



RICK SNYDER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY



C. HEIDI GREETHER  
DIRECTOR

March 14, 2017

Mr. Timothy Hardesty  
Northfield Township Wastewater Treatment Plant  
11500 Lemen  
Whitmore Lake, Michigan 48189

Dear Mr. Hardesty:

SUBJECT: Compliance Sampling Inspection  
NPDES Permit No. MI0023710  
Designated Name: Northfield Twp WWTP

On January 10-11, 2017, staff of the Department of Environmental Quality (DEQ) Water Resources Division (WRD) conducted an evaluation of the Northfield Township Wastewater Treatment Plant (WWTP), located at 11500 Lemen Road, Whitmore Lake, Livingston County, to evaluate the facility's compliance with Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended and National Pollutant Discharge Elimination System (NPDES) Permit No. MI0023710, issued July 1, 2014, effective August 1, 2014.

You and Mr. Brian MacDonald (laboratory review and sampling assistance only) of Northfield Township, and Ms. Jennifer Rogers and I of the DEQ WRD participated in the inspection, which included interviews with you and Mr. MacDonald, records review of bench sheets, and laboratory reports for selected data for three months, laboratory review, effluent monitoring, and site inspection. You also provided some information via email after the inspection and we had a conference call along with Mr. Dan Willis and a representative of your laboratory on March 2, 2017.

Northfield Township (the Township) operates a municipal wastewater treatment plant that discharges treated sanitary wastewater to Horseshoe Lake Drain.

The Township WWTP was found to be in substantial compliance with NPDES permit terms and conditions, with exceptions discussed below. The following items were identified and/or discussed during our inspection.

1. We discussed that biosolids have not been hauled as originally scheduled due to Synagro's withdrawal from Michigan. Some biosolids were removed in December and Synagro equipment was left on site. You said that Synagro indicated that they will remove the remainder of the biosolids this month. You believe that the WWTP has enough biosolids storage for now, however, and is operating normally despite the decanted supernatant. The Township will, of course, need to make arrangements for future biosolids management.

2. The Township previously designed a Quality Assurance/Quality Control (QA/QC) program, but it is not currently being implemented as required. The following issues were noted.
  - a. Duplicates are being run monthly for most parameters, but would be recommended weekly based on the number of samples analyzed each month.
  - b. Glucose and Glutamic acid (GGA) tests are not being run monthly for CBOD5 as recommended.
  - c. Results of QA analyses (e.g. duplicates, spikes) were not being charted. Charting of data is needed to establish warning and control levels and to flag any problems with analysis that should be resolved.
  - d. Mr. MacDonald reported that the standard curve for phosphorus was prepared a year ago. This curve should be prepared at least every six months and when standards or other factors are changed.
  - e. The Township is considering purchasing new laboratory equipment for phosphorus analysis to reduce laboratory time. Please be aware that the method being considered is approved but does require additional QA/QC measures as part of the approved method.
  - f. It appears that the Township may need additional staff or shifts in responsibility to adequately implement their required QA/QC program. Please discuss how the Township plans to handle laboratory staffing issues.
3. Mr. MacDonald reported that QA/QC records prior to September 2016, were lost due to computer issues. Please be aware that electronic records must be backed up if they are the only records. All records associated with NPDES sampling and analysis are required to be retained for 3 years.
4. You said that ongoing maintenance of the WWTP is planned, including a new stainless steel container for grit removal, new pumping system for chlorine, repair of the skimming arm for the intermediate settling tank, new skim coat for concrete by aeration tanks (skim-coated intermediate tanks last year). During our telephone call on February 29, 2017, you said that the skimmer arm had been fixed and the chlorine water feed pumps were installed.
5. We recommend that small totes of hypochlorite in the filter building be moved or placed on a secondary containment pad to reduce the possibility of spills entering the treatment system.
6. Confined space signage for chlorine contact tank access should be replaced due to wear and added where it is absent.
7. Seven-day averages are not being calculated or reported correctly. You are reporting 7-day averages starting on the first day of the month rather than the 7<sup>th</sup> (for that day and the previous seven). You said you use Opt 10 software and are not sure how the numbers are calculated. Please correct your calculations and reporting for seven-day averages.
8. As we discussed in our conference call on March 2, 2017, July 2016, mercury data did not meet acceptance criteria and there were related issues as detailed below.
  - a. Field blank results for July 12, 2016, exceeded acceptance criteria, indicating contamination may have occurred during sampling. EPA Method 1631 says that results for associated samples may not be reported or otherwise used for

- compliance purposes. The Township was required to resample to comply with its NPDES permit requirements but failed to do so. EPA Method 1631 asks that laboratories contact the sampling team to let them know of the issue; regardless, the Township was required to resample as soon as possible after they reviewed the sample results.
- b. As of March 1, 2017, the July 2016, mercury final result is incorrectly reported as "0.0" for total mercury (corrected) concentration and loading. Since the data did not meet acceptance criteria and effluent was not resampled, please report as \*H ("Did not sample as required by permit") in the final corrected result columns for concentration and loading and include an explanation in the comment areas. Please leave the remaining data (uncorrected result, duplicate, method blank, field blank) in place.
  - c. We also note that the field blanks for October 2016, and January 2017, were incorrectly reported at <0.5 ng/l. Field blank and method blank results are prescribed by EPA Method 1631 to be reported as the method detection limit (MDL) of <0.2 ng/l or greater if mercury is detected. In our conference call, Brighton Analytical said that they are achieving the prescribed MDL and would change their reporting to be consistent with method requirements. Please be aware that the Township is required to use a laboratory that is achieving the requirements of EPA Method 1631.
9. We found that the ammonia-nitrogen loading on July 7, 2016, was a typographical error, and you have corrected it.
  10. We discussed that if volatile and semi-volatile pollutants have not been detected, the Township may request reduction in monitoring per Part I.A.1.f. of your NPDES permit. To make such a request, a letter should be sent via mail or electronic mail (not through MiWaters at this time) for processing.
  11. You notified the DEQ WRD of your upcoming retirement and your successor, Mr. Willis. Thank you for providing updated designated operator in charge documentation. I invited Mr. Willis to become an administrator for the Township site on MiWaters. Please ensure that Mr. Willis accepts the invitation and becomes familiar with MiWaters and the Discharge Monitoring Report submittal process before you retire.

Results of the DEQ WRD point source monitoring from January 10-11, 2017, are enclosed for your review. Monitoring was performed during a 24-hour period and included grab samples, a WRD-collected composite sample, and a split taken off of the facility's 24-hour composite sample. Table 1 of the enclosure includes WRD's composite sample results and compares them to the Township's reported final effluent data. Results met daily maximum NPDES permit limits. Table 2 shows the results of the three grab samples taken for parameters such as temperature, pH, fecal coliform, and dissolved oxygen. Results were as expected with the exception of the first fecal coliform sample, which was elevated at 980 cts/100 ml. Ms. Rogers reported nothing unusual about the appearance of the sample taken, which was grabbed from the second cascade. The other samples had results at less than the quantification level. You and I have discussed this issue, and you have not found an explanation for the elevated results. Please be aware of a potential issue with disinfection and make any corrections needed. Table 3 lists results of volatile and semi-volatile samples. Most results were below the level of quantification, with the exception of chloroform at 1.3 ug/l. Table 4 shows results of the sample WRD split from the Township's composite sample. DEQ results were consistent with those of

Mr. Timothy Hardesty  
Northfield Township Waste Water Treatment Plant  
Page 4  
March 14, 2017

the Township. Table 5 compares results of this survey with the previous survey in March of 2012. Table 6 lists preservatives used and laboratory letter codes.

Thank you for your cooperation in these matters. Please respond via MiWaters to items 2a-f, 3, 5, 6, 7, 8a-c, and 11 above by April 14, 2017.

Should you require further information, please contact me at 517-243-1249, davidsonc@michigan.gov; or Department of Environmental Quality, 525 West Allegan-1<sup>st</sup> Floor South, P.O. Box 30242, Lansing, Michigan 48909.

Sincerely,

A handwritten signature in blue ink, appearing to read "Carla Davidson", is written over a faint, larger version of the typed name below.

Carla Davidson  
Lansing District Office  
Water Resources Division  
517-243-1249

Enclosure:  
Point Source Monitoring Survey, January 10-11, 2017  
cc/enc: Mr. William D. Willis, Northfield Township