

REPORT OF COMPLIANCE SAMPLING INSPECTION (CSI)

AT

**Toronto Wastewater Treatment Facility
119 56 Rd
Toronto, KS 66777**

NPDES NO: KS0021890

May 13-16, 2024

BY

**U. S. ENVIRONMENTAL PROTECTION AGENCY
Region 7
Enforcement and Compliance Assurance Division (ECAD)**

INTRODUCTION

I performed a Compliance Sampling Inspection (CSI) at the Toronto Wastewater Treatment Facility (WWTF) in Toronto, Kansas, from May 13 through May 16, 2024. The inspection was authorized by Section 308(a) of the Federal Water Pollution Control Act, as amended. This narrative report presents the findings of the inspection.

PARTICIPANTS

City of Toronto

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Randy Schumacher, Mayor
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PROCEDURES

I arrived, unannounced, at the Toronto WWTF at 9:10 a.m. on May 13, 2024. I spoke with Jack Crumrine, Superintendent. I introduced myself, presented my credentials, and explained the purpose of my visit. I then discussed the general procedures for the inspection. These procedures included completing the Water Compliance Inspection Report (attachment 1); conducting a facility walk-through with photos (attachment 2); reviewing self-monitoring records; collecting influent and effluent samples; and completing an exit interview.

From May 13, 2024, through May 16, 2024, I used an ISCO model 3700 automatic composite sampler to collect 24-hour composite samples of the influent from the WWTF. I suspended a weighted length of new Tygon tubing into the influent channel. I connected the other end to the sampler pump and programmed it to collect evenly spaced aliquots every 30 minutes into a clean Nalgene bottle, which was packed in ice. I returned each day to service the sampler. I removed the bottle, agitated its contents and poured them into clean, pre-labeled polyethylene containers for the analysis of biochemical oxygen demand (BOD), non-filterable solids (NFS), oil and grease (O&G), ammonia (NH₃), nitrate plus nitrite (NO₃+NO₂), total kjeldahl nitrogen (TKN) & total phosphorus (TP). At the time of sampling, I preserved the NH₃, NO₃+NO₂, TKN and TP samples with 5 mL of sulfuric acid (H₂SO₄). I collected a grab sample from the same location to measure the pH and temperature using a field meter. These analyses were conducted within 15 minutes of collecting the sample. Flow numbers were determined by collecting the facility's daily flow data during my inspection.

On the same days I used an ISCO model 3700 automatic composite sampler to collect a 24-hour composite sample of the effluent from the WWTF. I suspended a weighted length of new Tygon tubing into the effluent channel after the ultraviolet (UV) disinfection system. I connected the other end to the sampler pump and programmed it to collect evenly spaced aliquots every 30 minutes into a clean Nalgene bottle, which was packed in ice. I returned each day to service the sampler. I removed the bottle, agitated its contents and poured them into clean, pre-labeled polyethylene containers for the analysis of BOD, NFS, O&G, NH₃, NO₃+NO₂, TKN, TP, copper (Cu) and zinc (Zn). At the time of sampling, I preserved the NH₃, NO₃+NO₂, TKN and TP samples with 5 mL of sulfuric acid. I preserved the Cu and Zn samples with nitric acid to a pH of less than 2 SU. I also collected a grab sample from the same location to measure the pH and temperature using a field meter. These analyses were conducted within 15 minutes of collecting the sample. Flow numbers were collected from the facility's instantaneous read digital flow meter console.

For the first two days of sampling, I placed the samples I collected on ice in an ice chest, sealed the container, and shipped it overnight to the EPA Region 7 Science and Technology Center (STC) for analysis. On the third and final day of sampling, I placed the samples on ice in an ice chest, sealed the container, and delivered it to the R7 STC. Electronic field sheets and electronic chain of custodies were emailed to the STC each day after samples were shipped or delivered. I followed Region 7 Laboratory Services and Applied Science Division (LSASD) standard operating procedures in the collection, packaging, transportation, and handling of the samples.

FACILITY DESCRIPTION

The Toronto WWTF is owned and operated by the city of Toronto, Kansas. The WWTF is located on the north end of town approximately ¼ mile east of Stockton Street. The latitude and longitude of the plant are 37.80099° N and -95.96249° W, respectively, in Woodson County, Kansas. The WWTF consists of (attachment 3) a lift station, a bar screen, an Imhoff Tank with a dosing siphon (photos 6 & 7), a trickling filter (photo 8), 2 clarifiers (photos 9-10), UV disinfection (photo 5) and sludge drying beds (photos 2-3). As described in the permit, effluent from the WWTF discharges through outfall 001 to the Verdigris River in the Verdigris Basin. The WWTF treats domestic wastewater from the city of Toronto.

The WWTF's National Pollutant Discharge Elimination System (NPDES) Permit KS0021890 was issued on January 1, 2022 (attachment 4). The permit expires on December 31, 2026. The permit includes concentration effluent limits at outfall 001 for BOD, total suspended solids (TSS), NH₃, *E. coli*, and pH. The permit also includes mass limits for TN and TP. The permit requires that the facility also monitor their effluent for TKN, NO₃+NO₂, TN and TP (concentration), dissolved oxygen (DO) and flow. The permit requires that the facility monitor their influent for BOD, TSS, TKN and TP. The permit has a removal efficiency requirement, which requires a minimum 85% removal of BOD and TSS (65% in their previous permit). Lastly, the permit requires that the facility maintain compliance with the sludge regulations in 40 CFR Part 503.

The facility was last inspected by KDHE on September 11, 2023 (attachment 5). The inspection found the facility to be in compliance but listed five operation and maintenance issues. The issues listed were an emergency discharge at the lift station, inoperable lift station back-up pump, wastewater bypassing on North Street, biological growth in clarifiers, and disposal of sludge in drying beds.

During my inspection, Mr. Crumrine and Mr. Schumacher both discussed that the City was looking at building a new WWTF. They stated that the plan was to build a lagoon system, and while they have preliminary plans, the engineers have not been out, and the funding has not been acquired.

FINDINGS AND OBSERVATIONS

The following findings were noted during the plant walk-through and records review. A summary is provided in the Water Compliance Inspection Report (attachment 1). These findings were discussed with Mr. Crumrine and Mr. Schumacher during the exit meeting.

Self-Monitoring Data Review:

Prior to the inspection, I obtained a spreadsheet of the discharge monitoring report (DMR) data for the Toronto WWTF from the EPA Region 7 data team. The spreadsheet containing the DMR reports included data from January 2021 through March 2024. Facility personnel provided me with copies of the facility's analytical reports that were used to submit the DMR values. All

DMR data obtained for this report can be found on ECAD's electronic file management system.

My review of the WWTF's self-monitoring data found that the facility exceeded their NH3 limits 12 times and their TSS limits one time in the time frame listed above. In the same time period, the facility was unable to meet their removal efficiency requirements for BOD 22 times and 22 times for TSS. These exceedances can be found in a spreadsheet included as attachment 6. This was noted as item #1 on the Notice of Preliminary Findings (NOPF) that was left on-site.

Sample Results

The analytical results from the inspection were received on June 3, 2024, from the R7 STC laboratory. This data was not discussed during the exit interview. The analytical results from influent sampling conducted during the inspection at the Toronto WWTF for BOD, TSS (identified as NFS, non-filterable solids, in EPA's laboratory sheets), NH3, TKN, NO3+NO2, TN, TP, temperature, pH, DO and flow are presented in Table 1 below. The analytical results from effluent sampling conducted during the inspection at the Toronto WWTF for BOD, TSS, NH3, TKN, NO3+NO2, TN, TP, temperature, pH, DO and flow are presented in Table 2 below. The removal rates for BOD and TSS are also included in Table 2. See attachment 7 for the complete analytical data packet including the analytical results from samples collected during the inspection.

Table 1: Analytical Results for Influent Samples Collected During Inspection

Parameter	May 14, 2024 Sample #1	May 15, 2024 Sample #2	May 16, 2024 Sample #3
BOD5 (mg/L)	12.2	9.32	13.2
TSS (mg/L)	4.48	6.17	17.0
NH3 (mg/L)	11.3	8.68	4.59
TKN (mg/L)	13.6	10.0	6.43
NO3+NO2 (mg/L)	0.461	0.414	0.940
TN (mg/L)	14.1	10.4	7.37
TP (mg/L)	1.59	1.26	0.730
Temperature	19.2	18.2	18.1
pH²	8.3	7.75	8.57
DO	6.55	6.99	8.32
Flow (GPD)	8784	7152	13,104

¹mg/L = milligrams per liter.

²°C = degrees Celsius, pH is not to be averaged, pH and temperature were measured in the field.

3 = BOD5 samples were received the lab 2 hours past holding time.

Table 2: Analytical Results for Effluent Samples Collected During Inspection

Parameter	May 14, 2024 Sample #1	May 15, 2024 Sample #2	May 16, 2024 Sample #3	Permit Limits ³
BOD5 (mg/L) ³	3.09	3.17	3.83	30/45
TSS (mg/L) ³	ND	5.26	9.47	30/45
NH3 (mg/L) ³	1.1	1.36	0.864	1.6/4.9
TKN (mg/L)	1.76	2.52	1.84	Monitor
NO3+NO2 (mg/L)	8.4	8.87	6.6	Monitor
TN (mg/L)	10.2	11.4	8.44	Monitor
TP (mg/L)	1.3	1.23	1.68	Monitor
Temperature	17.0	17.2	17.3	Monitor
pH²	7.51	7.62	7.85	6.0/9.0
DO	3.66	2.74	4.02	Monitor
Flow (GPD)	8784	7152	13,104	Monitor
TSS Removal (%)	100	15	44	>85
BOD Removal (%)	75	66	71	>85

¹mg/L = milligrams per liter.

²°C = degrees Celsius, pH is not to be averaged, pH and temperature were measured in the field.

³Permit limits for CBOD & TSS are Monthly followed by Weekly Averages. Permit limits for NH3 & Cu are monthly average followed by daily maximum.

⁴BOD5 samples were received the lab 2 hours past holding time.

Samples collected on all days showed compliance with effluent permit limits. May 15 and May 16, 2024, sampling and analysis showed the facility did not meet the 85% removal requirement for TSS. Samples all three days of the inspection did not meet the 85% removal requirement for BOD.

Laboratory

The facility uses Meridian Analytical Labs, LLC in Wichita and Mound City, Kansas, to collect and analyze all samples. I reviewed laboratory records from Meridian to ensure that all analyses complied with requirements of 40 CFR part 136. These records can be found on ECAD's electronic file management system. I noted that all holding times observed were met and all methods appeared to meet requirements of 40 CFR part 136. The analytical results I reviewed were consistent with the DMR data that was submitted by the facility.

Collection System

The collection system was observed and discussed with Mr. Crumrine. The city has one lift station at the WWTF, and the rest of the collection system is gravity fed. Mr. Butler stated the city had not done any video inspections of the pipes in the collection system. Mr. Butler and Ms. Fuehring stated the city had not re-lined any pipes or manholes that they knew of.

According to the facility's permit, the WWTF has a design flow of 0.058 million gallons per day

(MGD) with actual flows between .001 and .050 MGD. According to the facility's DMR data, the WWTF has flows between 0.0016 MGD and 0.0293 MGD. Mr. Crumrine explained that during really dry weather, the WWTF gets very low flow, which he suspects to be from the collection system losing wastewater. While the facility is not exceeding the design flow, the high variations of flow and the very low flows indicate that the collection system has a lot of inflow and infiltration (I&I). At the time of my inspection, the facility had flows of .008, .007 and .013 MGD, as noted in Table 2 above. Overnight after my second sampling event, the area received a rain event. After the rain event, the facility's flows almost doubled. The facility is also regularly unable to meet the removal efficiency requirements in their permit, which can be a sign of influent flows being diluted with inflow and infiltration (I&I). The city appears to have an excessive amount of inflow and infiltration that needs to be addressed. This was noted as item #2 on the NOPF that was left on-site after the inspection.

According to Mr. Crumrine, the City had the collection system smoke tested approximately five years prior to my inspection. Mr. Crumrine stated that most of the leaks observed during the smoke test were from manholes in the collection system. Mr. Crumrine explained that some of the manholes, but not all, were repaired afterward. Mr. Crumrine also stated that the City has not had any of their collection lines replaced or lined.

Operation and Maintenance

During the inspection, I observed the treatment facility and the facility outfall. The treatment facility consists of a lift station, a bar screen, an Imhoff Tank with a dosing siphon, a trickling filter, two clarifiers, UV disinfection and sludge drying beds (photos 10-12). From the UV disinfection system, water flows to and is discharged from outfall 001.

While observing the lift station, I observed what appeared to be an emergency overflow pipe in the wet well (photo 1). This was also noted in KDHE's last inspection report (attachment 5). While discussing this issue with Mr. Crumrine and the KDHE representatives, Mr. Schultz explained that during his last inspection, he and the operator tried to locate the discharge point for this overflow pipe and were unable to. Mr. Schultz and I discussed with Mr. Crumrine that an emergency overflow in the wet well could lead to a sanitary sewer overflow (SSO) and must be closed at all times except in times of an emergency. This is noted as item #4 in the summary of this report.

Also, while observing the lift station, I asked Mr. Crumrine if the alarms are operable. Mr. Crumrine stated he did not believe the alarms were operable. This was noted as item #3 on the NOPF that was left on-site.

While inspecting the facility, I observed the areas of the facility that were noted in past KDHE inspections. Other than the wet well overflow pipe issue described above, the facility had corrected and maintained all other issues that had been cited as part of the September 8, 2023, inspection.

While inspecting the treatment plant, I observed that the system's trickling filter recirculation

pump was missing (photo 12). Through discussions with Mr. Crumrine and looking through the facility's operation and maintenance records, I found that the recirculation pump was taken out of service in August of 2023. The facility's ammonia exceedance violations started around May of 2023. If the pump was not working correctly for a couple month's prior to being taken out of service, this could be one process that is leading to the exceedances. I discussed this with Mr. Crumrine during my inspection. Mr. Crumrine stated that he has been trying to replace the pump, but has been waiting on the pump company to get him a new one. This is noted as item #5 in the summary of this report.

Sludge/Biosolids

The facility utilizes a sand filled sludge drying bed process to dewater their sludge. Sludge is then transported to the Woodson County Landfill for disposal.

Summary

On May 15, 2024, I conducted an exit briefing with Mr. Crumrine and Mr. Schumacher. I went over the facility's rights to claim confidential business information. The facility did not make any claims of confidentiality (Attachment 8). I explained the preliminary findings that I observed during the inspection. A NOPF was left on site with the following findings (Attachment 9):

1. Failure to meet effluent limits.
2. Failure to collect composite samples and sample as required by the facility permit.
3. Facility gates were not closed, securing the system.

After the inspection, the following findings were determined:

4. Failure to make records available for inspection as required by the facility's permit.
5. Trickling filter recirculation pump must be replaced to maintain the designed operability of the plant.

After the inspection, I received some requested records from City personnel. No other responses to the NOPF were received prior to the writing of this report.

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Attachments:

1. Water Compliance Inspection Report 3560-3 (4 pages)