

NPDES Permit No. IL0028347

Notice No. GY:24022401.GY

Public Notice Beginning Date: May 16, 2024

Public Notice Ending Date: June 17, 2024

National Pollutant Discharge Elimination System (NPDES)  
Permit Program

PUBLIC NOTICE/FACT SHEET  
of  
Draft Modified NPDES Permit to Discharge into Waters of the State

Public Notice/Fact Sheet Issued By:

Illinois EPA  
Division of Water Pollution Control  
Permit Section  
1021 North Grand Avenue East  
Post Office Box 19276  
Springfield, Illinois 62794-9276  
217/782-0610

Name and Address of Discharger:

Village of Deerfield  
465 Elm Street  
Deerfield, Illinois 60015

Name and Address of Facility:

Deerfield Wastewater Reclamation Facility  
1045 Hackberry Road  
Deerfield, Illinois 60015  
(Lake County)

The Illinois Environmental Protection Agency (IEPA) has made a tentative determination to issue a NPDES Permit to discharge into the waters of the state and has prepared a draft Permit and associated fact sheet for the above named discharger. The Public Notice period will begin and end on the dates indicated in the heading of this Public Notice/Fact Sheet. All comments on the draft Permit and requests for hearing must be received by the IEPA by U.S. Mail, carrier mail or hand delivered by the Public Notice Ending Date. Interested persons are invited to submit written comments on the draft Permit to the IEPA at the above address. Commentors shall provide his or her name and address and the nature of the issues proposed to be raised and the evidence proposed to be presented with regards to those issues. Commentors may include a request for public hearing. Persons submitting comments and/or requests for public hearing shall also send a copy of such comments or requests to the Permit applicant. The NPDES Permit and notice numbers must appear on each comment page.

The application, engineer's review notes including load limit calculations, Public Notice/Fact Sheet, draft Permit, comments received, and other documents are available for inspection and may be copied at the IEPA between 9:30 a.m. and 3:30 p.m. Monday through Friday when scheduled by the interested person.

If written comments or requests indicate a significant degree of public interest in the draft Permit, the permitting authority may, at its discretion, hold a public hearing. Public notice will be given 45 days before any public hearing. Response to comments will be provided when the final Permit is issued. For further information, please call Getie Yilma at 217/782-0610.

The following water quality and effluent standards and limitations were applied to the discharge:

Title 35: Environmental Protection, Subtitle C: Water Pollution, Chapter I: Pollution Control Board and the Clean Water Act were applied in determining the applicable standards, limitations and conditions contained in the draft Permit.

The applicant is engaged in treating domestic and industrial wastewater for the Village of Deerfield.

The length of the Permit is approximately 5 years.

The main discharge number is B01. The seven day once in ten year low flow (7Q10) of the receiving stream, West Fork of the North Branch of the Chicago River is 0 cfs.

The design average flow (DAF) for the facility is 3.5 million gallons per day (MGD) and the design maximum flow (DMF) for the facility is 8.0 MGD. Treatment consists of screening, grit removal, activated sludge, final clarifiers, UV disinfection, excess flow treatment, aerobic digestion, sludge dewatering and sludge holding tanks.

This Reissued Permit does not increase the facility's DAF, DMF, concentration limits, and/or load limits.

The IEPA will accept comments on the following draft modification to the Permit:

1. The Nutrient Assessment Reduction Plan (NARP) due included in Special Condition 24 has been extended to December 31, 2025, to collect representative instream data from the East Fork of the North Branch of the Chicago River (Skokie River).

The Permittee shall participate in the North Branch Chicago River Watershed Workgroup (NBWW) during the term of this Permit. The Permittee shall work with other watershed members of the NBWW to determine the most cost-effective means to remove dissolved oxygen (DO) and offensive condition impairments in the North Branch Chicago River Watershed to the extent feasible. The NBWW shall continue comprehensive water quality monitoring program consisting of bioassessment monitoring, flow monitoring, and water column and sediment chemistry sampling and analysis and modify these programs as necessary to meet NARP objectives.

Federal law requires that permits for excess flow discharges include the 7-day and 30-day SS and BOD5 concentration limitations and 85 percent removal requirements (unless the IEPA reduces or eliminates the percent removal requirements in accordance with 133.103(a) or (d)) specified in 40 CFR 133.102. IEPA is using an alternative effluent concentration limit based on the intermittent nature of the discharge. EPA is exercising its discretion to not object to this permit, but that EPA expects that future permits will include the 7-day SS and BOD5 concentration limits; and also the 85 percent removal requirements (unless the IEPA reduces or eliminates the percent removal requirements in accordance with 133.103(a) or (d)) for any excess flow discharge to receiving waters.

Application is made for the existing discharge(s) which are located in Lake County, Illinois. The following information identifies the discharge point, receiving stream and stream classifications:

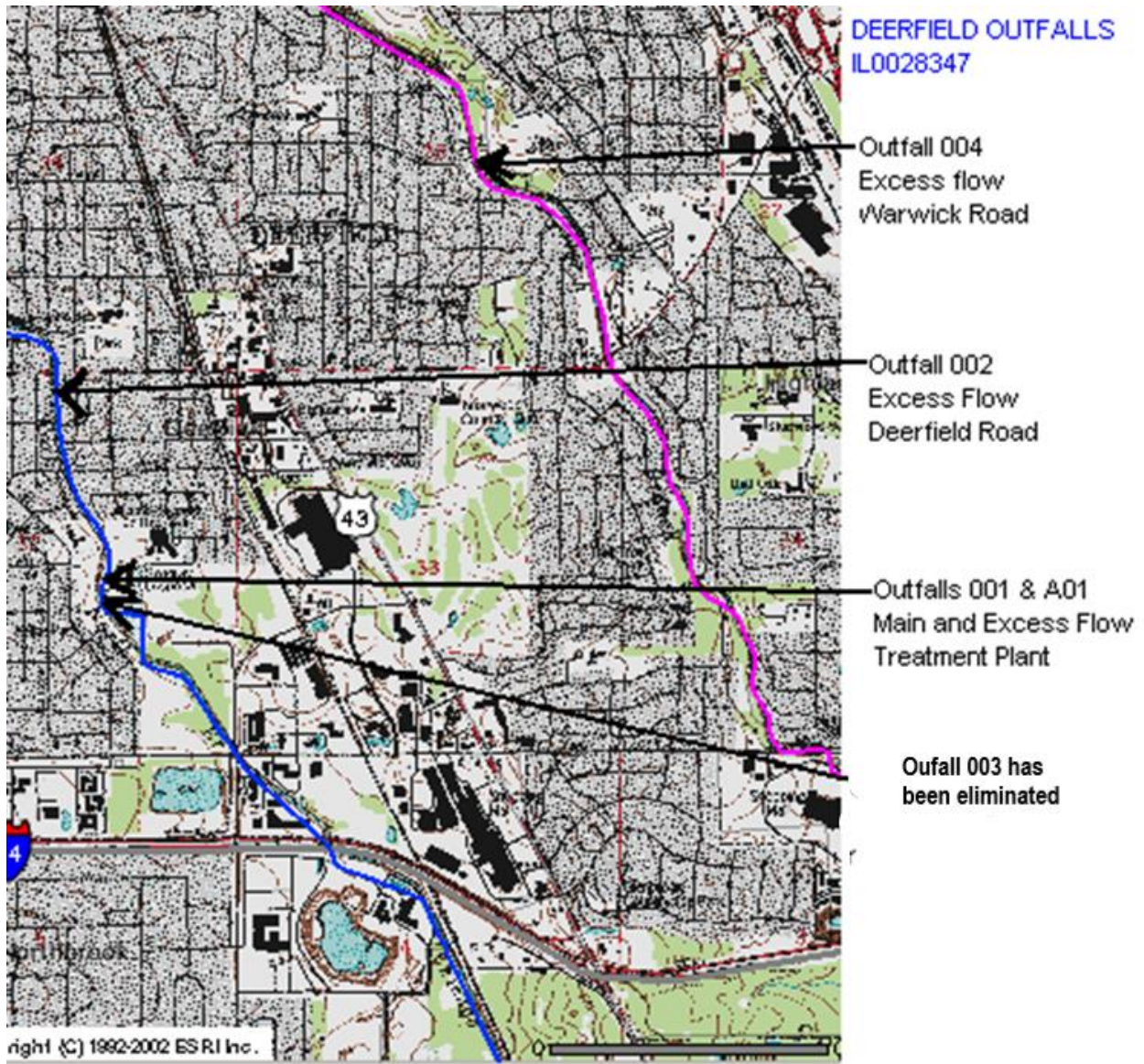
<u>Discharge Number</u>	<u>Receiving Stream</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Stream Classification</u>	<u>Integrity Rating</u>
B01 (STP Outfall)	West Fork of the North Branch of the Chicago River	42° 09' 31" North	87° 51' 17" West	General Use	E
A01 (Excess Flow)	West Fork of the North Branch of the Chicago River	42° 09' 31" North	87° 51' 17" West	General Use	E
001 (Combined Outfall)	West Fork of the North Branch of the Chicago River	42° 09' 31" North	87° 51' 17" West	General Use	E
002 (Deerfield Road)	West Fork of the North Branch of the Chicago River	42° 10' 02" North	87° 51' 26" West	General Use	E
004 (Warwick Road)	Middle Fork of the North Branch of the Chicago River	42° 10' 29" North	87° 50' 09" West	General Use	D

To assist you further in identifying the location of the discharge(s) please see the map on next page.

The stream segment (Waterbody segment HCCB-05) receiving the discharge from outfall(s) B01 is on the 303(d) list of impaired waters.

The following parameters have been identified as the pollutants causing impairment:

<u>Potential Causes</u>	<u>Uses Impaired</u>
Aldrin, alteration in stream-side or littoral vegetative cover (non-pollutant), changes in stream depth and velocity (non-pollutant), chloride, DDT, endrin, hexochlorobenzine, dissolved oxygen (non-pollutant), phosphorus and total suspended solids (TSS)	Aquatic life
Fecal coliform	Primary contact recreation



The discharge(s) from the facility is (are) proposed to be monitored and limited at all times as follows:

Discharge Number(s) and Name(s): B01 STP Outfall

Load limits computed based on a design average flow (DAF) of 3.5 MGD (design maximum flow (DMF) of 8.0 MGD).

The effluent of the above discharge(s) shall be monitored and limited at all times as follows:

Parameter	LOAD LIMITS lbs/day			CONCENTRATION LIMITS mg/L			Regulation
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum	
CBOD <sub>5</sub> **	292 (667)		584 (1334)	10		20	35 IAC 304.120 40 CFR 133.102
Suspended Solids**	350 (801)		701 (1601)	12		24	35 IAC 304.120 40 CFR 133.102
pH	Shall be in the range of 6 to 9 Standard Units						35 IAC 304.125
Fecal Coliform	Daily Maximum shall not exceed 400 per 100 mL (May through October)						35 IAC 304.121
Chlorine Residual						0.05	35 IAC 302.208
Ammonia Nitrogen:							
March	76 (173)	155 (354)	234 (534)	2.6	5.3	8.0	35 IAC 355 and 35 IAC 302
April-October	44 (100)		88 (200)	1.5		3.0	
Nov.-Feb.	117 (267)		234 (534)	4.0		8.0	
Total Phosphorus (as P)	29 (67)			1.0			35 IAC 309.146
Total Nitrogen (as N)	Monitor only						35 IAC 309.146
Chloride	Monitor only						35 IAC 309.146
Dissolved Phosphorus	Monitor Only						35 IAC 309.146
Nitrate/Nitrite	Monitor Only						35 IAC 309.146
Total Kjeldahl Nitrogen (TKN)	Monitor Only						35 IAC 309.146
Alkalinity	Monitor Only						35 IAC 309.146
Temperature	Monitor Only						35 IAC 309.146
Specific Conductivity	Monitor Only						35 IAC 309.146
				Monthly Avg. not less than	Weekly Avg. not less than	Daily Minimum	
Dissolved Oxygen							
March-July				N/A	6.0	5.0	35 IAC 302.206
August-February				5.5	4.0	3.5	

\*Load Limits are calculated by using the formula:  $8.34 \times (\text{Design Average and/or Maximum Flow in MGD}) \times (\text{Applicable Concentration in mg/L})$

\*\*BOD<sub>5</sub> and Suspended Solids (85% removal required): In accordance with 40 CFR 133, the 30-day average percent removal shall not be less than 85 percent.

This Permit contains an authorization to treat and discharge excess flow as follows:

Discharge Number(s) and Name(s): A01 Excess Flow Outfall (Flow in excess of 5,556 gpm)

<u>Parameter</u>	<u>CONCENTRATION LIMITS (mg/L)</u>		<u>Regulation</u>
	<u>Daily Maximum</u>		
BOD <sub>5</sub>	Monitor Only		35 IAC 309.146
Suspended Solids	Monitor Only		35 IAC 309.146
Ammonia Nitrogen (as N)	Monitor Only		35 IAC 309.146
Total Phosphorus (as P)	Monitor Only		35 IAC 309.146

Discharge Number(s) and Name(s): 001 Combined Discharge from A01 and B01 outfall

The effluent of the above discharge(s) shall be monitored and limited at all times a follows:

<u>Parameter</u>	<u>CONCENTRATION LIMITS (mg/L)</u>		<u>Regulation</u>
	<u>Monthly Average</u>	<u>Weekly Average</u>	
Fecal Coliform	Daily maximum shall not exceed 400 per 100 mL		35 IAC 304.121
BOD <sub>5</sub>	30	45	40 CFR 133.102
Suspended Solids	30	45	40 CFR 133.102
pH	Shall be in the range of 6 to 9 standard units		35 IAC 304.125
Chlorine Residual	0.75		35 IAC 302.208
Ammonia Nitrogen (as N)	Monitor only		75 IAC 355 and 35 IAC 302
Total Phosphorus (as P)	Monitor only		35 IAC 309.146
Dissolved Oxygen	Monitor only		35 IAC 302.206

This Permit contains an authorization to treat and discharge excess flow as follows:

Discharge Number(s) and Name(s): 002 - Deerfield Road Excess Flow Discharge  
004 - Warwick Road Excess Flow Discharge

<u>Parameter</u>	<u>CONCENTRATION LIMITS (mg/L)</u>		<u>Regulation</u>
	<u>Monthly Average</u>		
CBOD <sub>5</sub>	*		40 CFR 133.102
Suspended Solids	*		40 CFR 133.102
Fecal Coliform	Daily Maximum Shall Not Exceed 400 per 100 mL		35 IAC 304.121
pH	Shall be in the range of 6 to 9 Standard Units		35 IAC 304.125
Chlorine Residual	0.75		35 IAC 304.208
Ammonia Nitrogen (N)	Monitor Only		--
Total Phosphorus (as P)	Monitor Only		35 IAC 309.146
Dissolved Oxygen	Monitor Only		35 IAC 309.146

Discharge Number(s) and Name(s): 002 - Deerfield Road Excess Flow Discharge (continued from the previous Page)  
004 - Warwick Road Excess Flow Discharge

\*Concentration Limits (L) shall be determined by the following equation:

$$L = -15/23 (D) + 49.565$$

Where D = number of days of discharge per month

L = monthly average effluent limitations for BOD5 and Suspended Solids in mg/L

This draft Permit also contains the following requirements as special conditions:

1. Reopening this Permit to include different final effluent limitations.
2. Operation of the facility by or under the supervision of a certified operator.
3. Submission of the operational data in a specified form and at a required frequency at any time during the effective term of this Permit.
4. More frequent monitoring requirement without Public Notice.
5. Prohibition against causing or contributing to violations of water quality standards.
6. Recording the monitoring results on Discharge Monitoring Report Forms using one such form for each outfall each month and submitting the forms to IEPA each month.
7. Provisions of 40 CFR Section 122.41 (m) & (n).
8. Effluent sampling point location.
9. Controlling the sources of infiltration and inflow into the sewer system.
10. Seasonal fecal coliform limits.
11. Monitoring for arsenic, barium, cadmium, hexavalent chromium, total chromium, copper, available cyanide, total cyanide, fluoride, dissolved iron, total iron, lead, manganese, mercury, nickel, oil, phenols, selenium, silver and zinc is required to be conducted semi-annually beginning 3 months from the effective date.
12. Submission of annual fiscal data.
13. Submission of semiannual reports indicating the quantities of sludge generated and disposed.
14. Reopening of this Permit to include revised effluent limitations based on a Total Maximum Daily Load (TMDL) or other water quality study.
15. The Permittee is required to perform biomonitoring tests in the 18<sup>th</sup>, 15<sup>th</sup>, 12<sup>th</sup> and 9<sup>th</sup> months prior to the expiration date of the permit, and to submit the results of such tests to the IEPA within one week of receiving the results from the laboratory.
16. A requirement for participation in the North Branch Chicago River Watershed Workgroup (NBWW).
17. Monitoring for total phosphorus, dissolved phosphorus, nitrate/nitrite, total kjeldahl nitrogen (TKN), ammonia, total nitrogen (calculated), alkalinity, specific conductivity, chloride and temperature once a month.
18. Capacity, Management, Operations and Maintenance (CMOM) requirements.
19. Submission of a Phosphorus Removal Feasibility Study (PRFS).
20. Reasonable potential analysis and mixing study plan.
21. Submission of a Phosphorus Discharge Optimization Plan.
22. Compliance Schedule for meeting 1.0 mg/L phosphorus limit.
23. Requirement to meet 0.5 mg/L phosphorus limit by January 1, 2030.
24. Nutrient Assessment Reduction Plan Requirements.
25. BOD<sub>5</sub> and Suspended Solids Effluent Report.

NPDES Permit No. IL0028347

Illinois Environmental Protection Agency

Division of Water Pollution Control

1021 North Grand Avenue East

Post Office Box 19276

Springfield, Illinois 62794-9276

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Modified (NPDES) Permit

Expiration Date: May 31, 2025

Issue Date: May 20, 2020  
Effective Date: June 1, 2020  
Modification Date:

Name and Address of Permittee:

Village of Deerfield  
465 Elm Street  
Deerfield, Illinois 60015

Facility Name and Address:

Deerfield Wastewater Reclamation Facility  
1045 Hackberry Road  
Deerfield, Illinois 60015  
(Lake County)

Receiving Waters: West Fork of the North Branch of the Chicago River

In compliance with the provisions of the Illinois Environmental Protection Act, Title 35 of the Ill. Adm. Code, Subtitle C, Chapter I, and the Clean Water Act (CWA), the above-named Permittee is hereby authorized to discharge at the above location to the above-named receiving stream in accordance with the Effluent Limitations, Monitoring, and Reporting requirements; Special Conditions and Attachment H Standard Conditions attached herein.

Permittee is not authorized to discharge after the above expiration date. In order to receive authorization to discharge beyond the expiration date, the Permittee shall submit the proper application as required by the Illinois Environmental Protection Agency (IEPA) not later than 180 days prior to the expiration date.

Brant D. Fleming, P.E.  
Manager, Municipal Unit, Permit Section  
Division of Water Pollution Control

BDF:GY:24022401.GY

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Effluent Limitations, Monitoring, and Reporting

FINAL

Discharge Number(s) and Name(s): B01 STP Outfall

Load limits computed based on a design average flow (DAF) of 3.5 MGD (design maximum flow (DMF) of 8.0 MGD).

From the effective date of this Permit until the expiration date, the effluent of the above discharge(s) shall be monitored and limited at all times as follows:

Parameter	LOAD LIMITS lbs/day DAF (DMF)*			CONCENTRATION LIMITS mg/L			Sample Frequency	Sample Type
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum		
Flow (MGD)							Continuous	
CBOD <sub>5</sub> ** <sup>1</sup>	292 (667)		584 (1334)	10		20	1 Day/Week	Composite
Suspended Solids <sup>1</sup>	350 (801)		701 (1601)	12		24	1 Day/Week	Composite
pH	Shall be in the range of 6 to 9 Standard Units						1 Day/Week	Grab
Fecal Coliform***	Daily Maximum shall not exceed 400 per 100 mL (May through October)						1 Day/Week	Grab
Chlorine Residual						0.05	***	Grab
Ammonia Nitrogen: As(N)								
March	76 (173)	155(354)	234 (534)	2.6	5.3	8.0	1 Day/Week	Composite
April –October	44 (100)		88 (200)	1.5		3.0	1 Day/Week	Composite
Nov.-Feb.	117 (267)		234 (534)	4.0		8.0	1 Day/Week	Composite
Total Phosphorus (as P)****	29 (67)			1.0			1 Day/ Month <sup>2</sup>	Composite
Total Nitrogen	Monitor only						1 Day/ Month	Composite
Chloride	Monitor only						1 Day/Month	Composite
Dissolved Phosphorus	Monitor Only						1 Day/Month	Composite
Nitrate/Nitrite	Monitor Only						1 Day/Month	Composite
Total Kjeldahl Nitrogen (TKN)	Monitor Only						1 Day/Month	Composite
Alkalinity	Monitor Only						1 Day/Month	Grab
Temperature	Monitor Only						1 Day/Month	Grab
Specific Conductivity	Monitor Only						1 Day/Month	Grab
				Monthly Average not less than	Weekly Average not less than	Daily Minimum		
Dissolved Oxygen								
March-July				N/A	6.0	5.0	1 Day/Week	Grab
August-February				5.5	4.0	3.5	1 Day/Week	Grab

\*Load limits based on design maximum flow shall apply only when flow exceeds design average flow.

\*\*Carbonaceous BOD<sub>5</sub> (CBOD<sub>5</sub>) testing shall be in accordance with 40 CFR 136.

\*\*\*See Special Condition 10.

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Effluent Limitations, Monitoring, and Reporting

FINAL

Discharge Number(s) and Name(s): B01 STP Outfall (Continued)

\*\*\*\*See Special Condition 22.

<sup>1</sup>BOD<sub>5</sub> and Suspended Solids (85% removal required): In accordance with 40 CFR 133, the 30-day average percent removal shall not be less than 85 percent. The percent removal need not be reported to the IEPA on DMRs but influent and effluent data must be available, as required elsewhere in this Permit, for IEPA inspection and review. For measuring compliance with this requirement, 5 mg/L shall be added to the effluent CBOD<sub>5</sub> concentration to determine the effluent BOD<sub>5</sub> concentration.

Percent removal is a percentage expression of the removal efficiency across a treatment plant for a given pollutant parameter, as determined from the 30-day average values of the raw wastewater influent concentrations to the facility and the 30-day average values of the effluent pollutant concentrations for a given time period.

<sup>2</sup>Upon the effective date of the phosphorus effluent limits, the sampling frequency shall increase to 1 day/week.

Flow shall be reported on the Discharge Monitoring Report (DMR) as monthly average and daily maximum.

Fecal Coliform shall be reported on the DMR as a daily maximum value.

pH shall be reported on the DMR as minimum and maximum value.

Chlorine Residual shall be reported on DMR as daily maximum value.

Dissolved oxygen shall be reported on the DMR as a minimum value.

Total Phosphorus shall be reported on the DMR as a daily maximum and monthly average value.

Total Nitrogen shall be reported on the DMR as a daily maximum value. Total Nitrogen is the sum total of Total Kjeldahl Nitrogen, Nitrate, and Nitrite.

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Effluent Limitations, Monitoring, and Reporting

FINAL

Discharge Number(s) and Name(s): A01 Excess Flow Outfall (flows in excess of 5,556 gpm)

These flow facilities shall not be utilized until the main treatment facility is receiving its design maximum flow (DMF)\* (flow in excess of 5,556 gpm).

From the effective date of this Permit until the expiration date, the effluent of the above discharge(s) shall be monitored and limited at all times as follows:

<u>Parameter</u>	<u>CONCENTRATION LIMITS (mg/L)</u>		<u>Sample Frequency</u>	<u>Sample Type</u>
	<u>Daily Maximum</u>			
Total Flow (MG)			Daily When Discharging	Continuous
BOD <sub>5</sub>	Monitor Only		Daily When Discharging	Grab
Suspended Solids	Monitor Only		Daily When Discharging	Grab
Ammonia Nitrogen (As N)	Monitor Only		Daily When Discharging	Grab
Total Phosphorus (as P)	Monitor Only		Daily When Discharging	Grab

\*An explanation shall be provided in the comments section of the DMR should these facilities be used when the main treatment facility is not receiving Design Maximum Flow (DMF). The explanation shall identify the reasons the main facility is at a diminished treatment capacity. Additionally, the Permittee shall comply with the provisions of Special Condition 7.

The duration of each A01 discharge and rainfall event (i.e., start and ending time) including rainfall intensity shall be provided in the comment section of the DMR.

Total flow in million gallons shall be reported on the Discharge Monitoring Report (DMR) in the quantity maximum column. The main treatment facility flows at the time that A01 Excess Flow facilities are first utilized shall be reported in the comment section of the DMR in gallons per minute.

Fecal Coliform shall be reported on the DMR as daily maximum value.

BOD<sub>5</sub> and Suspended Solids shall be reported on the DMR as a daily maximum value.

Ammonia Nitrogen shall be reported on the DMR as a daily maximum value.

Total Phosphorus shall be reported on the DMR as a monthly average and daily maximum value.

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Effluent Limitations, Monitoring, and Reporting

FINAL

Discharge Number(s) and Names(s): 001 Combined Discharge from A01 and B01 Outfall\*

From the effective date of this Permit until the expiration date, the effluent of the above discharge(s) shall be monitored and limited at all time as follows:

<u>Parameter</u>	<u>CONCENTRATION LIMITS (mg/L)</u>		<u>Sample Frequency</u>	<u>Sample Type</u>
	<u>Monthly Average</u>	<u>Weekly Average</u>		
Total Flow (MG)			Daily When A01 is Discharging	Continuous
Fecal Coliform	Daily maximum shall not exceed 400 per mL		Daily When A01 is Discharging	Grab
BOD <sub>5</sub> **	30	45	Daily When A01 is Discharging	Grab
Suspended Solids **	30	45	Daily When A01 is Discharging	Grab
pH	Shall be in the range of 6 to 9 Standard Units		Daily When A01 is Discharging	Grab
Chlorine Residual	0.75		****	Grab
Ammonia Nitrogen (as N)***	Monitor only		Daily When A01 is Discharging	Grab
Total Phosphorus (as P)	Monitor only		Daily When A01 is Discharging	Grab
Dissolved Oxygen***	Monitor only		Daily When A01 is Discharging	Grab

\*An explanation shall be provided in comment section of the DMR should these facilities be used when the main treatment facility is not receiving Design Maximum Flow (DMF). The explanation shall identify the reasons the main facility is at a diminished treatment capacity. Additionally, the Permittee shall comply with the provisions of Special Condition 7.

\*\* BOD<sub>5</sub> and Suspended Solids (85% removal required) For Discharge No. 001: In accordance with 40 CFR 133, the 30-day average percent removal shall not be less than 85 percent. The percent removal need not be reported to the IEPA on DMRs but influent and effluent data must be available, as required elsewhere in this Permit, for IEPA inspection and review. For measuring compliance with this requirement, 5 mg/L shall be added to the effluent CBOD<sub>5</sub> concentration to determine the effluent BOD<sub>5</sub> concentration.

Percent removal is a percentage expression of the removal efficiency across a treatment plant for a given pollutant parameter, as determined from the 30-day average values of the raw wastewater influent concentrations to the facility and the 30-day average values of the effluent pollutant concentrations for a given time period.

\*\*\*See Special Condition 20.

\*\*\*\*Any use of chlorine to control slime growths, odors or as an operational control, etc. shall not exceed the limit of 0.75 mg/L (daily maximum) total residual chlorine in the effluent. Sampling is required on a daily grab basis during the chlorination process.

Total flow in million gallons shall be reported on the Discharge Monitoring Report (DMR) in the quantity maximum column.

Report the number of days of discharge in the comments section of the DMR.

BOD<sub>5</sub> and Suspended Solids shall be reported on the DMR as a monthly and weekly average concentration.

pH shall be reported on the DMR as a minimum and a maximum.

Chlorine Residual shall be reported on the DMR as monthly average.

Total Phosphorus shall be reported on the DMR as a monthly average and daily maximum value.

A monthly average value for ammonia shall be computed for each month that A01 discharges beginning one month after the effective date of the permit. A monthly average concentration shall be determined by combining data collected from 001 and B01 (only B01 data from days when A01 is not discharging) for the reporting period. These monitoring results shall be submitted to the Agency on the DMR. Ammonia Nitrogen shall also be reported on the DMR as a maximum value.

A monthly and weekly average value for Dissolved Oxygen (DO) shall be computed for each month that A01 discharges beginning one month after the effective date of the permit. The monthly and weekly average concentrations for 001 shall be determined by combining data collected from 001 and B01 (only B01 data from days when A01 is not discharging) for the reporting period. These monitoring results shall be submitted to the Agency on the DMR. DO shall also be reported on the DMR as a minimum value.

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Effluent Limitations, Monitoring, and Reporting

FINAL

Discharge Number(s) and Name(s): 002 Deerfield Road Excess Flow Discharge\*  
004 Warwick Road Excess Flow Discharge\*

From the effective date of this Permit until the expiration date, the effluent of the above discharge(s) shall be monitored and limited at all time as follows:

<u>Parameter</u>	<u>CONCENTRATION LIMITS (mg/L)</u>		<u>Sample Frequency</u>	<u>Sample Type</u>
	<u>Monthly Average</u>			
Total Flow (MG)			Daily When Discharging	Continuous
BOD <sub>5</sub>	**		Daily When Discharging	Grab
Suspended Solids	**		Daily When Discharging	Grab
Fecal Coliform	Daily Maximum shall not exceed 400 per 100 mL		Daily When Discharging	Grab
pH	Shall be in the range of 6 to 9 Standard Units		Daily When Discharging	Grab
Chlorine Residual***	0.75		Daily When Discharging	Grab
Ammonia Nitrogen (as N) <sup>(1)</sup>	Monitor only		Daily When Discharging	Grab
Total Phosphorus (as P)	Monitor only		Daily When Discharging	Grab
Dissolved Oxygen	Monitor only		Daily When Discharging	Grab

\* These flow facilities shall not be utilized until the weir elevations below are met during wet weather events. The weir elevation for each station is as follows:

002 Deerfield Rd. Excess Flow Station Discharge - 641.92 ft

004 Warwick Rd. Excess Flow Station Discharge - 650.50 ft

Activation Points elevations are relative to sea level.

Additionally, the Permittee shall comply with the provisions of Special Condition 7.

<sup>(1)</sup> See Special Condition 20.

\*\*Concentration Limits (L) shall be determined by the following equation:

$$L = -15/23 (D) + 49.565$$

Where D = number of days of discharge per month

L = monthly average effluent limitations for BOD<sub>5</sub> and Suspended Solids in mg/L

\*\*\*Any use of chlorine to control slime growths, odors or as an operational control, etc. shall not exceed the limit of 0.75 mg/L (daily maximum) total residual chlorine in the effluent. Sampling is required on a daily grab basis during the chlorination process.

Total flow in million gallons shall be reported on the Discharge Monitoring Report (DMR) in the quantity maximum column. The main treatment facility flows at the time that A01 excess Flow facilities are first utilized shall be reported in the comment section of the DMR in gallons per minute (gpm).

Report the number of days of discharge in the comments section of the DMR.

BOD<sub>5</sub> and Suspended Solids shall be reported on the DMR as a monthly and weekly average concentration.

pH shall be reported on the DMR as a minimum and a maximum.

Fecal Coliform shall be reported on the DMR as daily maximum value.

Chlorine Residual shall be reported on the DMR as monthly average.

Total Phosphorus shall be reported on the DMR as a monthly average and daily maximum value.

Ammonia Nitrogen shall be reported on the DMR as a monthly average and daily maximum value.

Dissolved Oxygen shall be reported on the DMR as a minimum value.

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Influent Monitoring, and Reporting

The influent to the main plant discharging to Outfalls B01 and 001 shall be monitored as follows:

<u>Parameter</u>	<u>Sample Frequency*</u>	<u>Sample Type</u>
Flow (MGD)	Continuous	
BOD <sub>5</sub>	1 Day/Week And daily when A01 is discharging	Composite
Suspended Solids	1 Day/Week And daily when A01 is discharging	Composite
Total Phosphorus (as P)	1 Day/month And daily when A01 is discharging	Composite

\*Daily influent sampling is not required when discharge events from Outfall A01 occur on Saturday or Sunday.

Influent samples shall be taken at a point representative of the influent.

Flow (MGD) shall be reported on the Discharge Monitoring Report (DMR) as monthly average and daily maximum.

BOD<sub>5</sub> and Suspended Solids shall be reported on the DMR as a monthly average concentration.

The influent to the Deerfield and Warwick Road facilities discharging to Outfalls 002 and 004 shall be monitored as follows:

<u>Parameter</u>	<u>Sample Frequency</u>	<u>Sample Type</u>
Flow (MGD)	Continuous	
BOD <sub>5</sub>	Daily when discharging	Grab
Suspended Solids	Daily when discharging	Grab

Influent samples shall be taken at a point representative of the influent.

Flow (MGD) shall be reported on the Discharge Monitoring Report (DMR) as monthly average and daily maximum.

BOD<sub>5</sub> and Suspended Solids shall be reported on the DMR as a monthly average concentration.

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SPECIAL CONDITION 1. This Permit may be modified to include different final effluent limitations or requirements which are consistent with applicable laws and regulations. The IEPA will public notice the permit modification.

SPECIAL CONDITION 2. The use or operation of this facility shall be by or under the supervision of a Certified Class 1 operator.

SPECIAL CONDITION 3. The IEPA may request in writing submittal of operational information in a specified form and at a required frequency at any time during the effective period of this Permit.

SPECIAL CONDITION 4. The IEPA may request more frequent monitoring by permit modification pursuant to 40 CFR § 122.63 and Without Public Notice.

SPECIAL CONDITION 5. The effluent, alone or in combination with other sources, shall not cause a violation of any applicable water quality standard outlined in 35 Ill. Adm. Code 302 and 303.

SPECIAL CONDITION 6. The Permittee shall record monitoring results on Discharge Monitoring Report (DMR) electronic forms using one such form for each outfall each month.

In the event that an outfall does not discharge during a monthly reporting period, the DMR Form shall be submitted with no discharge indicated.

The Permittee is required to submit electronic DMRs (NetDMRs) instead of mailing paper DMRs to the IEPA unless a waiver has been granted by the Agency. More information, including registration information for the NetDMR program, can be obtained on the IEPA website, <https://www2.illinois.gov/epa/topics/water-quality/surface-water/netdmr/pages/quick-answer-guide.aspx>.

The completed Discharge Monitoring Report forms shall be submitted to IEPA no later than the 25<sup>th</sup> day of the following month, unless otherwise specified by the permitting authority.

Permittees that have been granted a waiver shall mail Discharge Monitoring Reports with an original signature to the IEPA at the following address:

Illinois Environmental Protection Agency  
Division of Water Pollution Control  
Attention: Compliance Assurance Section, Mail Code # 19  
1021 North Grand Avenue East  
Post Office Box 19276  
Springfield, Illinois 62794-9276

SPECIAL CONDITION 7. The provisions of 40 CFR Section 122.41(m) & (n) are incorporated herein by reference.

SPECIAL CONDITION 8. Samples taken in compliance with the effluent monitoring requirements shall be taken:

- A. For Outfall Number B01 shall be taken at a point:
  1. Representative of the discharge of fully treated wastewater effluent, and
  2. When discharges are occurring from Outfall Number A01, prior to admixture with discharges from Outfall Number A01.
- B. For Outfall Number A01 shall be taken at a point:
  1. Representative of the discharge from the excess flow treatment unit(s) to Outfall Number 001, and
  2. Prior to admixture with discharges from Outfall Number B01.
- C. For Outfall Number 001 shall be taken at a point:
  1. Representative of the discharge from Outfall Number 001 but prior to entry into the receiving water; and
  2. Representative of the admixture of all flow from Outfall Numbers A01 and B01.
    - a. On days when there are no discharges through Outfall Number A01 samples for all effluent limitations and monitoring parameters applicable to Outfall Number 001 can be taken at the location of sampling for Outfall Number B01. When this occurs, sample results for Outfall Number B01 must be reported on the DMRs for Outfall Number B01 and Outfall Number 001.
    - b. On days when there are discharges through Outfall A01, samples for all effluent limitations and monitoring parameters applicable to Outfall 001 shall be representative of the discharge through Outfall 001 to the receiving water; and shall be taken at a point representative of the admixture of flows from Outfall Numbers A01 and B01.
- D. For Outfall Number 002 and 004 shall be taken at a point representative of the discharge, but prior to the receiving stream.

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SPECIAL CONDITION 9. Consistent with permit modification procedures in 40 CFR 122.62 and 63, this Permit may be modified to include requirements for the Permittee on a continuing basis to evaluate and detail its efforts to effectively control sources of infiltration and inflow into the sewer system and to submit reports to the IEPA if necessary.

SPECIAL CONDITION 10. Fecal Coliform limits for Discharge Number B01 are effective May thru October. Sampling of Fecal Coliform is only required during this time period.

Any use of chlorine to control slime growths, odors or as an operational control, etc. shall not exceed the limit of 0.05 mg/L (daily maximum) total residual chlorine in the effluent. Sampling is required on a daily grab basis during the chlorination process. Reporting shall be submitted on the DMRs on a monthly basis.

SPECIAL CONDITION 11. The Permittee shall conduct semi-annual monitoring of the effluent and report concentrations (in mg/L) of the following listed parameters. Monitoring shall begin three (3) months from the effective date of this permit. The sample shall be a 24-hour effluent composite except as otherwise specifically provided below and the results shall be submitted on Discharge Monitoring Report Forms to IEPA unless otherwise specified by the IEPA. The parameters to be sampled and the minimum reporting limits to be attained are as follows:

<u>CODE</u>	<u>PARAMETER</u>	<u>Minimum reporting limit</u>
01002	Arsenic	0.05 mg/L
01007	Barium	0.5 mg/L
01027	Cadmium	0.001 mg/L
01032	Chromium (hexavalent) (grab)	0.01 mg/L
01034	Chromium (total)	0.05 mg/L
01042	Copper	0.005 mg/L
00720	Cyanide (total) (grab)***	5.0 µg/L
00722	Cyanide (grab) (available**** or amenable to chlorination)***	5.0 µg/L
00951	Fluoride	0.1 mg/L
01045	Iron (total)	0.5 mg/L
01046	Iron (Dissolved)	0.5 mg/L
01051	Lead	0.05 mg/L
01055	Manganese	0.5 mg/L
71900	Mercury (grab)**	1.0 ng/L*
01067	Nickel	0.005 mg/L
00556	Oil (hexane soluble or equivalent) (Grab Sample only)	5.0 mg/L
32730	Phenols (grab)	0.005 mg/L
01147	Selenium	0.005 mg/L
01077	Silver (total)	0.003 mg/L
01092	Zinc	0.025 mg/L

The minimum reporting limit for each parameter is specified by Illinois EPA as the regulatory authority.

The minimum reporting limit for each parameter shall be greater than or equal to the lowest calibration standard and within the acceptable calibration range of the instrument.

The minimum reporting limit is the value below which data are to be reported as non-detects.

The statistically-derived laboratory method detection limit for each parameter shall be less than the minimum reporting limit required for that parameter.

All sample containers, chemical and thermal preservation, holding times, analyses, method detection limit determinations and quality assurance/quality control requirements shall be in accordance with 40 CFR Part 136.

Unless otherwise indicated, concentrations refer to the total amount of the constituent present in all phases, whether solid, suspended or dissolved, elemental or combined, including all oxidation states.

\*1.0 ng/L = 1 part per trillion.

\*\*Utilize USEPA Method 1631E and the digestion procedure described in Section 11.1.1.2 of 1631E.

\*\*\*Analysis for cyanide (available or amenable to chlorination) is only required if cyanide (total) is detected at or above the minimum reporting limit.

\*\*\*\*USEPA Method OIA-1677 or Standard Method SM 4500-CN G.

The Permittee shall provide a report briefly describing the permittee's pretreatment activities and an updated listing of the Permittee's

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significant industrial users. The list should specify which categorical pretreatment standards, if any, are applicable to each Industrial User. Permittees who operate multiple plants may provide a single report. Such report shall be submitted within six (6) months of the effective date of this Permit to the following addresses:

U.S. Environmental Protection Agency  
Region 5  
77 West Jackson Blvd.  
Chicago, Illinois 60604  
Attention: Water Assurance Branch Enforcement and Compliance

Illinois Environmental Protection Agency  
Division of Water Pollution Control  
Attention: Compliance Assurance Section, Mail Code #19  
1021 North Grand Avenue East  
Post Office Box 19276  
Springfield, Illinois 62794-9276

SPECIAL CONDITION 12. During January of each year the Permittee shall submit annual fiscal data regarding sewerage system operations to the Illinois Environmental Protection Agency/Division of Water Pollution Control/Compliance Assurance Section. The Permittee may use any fiscal year period provided the period ends within twelve (12) months of the submission date.

Submission shall be on forms provided by IEPA titled "Fiscal Report Form For NPDES Permittees".

SPECIAL CONDITION 13. For the duration of this Permit, the Permittee shall determine the quantity of sludge produced by the treatment facility in dry tons or gallons with average percent total solids analysis. The Permittee shall maintain adequate records of the quantities of sludge produced and have said records available for U.S. EPA and IEPA inspection. The Permittee shall submit to the IEPA, at a minimum, a semi-annual summary report of the quantities of sludge generated and disposed of, in units of dry tons or gallons (average total percent solids) by different disposal methods including but not limited to application on farmland, application on reclamation land, landfilling, public distribution, dedicated land disposal, sod farms, storage lagoons or any other specified disposal method. Said reports shall be submitted to the IEPA by January 31 and July 31 of each year reporting the preceding January thru June and July thru December interval of sludge disposal operations.

Duty to Mitigate. The Permittee shall take all reasonable steps to minimize any sludge use or disposal in violation of this Permit.

Sludge monitoring must be conducted according to test procedures approved under 40 CFR 136 unless otherwise specified in 40 CFR 503, unless other test procedures have been specified in this Permit.

Planned Changes. The Permittee shall give notice to the IEPA on the semi-annual report of any changes in sludge use and disposal.

The Permittee shall retain records of all sludge monitoring, and reports required by the Sludge Permit as referenced in Standard Condition 25 for a period of at least five (5) years from the date of this Permit.

If the Permittee monitors any pollutant more frequently than required by this permit or the Sludge Permit, the results of this monitoring shall be included in the reporting of data submitted to the IEPA.

The Permittee shall comply with existing federal regulations governing sewage sludge use or disposal and shall comply with all existing applicable regulations in any jurisdiction in which the sewage sludge is actually used or disposed.

The Permittee shall comply with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish the standards for sewage sludge use or disposal even if the permit has not been modified to incorporate the requirement.

The Permittee shall ensure that the applicable requirements in 40 CFR Part 503 are met when the sewage sludge is applied to the land, placed on a surface disposal site, or fired in a sewage sludge incinerator.

Monitoring reports for sludge shall be reported on the form titled "Sludge Management Reports" to the following address:

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Illinois Environmental Protection Agency  
Bureau of Water  
Compliance Assurance Section  
Mail Code #19  
1021 North Grand Avenue East  
Post Office Box 19276  
Springfield, Illinois 62794-9276

SPECIAL CONDITION 14. This Permit may be modified to include alternative or additional final effluent limitations pursuant to an approved Total Maximum Daily Load (TMDL) Study, an approved Nutrient Assessment Reduction Plan, or an approved trading program.

SPECIAL CONDITION 15. The Permittee shall conduct biomonitoring of the effluent from Discharge Number(s) B01.

Biomonitoring

- A. Acute Toxicity - Standard definitive acute toxicity tests shall be run on at least two trophic levels of aquatic species (fish, invertebrate) representative of the aquatic community of the receiving stream. Testing must be consistent with Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (Fifth Ed.) EPA/821-R-02-012. Unless substitute tests are pre-approved; the following tests are required:
1. Fish 96-hour static LC<sub>50</sub> Bioassay using fathead minnows (*Pimephales promelas*).
  2. Invertebrate 48-hour static LC<sub>50</sub> Bioassay using *Ceriodaphnia*.
- B. Testing Frequency - The above tests shall be conducted using 24-hour composite samples unless otherwise authorized by the IEPA. Sample collection and testing must be conducted in the 18<sup>th</sup>, 15<sup>th</sup>, 12<sup>th</sup>, and 9<sup>th</sup> month prior to the expiration date of this Permit. When possible, bioassay sample collection should coincide with sample collection for metals analysis or other parameters that may contribute to effluent toxicity.
- C. Reporting - Results shall be reported according to EPA/821-R-02-012, Section 12, Report Preparation, and shall be mailed to IEPA, Bureau of Water, Compliance Assurance Section or emailed to [EPA.PrmtSpecCondtns@Illinois.gov](mailto:EPA.PrmtSpecCondtns@Illinois.gov) within one week of receipt from the laboratory. Reports are due to the IEPA no later than the 16<sup>th</sup>, 13<sup>th</sup>, 10<sup>th</sup>, and 7<sup>th</sup> month prior to the expiration date of this Permit.
- D. Toxicity – Should a bioassay result in toxicity to >20% of organisms tested in the 100% effluent treatment, the IEPA may require, upon notification, six (6) additional rounds of monthly testing on the affected organism(s) to be initiated within 30 days of the toxic bioassay. Results shall be submitted to IEPA within one (1) week of becoming available to the Permittee. Should any of the additional bioassays result in toxicity to ≥50% of organisms tested in the 100% effluent treatments, the Permittee must contact the IEPA within one (1) day of the results becoming available to the Permittee and begin the toxicity identification and reduction evaluation process as outlined below.
- E. Toxicity Identification and Reduction Evaluation - Should any of the additional bioassays result in toxicity to ≥50% of organisms tested in the 100% effluent treatment, the Permittee must contact the IEPA within one (1) day of the results becoming available to the Permittee and begin the toxicity identification evaluation process in accordance with Methods for Aquatic Toxicity Identification Evaluations, EPA/600/6-91/003. The IEPA may also require, upon notification, that the Permittee prepare a plan for toxicity reduction evaluation to be developed in accordance with Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants, EPA/833B-99/002, which shall include an evaluation to determine which chemicals have a potential for being discharged in the plant wastewater, a monitoring program to determine their presence or absence and to identify other compounds which are not being removed by treatment, and other measures as appropriate. The Permittee shall submit to the IEPA its plan for toxicity reduction evaluation within ninety (90) days following notification by the IEPA. The Permittee shall implement the plan within ninety (90) days or other such date as contained in a notification letter received from the IEPA.

The IEPA may modify this Permit during its term to incorporate additional requirements or limitations based on the results of the biomonitoring. In addition, after review of the monitoring results, the IEPA may modify this Permit to include numerical limitations for specific toxic pollutants. Modifications under this condition shall follow public notice and opportunity for hearing.

SPECIAL CONDITION 16. The Permittee shall participate in the North Branch Chicago River Watershed Workgroup (NBWW). The Permittee shall work with other watershed members of the NBWW to determine the most cost-effective means to remove dissolved oxygen (DO) and offensive condition impairments in the North Branch Chicago River Watershed to the extent feasible.

- A. The NBWW will conduct the following activities in accordance with the Plan during the term of this permit:

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1. Develop an Integrated Prioritization System (IPS) and supporting tools consisting of in-depth analysis of all chemical, physical and biological data collected in past watershed assessments to develop a library of data analysis tools and prioritization mechanisms related to future impairment restoration activities.
  2. Develop a Nutrient Assessment Reduction Plan (NARP) sequenced as follows:
    - a. Develop Preliminary NARP Workplan to be utilized to plan and budget the multiyear development and completion of a NBWW NARP. The Preliminary NARP Workplan shall be completed by December 31, 2021. The Workplan shall be submitted with the annual progress report per Section (B) below.
    - b. Develop NBWW NARP in accordance with the requirements in Special Condition 24.
  3. Continue comprehensive water quality monitoring program consisting of bioassessment monitoring, flow monitoring, and water column and sediment chemistry sampling and analysis; modify these programs as necessary to meet NARP objectives.
- B. The Permittee shall submit an annual progress report on the activities identified in (A) above, which includes the monitoring data from the previous year, to the Agency by March 31st of each year. The Permittee may work cooperatively with the NBWW to prepare a single annual progress report that is common among NBWW members.
- C. In its application for renewal of this permit, the Permittee shall consider and incorporate recommended NBWW activities listed in any annual progress report or Nutrient Assessment Reduction Plan that the Permittee will implement during the next permit term.

SPECIAL CONDITION 17. The Permittee shall monitor the wastewater effluent for Total Phosphorus, Dissolved Phosphorus, Nitrate/Nitrite, Total Kjeldahl Nitrogen (TKN), Ammonia, Total Nitrogen (calculated), Alkalinity, Specific Conductivity, Chloride and Temperature at least once a month beginning on the effective date of this permit. The Permittee shall monitor the wastewater influent for Total Phosphorus at least once a month. The results shall be submitted on electronic Discharge Monitoring Report Forms (NetDMRs) to IEPA unless otherwise specified by the IEPA.

SPECIAL CONDITION 18. The Permittee shall work towards the goals of achieving no discharges from sanitary sewer overflows or basement back-ups and ensuring that overflows or back-ups, when they do occur do not cause or contribute to violations of applicable standards or cause impairment in any adjacent receiving water. Overflows from sanitary sewers are expressly prohibited by this permit and by Ill. Adm. Code 306.304. In order to accomplish these goals of complying with this prohibition and mitigating the adverse impacts of any such overflows if they do occur, the Permittee shall (A) identify and report to IEPA all SSOs that do occur, and (B) develop, implement and submit to the IEPA a Capacity, Management, Operations, and Maintenance (CMOM) plan which includes an Asset Management strategy within twenty-four (24) months of the effective date of this Permit or review and revise any existing plan accordingly. The Permittee shall modify the Plan to incorporate any comments that it receives from IEPA and shall implement the modified plan as soon as possible. The Permittee should work as appropriate, in consultation with affected authorities at the local, county, and/or state level to develop the plan components involving third party notification of overflow events. The Permittee may be required to construct additional sewage transport and/or treatment facilities in future permits or other enforceable documents should the implemented CMOM plan indicate that the Permittee's facilities are not capable of conveying and treating the flow for which they are designed. The CMOM plan shall include the following elements:

A. Measures and Activities:

1. A complete map and system inventory for the collection system owned and operated by the Permittee;
2. Organizational structure; budgeting; training of personnel; legal authorities; schedules for maintenance, sewer system cleaning, and preventative rehabilitation; checklists, and mechanisms to ensure that preventative maintenance is performed on equipment owned and operated by the Permittee;
3. Documentation of unplanned maintenance;
4. An assessment of the capacity of the collection and treatment system owned and operated by the Permittee at critical junctions and immediately upstream of locations where overflows and backups occur or are likely to occur; use flow monitoring as necessary;
5. Identification and prioritization of structural deficiencies in the system owned and operated by the Permittee;
6. Operational control, including documented system control procedures, scheduled inspections and testing;
7. The Permittee shall develop and implement an Asset Management strategy to ensure the long-term sustainability of the collection system. Asset Management shall be used to assist the Permittee in making decisions on when it is most appropriate to repair, replace or rehabilitate particular assets and develop long-term funding strategies; and
8. Asset Management shall include but is not limited to the following elements:
  - a. Asset Inventory and State of the Asset;
  - b. Level of Service;
  - c. Critical Asset Identification;
  - d. Life Cycle Cost; and
  - e. Long-Term Funding Strategy.

B. Design and Performance Provisions:

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1. Monitor the effectiveness of CMOM;
2. Upgrade the elements of the CMOM plan as necessary; and
3. Maintain a summary of CMOM activities.

## C. Overflow Response Plan:

1. Know where overflows and back-ups within the facilities owned and operated by the Permittee occur;
2. Respond to each overflow or back-up to determine additional actions such as clean up; and
3. Locations where basement back-ups and/or sanitary sewer overflows occur shall be evaluated as soon as practicable for excessive inflow/infiltration, obstructions or other causes of overflows or back-ups as set forth in the System Evaluation Plan.

## D. System Evaluation Plan:

1. Summary of existing SSO and Excessive I/I areas in the system and sources of contribution;
2. Evaluate plans to reduce I/I and eliminate SSOs;
3. Special provisions for Pump Stations and force mains and other unique system components; and
4. Construction plans and schedules for correction.

## E. Reporting and Monitoring Requirements:

1. Program for SSO detection and reporting; and
2. Program for tracking and reporting basement back-ups, including general public complaints.

## F. Third Party Notice Plan:

1. Describes how, under various overflow scenarios, the public, as well as other entities, would be notified of overflows within the Permittee's system that may endanger public health, safety or welfare;
2. Identifies overflows within the Permittee's system that would be reported, giving consideration to various types of events including events with potential widespread impacts;
3. Identifies who shall receive the notification;
4. Identifies the specific information that would be reported including actions that will be taken to respond to the overflow;
5. Includes a description of the lines of communication; and
6. Includes the identities and contact information of responsible POTW officials and local, county, and/or state level officials.

For additional information concerning USEPA CMOM guidance and Asset Management please refer to the following web site addresses. [http://www.epa.gov/npdes/pubs/cmom\\_guide\\_for\\_collection\\_systems.pdf](http://www.epa.gov/npdes/pubs/cmom_guide_for_collection_systems.pdf) and [http://water.epa.gov/type/watersheds/wastewater/upload/guide\\_smallsystems\\_assetmanagement\\_bestpractices.pdf](http://water.epa.gov/type/watersheds/wastewater/upload/guide_smallsystems_assetmanagement_bestpractices.pdf)

**SPECIAL CONDITION 19.** The Permittee shall, within 24 months of the effective date of this permit, prepare and submit to the Agency a Phosphorus Removal Feasibility Study (PRFS) that identifies the method, timeframe, and costs of reducing phosphorus levels in its discharge to a level consistently meeting a potential future effluent limit of 0.5 mg/L or 0.1 mg/L. The study shall evaluate the construction and O & M costs of the application of this limit on a monthly, seasonal and annual average basis. The feasibility report shall also be shared with the North Branch Chicago River Watershed Workgroup. Previously submitted feasibility studies that did not include an alternative effluent limit of 0.5 mg/L or 0.1 mg/L may be amended to identify supplemental treatment technologies necessary to achieve 0.5 mg/L or 0.1 mg/L.

**SPECIAL CONDITION 20.** The Agency shall consider all monitoring data submitted by the discharger in accordance with the monitoring requirements of this permit for all parameters, including but not limited to data pertaining to ammonia and dissolved oxygen for discharges from Discharge Numbers 001, 002 and 004, to determine whether the discharges are at levels which cause, have the reasonable potential to cause or contribute to exceedances of water quality standards; and, if so, to develop appropriate water quality based effluent limitations. If the discharger wants the Agency to consider mixing when determining the need for and establishment of water quality based effluent limitations, the discharger shall submit a study plan on mixing to the Agency for the Agency's review and comment within two (2) months of the effective date of this Permit.

**SPECIAL CONDITION 21.** The Permittee shall develop and submit to the Agency a Phosphorus Discharge Optimization Plan within 24 months of the effective date of this permit. The plan shall include a schedule for the implementation of these optimization measures. Annual progress reports on the optimization of the existing treatment facilities shall be submitted to the Agency by March 31 of each year beginning 12 months from the effective date of the permit. In developing the plan, the Permittee shall evaluate a range of measures for reducing phosphorus discharges from the treatment plant, including possible source reduction measures, operational improvements, and

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minor facility modifications that will optimize reductions in phosphorus discharges from the wastewater treatment facility. The Permittee's evaluation shall include, but not be limited to, an evaluation of the following optimization measures:

- A. WWTF influent reduction measures.
  - 1. Evaluate the phosphorus reduction potential of users.
  - 2. Determine which sources have the greatest opportunity for reducing phosphorus (i.e., industrial, commercial, institutional, municipal and others).
    - a. Determine whether known sources (i.e., restaurant and food preparation) can adopt phosphorus minimization and water conservation plans.
    - b. Evaluate implementation of local limits on influent sources of excessive phosphorus.
- B. WWTF effluent reduction measures.
  - 1. Reduce phosphorus discharges by optimizing existing treatment processes.
    - a. Adjust the solids retention time for either nitrification, denitrification, or biological phosphorus removal.
    - b. Adjust aeration rates to reduce dissolved oxygen and promote simultaneous nitrification-denitrification.
    - c. Add baffles to existing units to improve microorganism conditions by creating divided anaerobic, anoxic, and aerobic zones.
    - d. Change aeration settings in plug flow basins by turning off air or mixers at the inlet side of the basin system.
    - e. Minimize impact on recycle streams by improving aeration within holding tanks.
    - f. Reconfigure flow through existing basins to enhance biological nutrient removal.
    - g. Increase volatile fatty acids for biological phosphorus removal.

SPECIAL CONDITION 22. A phosphorus limit of 1.0 mg/L (monthly average) shall become effective four (4) years from the effective date of this Permit.

In order for the Permittee to achieve the above limit, it will be necessary to modify existing treatment facilities to include phosphorus removal, reduce phosphorus sources or explore other ways to prevent discharges that exceed the limit. The Permittee must implement the following compliance measures consistent with the schedule below:

- |   |   |
|---|---|
| A. Progress Report on Construction  | Every 6 months from the effective date of this permit |
| B. Complete Construction  | 36 months from the effective date of this permit      |
| C. Achieve Annual Concentration and Loading Effluent Limitations for Total Phosphorus | 48 months from the effective date of this Permit      |

Compliance dates may be modified based on the results of the Phosphorus Removal Feasibility Report required by Special Condition 19 of this Permit. All modifications of this Permit must be in accordance with 40 CFR 122.62 or 40 CFR 122.63.

Reporting shall be submitted on the NetDMR's on a monthly basis.

## REPORTING

The Permittee shall submit reports for items A, B, and C of the compliance schedule indicating: a) the date the item was completed, or b) that the item was not completed, the reasons for non-completion and the anticipated completion date to the Agency Compliance Section.

SPECIAL CONDITION 23.

- A. Subject to paragraph B below, an effluent limit of 0.5 mg/L Total Phosphorus 12 month rolling geometric mean (calculated monthly) basis (hereinafter "Limit"), shall be met by the Permittee by January 1, 2030, unless the Permittee demonstrates that meeting such Limit is not technologically or economically feasible in one of the following manners:
  - 1. the Limit is not technologically feasible through the use of biological phosphorus removal (BPR) process(es) at the treatment facility; or
  - 2. the Limit would result in substantial and widespread economic or social impact. Substantial and widespread economic impacts must be demonstrated using applicable USEPA guidance, including but not limited to any of the following documents:
    - a. Interim Economic Guidance for Water Quality Standards, March 1995, EPA-823-95-002;
    - b. Combined Sewer Overflows – Guidance for Financial Capability Assessment and Schedule Development, February 1997, EPA-832—97-004;
    - c. Financial Capability Assessment Framework for Municipal Clean Water Act Requirements, November 24, 2014; and
    - d. any additional USEPA guidance on affordability issues that revises, supplements or replaces those USEPA guidance documents; or
  - 3. the Limit can only be met by chemical addition for phosphorus removal at the treatment facility in addition to those processes currently contemplated; or
  - 4. the Limit is demonstrated not to be feasible by January 1, 2030, but is feasible within a longer timeline, then the Limit shall be met as soon feasible and approved by the Agency; or

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5. the Limit is demonstrated not to be achievable, then an effluent limit that is achievable by the Permittee (along with associated timeline) will apply instead, except that the effluent limit shall not exceed 0.6 mg/L Total Phosphorus 12 month rolling geometric mean (calculated monthly).
- B. The Limit shall be met by the Permittee by January 1, 2030, except in the following circumstances:
1. If the Permittee develops a written plan, preliminary engineering report or facility plan no later than January 1, 2025, to rebuild or replace the secondary treatment process(es) of the treatment facility, the Limit shall be met by December 31, 2035; or
  2. If the Permittee decides to construct/operate biological nutrient removal (BNR) process(es), incorporating nitrogen reduction, the Limit shall be met by December 31, 2035; or
  3. If the Permittee decides to use chemical addition for phosphorus removal instead of BPR, the Limit and the effluent limit of 1.0 mg/L Total Phosphorus monthly average shall be met by December 31, 2025; or
  4. If the Permittee has already installed chemical addition for phosphorus removal instead of BPR, and has a 1.0 mg/L Total Phosphorus monthly average effluent limit in its permit, or the Permittee is planning to install chemical addition with an IEPA construction permit that is issued on or before July 31, 2018, the 1.0 mg/L Total Phosphorus monthly average effluent limit (and associated compliance schedule) shall apply, and the Limit shall not be applicable.
  5. The NARP determines that a limit lower than the Limit is necessary and attainable. The lower limit and timeline identified in the NARP shall apply to the Permittee.
  6. If the Permittee is covered by any of the following scenarios:
    - a. maintains a membership and participates in the DuPage River Salt Creek Workgroup or the Lower DuPage Watershed Coalition; or
    - b. it participates in a watershed group that is developing a NARP for an impairment related to phosphorus or a risk eutrophication, and IEPA determines that the group has the financial and structural capability to develop the NARP by the deadline specified in the NARP provisions below; or
    - c. it is covered by the 2017 Settlement Agreement between the Metropolitan Water Reclamation District of Greater Chicago and various environmental groups;<sup>1</sup> or
    - d. it is covered by the Memorandum of Understanding, executed as of October 5, 2016, between the City of Joliet, Prairie Rivers Network, and the Illinois Chapter of Sierra Club concerning expansion of the City's Aux Sable Wastewater Treatment Plant.
- <sup>1</sup>Those groups are: NRDC, Friends of the Chicago River, Gulf Restoration Network, the Environmental Law and Policy Center, Sierra Club, and Prairie Rivers Network.
- C. The Permittee shall identify and provide adequate justification of any exception identified in paragraph A or circumstance identified in paragraph B, regarding meeting the Limit. The justification shall be submitted to the Agency at the time of renewal of this permit or by December 31, 2024, whichever date is first. Any justification or demonstration performed by the Permittee pursuant to paragraph A or circumstance pursuant to paragraph B must be reviewed and approved by the Agency. The Agency will renew or modify the NPDES permit as necessary. No date deadline modification or effluent limitation modification for any of the exceptions or circumstances specified in paragraphs A or B will be effective until it is included in a modified or reissued NPDES Permit.
- D. For purposes of this permit, the following definitions are used:
1. BPR (Biological Phosphorus Removal) is defined herein as treatment processes which do not require use of supplemental treatment processes at the treatment facilities before or after the biological system, such as but not limited to, chemical addition, carbon supplementation, fermentation, or filtration. The use of filtration or additional equipment to meet other effluent limits is not prohibited, but those processes will not be considered part of the BPR process for purposes of this permit; and
  2. BNR (Biological Nutrient Removal) is defined herein as treatment processes used for nitrogen and phosphorus removal from wastewater before it is discharged. BNR treatment processes, as defined herein, do not require use of supplemental treatment processes at the treatment facilities before or after the biological system, such as but not limited to, chemical addition, carbon supplementation, fermentation or filtration. The use of filtration or additional equipment to meet other effluent limits is not prohibited, but those processes will not be considered part of the BNR process for purposes of this permit.
- E. The 0.5 mg/L Total Phosphorus 12 month rolling geometric mean (calculated monthly) effluent limit applies to the effluent from the treatment plan

Special Conditions

SPECIAL CONDITION 24. The Agency has determined that the Permittee's treatment plant effluent is located upstream of a waterbody or stream segment that has been determined to have a phosphorus related impairment. This determination was made upon reviewing available information concerning the characteristics of the relevant waterbody/segment (such as extent of aquatic habitat and nature of the biological community) and the relevant facility (such as quantity of discharge flow and nutrient load relative to the stream flow).

A phosphorus related impairment means that the downstream waterbody or segment is listed by the Agency as impaired due to dissolved oxygen and/or offensive condition (algae and/or aquatic plant growth) impairments that is related to excessive phosphorus levels.

The Permittee shall develop, or be a part of a watershed group that develops, a Nutrient Assessment Reduction Plan (NARP) that will meet the following requirements:

- A. The NARP shall be developed and submitted to the Agency by December 31, 2025. This requirement can be accomplished by the Permittee, by participation in an existing watershed group or by creating a new group. The NARP shall be supported by data and sound scientific rationale. Annual Progress Reports shall be submitted to the Agency starting 12 months from the effective date of the Permit and every 12 months thereafter until the completion of the NARP.
- B. The Permittee shall cooperate with and work with other stakeholders in the watershed to determine the most cost-effective means to address the phosphorus related impairment. If other stakeholders in the watershed will not cooperate in developing the NARP, the Permittee shall develop its own NARP for submittal to the Agency to comply with this condition.
- C. In determining the target levels of various parameters necessary to address the phosphorus related impairment, the NARP shall either utilize the recommendations by the Nutrient Science Advisory Committee or develop its own watershed-specific target levels.
- D. The NARP shall identify phosphorus input reductions by point source discharges and non-point source discharges in addition to other measures necessary to remove phosphorus related impairments in the watershed. The NARP may determine, based on an assessment of relevant data, that the watershed does not have an impairment related to phosphorus, in which case phosphorus input reductions or other measures would not be necessary. Alternatively, the NARP could determine that phosphorus input reductions from point sources are not necessary, or that phosphorus input reductions from both point and nonpoint sources are necessary, or that phosphorus input reductions are not necessary and that other measures, besides phosphorus input reductions, are necessary.
- E. The NARP shall include a schedule for the implementation of the phosphorus input reductions by point sources, non-point sources and other measures necessary to remove phosphorus related impairments. The NARP schedule shall be implemented as soon as possible and shall identify specific timelines applicable to the Permittee.
- F. The NARP can include provisions for water quality trading to address the phosphorus related impairments in the watershed. Phosphorus/Nutrient trading cannot result in violations of water quality standards or applicable antidegradation requirements.
- G. The Permittee shall request modification of the permit within 90 days after the NARP has been completed to include necessary phosphorus input reductions identified within the NARP. The Agency will modify the NPDES permit, if necessary.
- H. If the Permittee does not develop or assist in developing the NARP, and such a NARP is developed for the watershed, the Permittee will become subject to effluent limitations necessary to address the phosphorus related impairments. The Agency shall calculate these effluent limits by using the NARP and any applicable data. If no NARP has been developed, the effluent limits shall be determined for the Permittee on a case-by-case basis, so as to ensure that the Permittee's discharge will not cause or contribute to violations of the dissolved oxygen or narrative water quality standards.

SPECIAL CONDITION 25. On or before March 31 of each year, the Permittee shall submit a report to IEPA that summarizes the effluent data for BOD<sub>5</sub> and Suspended Solids (SS) from Excess Flow Outfall 002 (Deerfield Road Excess Flow Discharge) and Excess Flow Outfall 004 (Warwick Road Excess Flow Discharge) during the preceding year. Each report shall include a statement as to how often and by how much the effluent exceeded the levels of 30 mg/l BOD<sub>5</sub> and 30 mg/l SS on a monthly average basis, 45 mg/l BOD<sub>5</sub> and 45 mg/l SS on a weekly average basis, and 85% removal for both parameters monthly. If the effluent exceeds any of these levels or percentage removals, then the Permittee shall also include in the report a description of the measures that the Permittee would need to implement so that discharges from Excess Flow Outfall 002 and Excess Flow Outfall 004 would either (a) be eliminated or (b) be sufficiently treated so that such discharges would comply with such limitations. The report shall also include an estimate of the costs of the measures.

