2022

Please provide the requested information within thirty days of the date of this letter. The MPCA will use this information to develop your draft NPDES/SDS Permit. A compliance schedule or special conditions may be included in the draft permit, as appropriate, to provide you with the time needed to meet the new limits. Additional information may be requested to help justify that actions completed are within the earliest possible timeframe that compliance can be achieved.

If you have any questions or would like to set up a meeting with MPCA staff regarding the new effluent limits, the requested information, or any of the information enclosed with this letter, please contact me at ashley.wahl@state.mn.us or at 507-476-4264.

Sincerely,

Ashley Wahl

Ashley Wahl
Environmental Specialist
Municipal Division

Enclosures: Redwood River Basin Phosphorus Review v1.2
[Understanding your RES Limit Factsheet](#)

cc: Scott Truedson, Facility Superintendent (electronic)
Scott Pryzbilla, Assistant Facility Superintendent, Marshall WWTF (electronic)
Karla Drown, Finance Director, City of Marshall (electronic)
Jon Peterson, Bolton & Menk (electronic)
Abram Peterson, MPCA
Brad Gillingham, MPCA
Paul Kimman, MPCA
Dann White, MPCA
Gbolahan Gbadamosi, MPCA
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DRAFT

June 20, 2022

Ashley Wahl, Environmental Specialist
Municipal Division
Minnesota Pollution Control Agency
504 Fairgrounds Rd #200
Marshall, MN 56258
ashley.wahl@state.mn.us

RE: Effluent Limitations Summary
Marshall Wastewater Treatment Facility
NPDES/ SDS Permit No. MN0022179

Dear Ms. Wahl:

Thank you for the opportunity to review the proposed effluent limits for the City of Marshall, Minnesota. The following is a summary of comments regarding the pre-public notice documents for the Marshall WWTF National Pollutant Discharge Elimination (NPDES) permit reissuance. Review comments were provided by the City of Marshall, Bolton & Menk, Inc., and the Minnesota Environmental Science and Economic Review Board (MESERB).

Information requested pertaining to the existing schedules of compliance (SOC) total chlorides:

The City of Marshall has implemented significant capital improvements at the water treatment facility to provide residents of the community with softer water. The next step in reducing the level of chlorides in the wastewater stream is to reduce the amount of salts discharged by individual water softener units. The City has received a 2022 grant from the MPCA to provide rebates for high-efficiency water softeners and to provide the public with education on how to adjust water softener cycles to match the softer water being produced by the recently upgraded WTP or purchase new more efficient water softeners to help in the reduction of chlorides being discharged. The rebate program is being rolled out this summer with implementation over the next year.

In addition to addressing the chlorides discharged by individual water softener units, the City is also working with its Significant Industrial Users (SIU) in identifying and reducing the levels of chloride being discharged by industries to the wastewater system.

These mitigation efforts represent a significant investment by the community in reducing the chloride levels in the wastewater. The City believes that the rebate program and public education process will require additional time to get the public to buy in on the effectiveness of the systemwide changes. In addition, the significant industrial users need time to make adjustments to their systems in order to minimize the economic impact on these customers while mitigating the discharge of chlorides. The City believes that additional time may be required beyond the current compliance date of April 1, 2024, to implement these changes. As such, the City will begin the process of applying for a variance in case additional time is needed.

Information requested pertaining to the existing SOC for total copper:

The April 1, 2022 letter has the Calendar Month Average and Daily Maximum concentrations reversed from the levels listed in the permits. We believe the Calendar Month Average should be listed as 26 ug/L, and the Daily maximum listed as 42 ug/L.

As you noted in the April 1, 2022 letter, the WWTF effluent has consistently met the total copper limits since late 2014 when the Marshall Public Utilities adjusted the polyphosphate feed at the water treatment facility to provide better corrosion protection throughout the city's water distribution system. The City is requesting that the Reasonable Potential Evaluation for Copper be reviewed, and the copper limits ultimately removed from the NPDES permit.

Information requested pertaining to the newly proposed RES-based total phosphorus (TP) limit:

As noted in your letter, the WWTF will be able to meet the proposed mass limit of 13.3 kg/day of total phosphorous discharge under current operating conditions. In order to evaluate the conditions which may cause issues with meeting this limit, or with meeting any future proposed limit, the City will need to complete comprehensive planning for the community and prepare an updated facility plan for the wastewater treatment facility.

Discussion of chronic Whole Effluent Toxicity (WET) limit:

The City will continue with the Toxicity Reduction Evaluation process and will perform tests as required.

Information on SOC pertaining to newly proposed TDS and sulfate limits:

The City is currently working with its SIUs to determine the impact of SIU contributions on the sulfate levels in the WWTF effluent and potential mitigation measures. Once this evaluation is completed, the City will complete an evaluation of alternatives for the proposed limit. At this time, the City requests until April 1, 2024, to determine if the sulfate limit can be met or if the City will be requesting a variance.

The Reasonable Potential Evaluation that was completed for TDS utilized all data available. Of all the data points used, only four of the points were obtained after the upgrades to the water plant were brought online and optimized. Sampling since shows levels well below the proposed limit. The City is requesting that TDS remain in a monitor-only status and another Reasonable Potential Evaluation be completed.

MPCA
June 20, 2022
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In conclusion, please consider the enclosed comments and requests prior to preparing the pre-draft NPDES permit for City review. The City would appreciate the opportunity to discuss the proposed effluent limits and necessary improvements associated with compliance at your convenience.

Sincerely,

Scott Truedson
Wastewater Treatment Facility Superintendent

cc: Robert J. Byrnes, Mayor of Marshall
Kelly Yahnke, Bolton & Menk, Inc.
Kris Swanson, Bolton & Menk, Inc.
Jon Peterson, Bolton & Menk, Inc.



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June 23, 2022

First name, Last name
Address
Marshall, MN 56258

Our 2014 NPDES permit expired on May 1st, 2019, and we have continued to operate under it while the MPCA worked on our new permit. On April 1st, 2022, we received our New Limits Notification letter which lists new effluent limits that our facility will have to meet. Among the new limits the following maybe of concern to your facility.

Total chloride	261 mg/L Calendar Month Average 302 mg/L Daily Maximum
Sulfate	769 mg/L Calendar Month Average 991 mg/L Daily Maximum
Total Dissolved Solids (TDS)	3,771 mg/L Calendar Month Average 4,338 mg/L Daily Maximum

We are in discussions with MPCA regarding the timing of when these new limits will take effect. Once these new limits take effect, we will no longer be able to receive industrial wastewater that would drive us into non-compliance.

We are going to begin weekly testing of all our Significant Industrial Users (SIUs) to determine their contributions. Once we have collected sufficient data, we will be setting up meetings to discuss modifications to SIU agreements to meet compliance. As part of this process, each SIU will need to work within their facility to determine how to best meet these new limits.

If you have any questions, feel free to contact me at 507-537-6776.

Thank you for your cooperation

Sincerely,

Scott Truedson
Facility Superintendent