



Staff Report

Report Title: Water Wastewater January 2024

Prepared By: John Yungblut, C.E.T., Director of Public Works

Department: Public Works

Date: Jan. 15, 2024

Report Number: PW-2024-01-3

File Number: C11 PW 24

Attachments: Monthly Water/Wastewater Summary, New Water Tower Photo, Standpipe Demolition Photo

Recommendation:

THAT the Township of Huron-Kinloss Committee of the Whole hereby receives for information, Report PW-2024-01-3, as prepared by John Yungblut, Director of Public Works.

Background:

Monthly Summary

Our Operating Authority, Veolia Water Canada, has prepared a summary of the water and wastewater operations over the past month.

Lucknow Standpipe Replacement

The construction of the new elevated tank in Lucknow began on Nov. 30, 2022 and it was incorporated into the Lucknow drinking water system on Nov. 8, 2023.

The demolition of the existing standpipe was completed on Nov. 29, 2023 and the concrete sidewalk through the entrance off Wheeler St. was poured on Dec. 12, 2023.

The only work remaining is the final restoration of the site and paving the site entrance which will occur in the spring of 2024.

Ripley Well 1 Abandonment

The original municipal drinking water well in Ripley, known as Ripley Well 1, was abandoned on Oct. 5, 2023 with bentonite clay and a concrete cap and the contractor did not encounter any issues.

On Oct. 19, 2023, our lab contacted Veolia indicating that they were unable to test the raw water samples from Ripley Well 2, which is located approximately 10m east of Ripley Well 1, for the past two weeks. It appears that the bentonite clay migrated to the other well after abandonment, which impacted the ability of the lab to analyze the sample for contamination. Ripley Well 2 was then immediately taken offline. Treated water samples were able to be analysed and they were clear of any contamination.

Raw water sample results from Ripley Well 3 and 4 located near the Ripley Elevated Tank that were taken on Oct. 10th showed elevated levels of total coliform and E.Coli. At this point Ripley Well 2 was taken offline and Veolia began regularly flushing Ripley Well 2.

Raw water sample results taken on Oct. 24th showed no detectable E.Coli and significantly reduced levels of total coliform in Ripley Well 3 and 4. The lab was able to determine that there was not high levels of contamination in the raw water at Ripley Well 2, but could not verify if there was any low levels of coliform or E.Coli.

Raw water samples taken on Nov. 7th showed no contamination for any well in the Ripley water supply and distribution system, however, Nov. 14th and Nov. 21st raw water samples results showed low levels of total coliform and E.Coli in Ripley Well 4.

Raw water samples taken on Dec. 18th, Dec. 27th and Jan. 2nd showed no detectable contamination in the water samples taken from any of the drinking water wells in Ripley. The last sample that showed any detectable coliform in the raw water was taken on Dec. 11th.

Through this entire process the treated drinking water has been sampled and our lab has confirmed that there have been no detectable levels of contamination at any well site and the various sampling locations throughout the Ripley drinking water distribution system.

Ripley Lagoon Discharge

Our Environmental Compliance Approval (ECA) for the Ripley Lagoon facility, requires samples of the final treatment cell to be below specified thresholds to allow for discharge into the South Pine River between Oct. 15th and May 1st. We typically discharge from the final treatment cell in the fall and again in the spring.

Samples were taken in October leading up to our normal discharge schedule in November. As of Nov. 30th, all parameters that need to be tested were at an acceptable level except for

the total suspended solid (TSS), which was still significantly higher than is permitted in our ECA. Township staff investigated some remedial treatments that would help to reduce the TSS and decided to proceed with batch dosing aluminum sulphate from boats that are launched into each lagoon cell. As part of our normal wastewater treatment process, aluminum sulphate is added to the raw sewage as it is pumped into the primary lagoon cell. This chemical is intended to both reduce the phosphorus levels in the raw sewage and force solids to drop out of suspension. In this case the dosing level appears to have not been sufficient.

A quote was approved from Ontario Clean Water Agency (OCWA) to treat two cells at a cost of \$6,000. The treatment was applied on Dec. 13, 2023 and samples taken on Dec. 15, 2023 showed TSS levels that were well below the specified threshold.

Lagoon discharge began Dec. 27, 2023 and is expected to be completed by Jan. 19, 2024.

Discussion:

Monthly Summary

The summary prepared by Veolia Water Canada is attached to this report.

Lucknow Standpipe Replacement

This project went very well with very few issues encountered. Photos of the new tower and part of the demolition process are attached to this report.

Ripley Well 1 Abandonment

Township staff will continue to monitor the sample results for the Ripley wells that remain in service, however, now that we have consecutive samples that show no detectable contamination, it appears that intervention will not be required.

Ripley Lagoon Discharge

Township staff are in the process of investigating the causes of the elevated TSS levels at the Ripley Lagoon. One possible cause could be that the aluminum sulphate level was too low, however, there are other factors that we are looking at.

We had observed some minor erosion of some of the side slopes of the final treatment cell, which may have contributed to the higher level of suspended solids. Another cause could be the increased number of septage loads and leachate from the Huron Landfill we received in 2023 compared to previous years. The septage loads come from a variety of sources such as septic tanks, holding tanks and portable toilets and each source has differing treatment requirements. In previous years, the amount of imported sewage was not enough to affect the lagoon water quality.

To prevent future issues, Township staff are looking at reinforcing some of the side slopes to prevent further erosion in the final treatment cell and we have implemented measures to ensure all septage and leachate loads are treated with aluminum sulphate before entering the lagoon system, however, this is only a temporary situation. If the Township is going to continue accepting imported sewage, we are going to have to eventually construct a septage dumping station to ensure septage is disposed of in a secure and environmentally responsible manner.

Financial Impacts:

The Lucknow ET and Ripley Well 1 Abandonment are included in the 2023 Capital Budget. Cost associated with lagoon discharge are included in the operating budget.

Strategic Alignment / Link:

We are an environmentally conscious community that are good stewards of our natural environment by being aware and taking responsibility.

We are a prosperous community that continues to grow in a sustainable manner by investing in infrastructure.

Respectfully Submitted By:

John Yungblut, Director of Public Works

Approved By:

Mary Rose Walden, Chief Administrative Officer