

NPDES Permit No. IL0020109

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: November 30, 2005

Issue Date: November 6, 2000

Effective Date: December 1, 2000

Modification Date #1: December 30, 2003

Modification Date #2: August 23, 2004

Name and Address of Permittee:

Village of Wauconda  
101 North Main Street  
Post Office Box 785  
Wauconda, Illinois 60084

Facility Name and Address:

Wauconda WWTP  
302 Slocum Lake Road  
Wauconda, Illinois  
(Lake County)

Receiving Waters: Fiddle Creek tributary to Fox 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 standard conditions and attachments 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.

Alan Keller, P.E.  
Manager, Permit Section  
Division of Water Pollution Control

SAK:DGN:03041401.bah

## NPDES Permit No. IL0020109

Effluent Limitations, Monitoring, and Reporting

## FINAL

Discharge Number(s) and Name(s): 001 STP Outfall

Load limits computed based on a design average flow (DAF) of 1.4 MGD (design maximum flow (DMF) of 4.0 MGD).

Excess flow facilities (if applicable) shall not be utilized until the main treatment facility is receiving its maximum practical flow.

From the modification date of this Permit until the operational date of the Phase 1 expansion, 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	IRT***
CBOD <sub>5</sub> **	117 (334)		234 (667)	10		20	3 days/week	Composite
Suspended Solids	140 (400)		280 (801)	12		24	3 days/week	Composite
pH	Shall be in the range of 6 to 9 Standard Units						3 days/week	Grab
Fecal Coliform	Daily Maximum shall not exceed 400 per 100 mL						3 days/week	Grab
Chlorine Residual						0.05	3 days/week	Grab
Ammonia Nitrogen as (N)								
April - October	14 (40)		35 (100)	1.2		3.0	1 day/week	Composite
November - March	29 (83)		68 (193)	2.5		5.8	1 day/week	Composite
Copper	0.38 (1.1)		0.64 (1.8)	0.0327		0.0544	3 days/week	Composite

\*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.

\*\*\*Indicating, Recording, Totalizing.

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 daily maximum.

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

Chlorine residual shall be reported on DMR as daily maximum.

## NPDES Permit No. IL0020109

Effluent Limitations, Monitoring, and Reporting

## FINAL

Discharge Number(s) and Name(s): 001 STP Outfall

Load limits computed based on a design average flow (DAF) of 1.9 MGD (design maximum flow (DMF) of 5.963 MGD).

Excess flow facilities (if applicable) shall not be utilized until the main treatment facility is receiving its maximum practical flow.

From the operational date of the Phase 1 expansion until the operational date of the Phase 2 expansion, 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	IRT***
CBOD <sub>5</sub> **	158 (497)		317 (995)	10		20	3 days/week	Composite
Suspended Solids	190 (597)		380 (1194)	12		24	3 days/week	Composite
Dissolved Oxygen	Shall not be less than 6 mg/L						3 days/Week	Grab
pH	Shall be in the range of 6 to 9 Standard Units						3 days/week	Grab
Fecal Coliform	Daily Maximum shall not exceed 400 per 100 mL						3 days/week	Grab
Ammonia Nitrogen as (N)								
March-May/Sept.-Oct.	19 (60)		48 (149)	1.2		3.0	1 day/week	Composite
June-August	17 (55)	44 (139)	48 (149)	1.1	2.8	3.0	1 day/week	Composite
Nov.-Feb.	40 (124)		92 (288)	2.5		5.8	1 day/week	Composite
Copper	0.52 (1.6)		0.86 (2.7)	0.0327		0.0544	3 days/week	Composite
Phosphorus	16 (50)			1.0			3 days/week	Composite

\*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.

\*\*\*Indicating, Recording, Totalizing.

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

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

Dissolved oxygen shall be reported on DMR as minimum.

Fecal coliform shall be reported on the DMR as daily maximum.

## NPDES Permit No. IL0020109

Effluent Limitations, Monitoring, and Reporting

## FINAL

Discharge Number(s) and Name(s): 001 STP Outfall

Load limits computed based on a design average flow (DAF) of 2.4 MGD (design maximum flow (DMF) of 7.93 MGD).

Excess flow facilities (if applicable) shall not be utilized until the main treatment facility is receiving its maximum practical flow.

From the operational date of the Phase 2 expansion 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	IRT***
CBOD <sub>5</sub> **	200 (661)		400 (1323)	10		20	3 days/week	Composite
Suspended Solids	240 (794)		480 (1587)	12		24	3 days/week	Composite
Dissolved Oxygen	Shall not be less than 6 mg/L						3 days/week	Grab
pH	Shall be in the range of 6 to 9 Standard Units						3 days/week	Grab
Fecal Coliform	Daily Maximum shall not exceed 400 per 100 mL						3 days/week	Grab
Ammonia Nitrogen as (N)								
March-May/Sept.-Oct.	24 (79)		60 (198)	1.2		3.0	1 day/week	Composite
June-August	22 (73)	56 (185)	60 (198)	1.1	2.8	3.0	1 day/week	Composite
Nov.-Feb.	50 (165)		116 (384)	2.5		5.8	1 day/week	Composite
Copper	0.65 (2.2)		1.1 (3.6)	0.0327		0.0544	3 days/week	Composite
Phosphorus	20 (66)			1.0			3 days/week	Composite

\*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.

\*\*\*Indicating, Recording, Totalizing.

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

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

Dissolved oxygen shall be reported on DMR as minimum.

Fecal coliform shall be reported on the DMR as daily maximum.

## NPDES Permit No. IL0020109

Effluent Limitations, Monitoring, and Reporting

## FINAL

Discharge Number(s) and Name(s): A01 Excess Flow Outfall

These flow facilities shall not be utilized until the main treatment facility is receiving its maximum practical flow.

From the modification 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			CONCENTRATION	Sample Frequency	Sample Type
			LIMITS mg/L		
			Monthly Average		
Total Flow (MG)	See Below			Daily When Discharging	Continuous
BOD <sub>5</sub>			30	Daily When Discharging	Grab
Suspended Solids			30	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

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.

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

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

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

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

NPDES Permit No. IL0020109

Influent Monitoring, and Reporting

The influent to the plant shall be monitored as follows:

Parameter	Sample Frequency	Sample Type
Flow (MGD)	Continuous	IRT*
BOD <sub>5</sub>	3 days/week	Composite
Suspended Solids	3 days/week	Composite

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.

\*Indicating, Recording, Totalizing.

## NPDES Permit No. IL0020109

Special Conditions

SPECIAL CONDITION 1. This Permit may be modified to include different final effluent limitations or requirements which are consistent with applicable laws, regulations, or judicial orders. 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 in the event of operational, maintenance or other problems resulting in possible effluent deterioration.

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.

SPECIAL CONDITION 6. Samples taken in compliance with the effluent monitoring requirements shall be taken:

- A. For Discharge Number 001 - During dry weather flows (no excess flow discharge), samples shall be taken at a point representative of the flows but prior to entry into the receiving stream. During periods of excess flow discharge, CBOD<sub>5</sub>, Suspended Solids, and Ammonia Nitrogen, if Ammonia Nitrogen monitoring and sampling is required on the Effluent Limitations, Monitoring, and Reporting Page of this Permit, shall be monitored at a point representative of the discharge but prior to admixture with the excess flow. If Fecal Coliform limits are different for Discharge Numbers 001 and A01, sampling shall occur at a point representative of the discharge and prior to admixture, if hardware allows. Other parameters may be sampled after admixture but prior to entry into the receiving stream.
- B. For Discharge Number A01 - Samples for all parameters shall be taken at a point representative of the discharge but prior to entry into the receiving stream. If Fecal Coliform limits are different for Discharge Numbers 001 and A01, sampling shall occur at a point representative of the discharge and prior to admixture, if hardware allows. The sampling point for other parameters may be at a point after admixture with the dry weather flows.

SPECIAL CONDITION 7. 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 8. The facility's industrial user inventory as compiled in January 1999 shall be updated on a continuing basis to include any new industrial sources as they connect or are discovered or to include information for modified existing sources. Annual submission of the amended industrial user inventory shall be submitted to this Agency by November 30 of each year.

The inventory shall be sent to IEPA at the following addresses:

Illinois Environmental Protection Agency  
Division of Water Pollution Control  
1021 North Grand Avenue East  
P.O. Box 19276  
Springfield, Illinois 62794-9276

Illinois Environmental Protection Agency  
9511 West Harrison Street  
DesPlaines, Illinois 60016

Attention: Field Operations Section - DWPC

Attention: Compliance Assurance Section

SPECIAL CONDITION 9. The Permittee shall monitor the effluent and report concentrations (in mg/L) of the following listed parameters eighteen (18) months prior to the expiration date and again at twelve (12) months prior to the expiration date. 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 detection limits to be attained are as follows:

<u>STORET CODE</u>	<u>PARAMETER</u>	<u>Minimum detection limit</u>
01002	Arsenic	0.05 mg/L
01007	Barium	0.5 mg/L
01027	Cadmium	0.003 mg/L
01032	Chromium (hexavalent) (grab)	0.01 mg/L
01034	Chromium (total)	0.05 mg/L
01042	Copper	0.005 mg/L
00718	Cyanide (grab) (weak acid dissociable)	10.0 ug/L
00720	Cyanide (grab not to exceed 24 hours) (total)	10.0 ug/L

## NPDES Permit No. IL0020109

Special Conditions

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	0.2 ug/L
01067	Nickel	0.005 mg/L
00556	Oil (hexane soluble or equivalent) (Grab Sample only)	1.0 mg/L
32730	Phenols (grab)	0.005 mg/L
01147	Selenium	0.002 mg/L
01077	Silver (total)	0.003 mg/L
01092	Zinc	0.050 mg/L

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.

SPECIAL CONDITION 10. 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 11. Upon the operational date of the Phase 1 expansion for Discharge No. 001, 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 12. The Permittee shall conduct biomonitoring of the effluent from Discharge Number(s)001.

Biomonitoring

- 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. Except as noted here and in the IEPA document "Effluent Biomonitoring and Toxicity Assessment", testing must be consistent with Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (Fourth Ed.) EPA/600/4-90-027F. Unless substitute tests are pre-approved, the following tests are required:
  - Fish - 96 hour static LC<sub>50</sub> Bioassay using fathead minnows (*Pimephales promelas*).
  - Invertebrate 48-hour static LC<sub>50</sub> Bioassay using *Ceriodaphnia*.
- Testing Frequency - The above tests shall be conducted using 24-hour composite samples unless otherwise authorized by the IEPA. Samples must be collected in the 18th, 15th, 12th, and 9th month prior to the expiration date of this Permit.
- Reporting - Results shall be reported according to EPA/600/4-90/027F, Section 12, Report Preparation, and shall be submitted to IEPA, Bureau of Water, Compliance Assurance Section within one week of receipt from the laboratory. Reports are due to the IEPA no later than the 16th, 13th, 10th, and 7th month prior to the expiration date of this Permit.
- Toxicity Reduction Evaluation - Should the results of the biomonitoring program identify toxicity, the IEPA may require that the Permittee prepare a plan for toxicity reduction evaluation and identification. This plan shall be developed in accordance with Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants, EPA/833B-99/002, and 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.

## NPDES Permit No. IL0020109

Special Conditions

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 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 23 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 the Sludge Permit, the results of this monitoring shall be included in the reporting of data submitted to the IEPA.

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

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. The Permittee shall record monitoring results on Discharge Monitoring Report 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 completed Discharge Monitoring Report forms shall be submitted to IEPA no later than the 15th day of the following month, unless otherwise specified by the permitting authority.

Discharge Monitoring Reports shall be mailed to the IEPA at the following address:

Illinois Environmental Protection Agency  
Division of Water Pollution Control  
1021 North Grand Avenue East  
Post Office Box 19276  
Springfield, Illinois 62794-9276

Attention: Compliance Assurance Section

SPECIAL CONDITION 15. The Permittee has undergone a Monitoring Reduction review and the effluent sample frequency has been reduced for ammonia due to sustained compliance. The IEPA will require that the effluent sampling frequency for these parameters be increased to the monitoring frequency of 3 days/week if effluent deterioration occurs due to increased wasteload, operational, maintenance or other problems. The increased monitoring will be required Without Public Notice when a permit modification is received by the Permittee from the IEPA.

Modification Date:

NPDES Permit No. IL0020109

Special Conditions

SPECIAL CONDITION 16. The Permittee shall notify the IEPA in writing after each phase of treatment plant expansion has been completed and is operational. A letter stating the date that the expansion was completed shall be sent to the following address within fourteen (14) days of the expansion becoming operational:

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 17. The Permittee shall participate in cooperation with the Agency in a study to characterize the dissolved oxygen profile and study the possible impacts of nutrients in Fiddle Creek downstream of Outfall 001 before and after the treatment plant expansion. Monitoring shall be performed during critical time periods during the summer of 2004 and comparable time periods after completion of the Phase 1 expansion with the onset of phosphorus reduction at the treatment facility. This permit is subject to reopening for inclusion of additional limitations, conditions or other provisions during its effective term to the extent warranted by the findings of this study.