FREQUENTLY ASKED QUESTIONS

DATE: October 27, 2020

SUBJECT: MATTAWAN WRRF

This FAQ SHEET is an aid to the public to help understand the project scope as it affects waters of the state and environmental impacts. Below are some frequently asked questions with answers to help clarify.

1. **Why is Mattawan building a Water Resource Recovery Facility (WRRF)?**

   Currently, the Village of Mattawan uses a 6-mile long, pressurized main to send waste water to Kalamazoo where it is processed and flows into the Kalamazoo River. This pressurized main has aged and is beginning to fail and must be repaired or replaced. The main has a recent history of failures that are a threat to the environment in a number of ways. Due to the location and configuration of the main, it con not be inspected for integrity and the cost to construct a new one is extremely high. A feasibility study was performed which showed the option to separate from the Kalamazoo treatment agreement, and build a facility to service Mattawan will save the taxpayers and end users millions of dollars.

2. **Why is the discharge going into Hayden Creek?**

   There were two other locations for the discharge considered, both within the Village of Mattawan limits. These were to Mattawan Creek (or Payne Creek), and the tributary creek located on the Facility site (Cook Drain). Both of these waterways pass through the Maple Lake waterway. The Maple Lake waterway has three existing facilities that are regulated by the State, and which use all of the available capacity. These waterways are already full and cannot be used by the Mattawan Facility. Hayden Creek is the only feasible option available to the Village.

3. **What is the State's position on the project?**

   The State of Michigan typically wants municipalities to work together when it comes to facilities of this nature. They like a single source for multiple users when it makes sense. It takes sound reasoning for a municipality to break away from a system like Kalamazoo. *The current state of the pressurized main, the recent environmental impacts from failures, and the difference in costs and how the residents would be affected by them, have resulted in support from the State.*

   For design purposes, the State has reviewed the stream quality and flow, and has produced "Expected Limits of Operation" (ELO) that must be adhered to in order to maintain water quality in the creek.

   Additionally, as part of the permitting application procedures, a statement explaining how this project does not degrade the current state of the environment is required. The statement for this project shows that the restrictions imposed by the State on Hayden creek are far stricter than those of the Kalamazoo River. From an overall health of the environment perspective, this project is an overall improvement.

4. **What is the quality of the water coming out of the facility?**

The Michigan Department of Environment, Great Lakes and Energy (EGLE) regulates the water quality of these facilities through the National Pollution Discharge Elimination System (NPDES). A permit must be provided to the facility, by the State, in order for it to operate, and must be re-approved every five years.

Regulations over the past ten years have become increasingly more restrictive. The Estimated Limits of Operation developed by the State for this facility are much lower than most WRRFs. The facility will meet the standards set by the EGLE, whose goal is to ensure the water entering the creek is within tolerances, to protect the creek ecosystem.

5. **How much water will be discharged, and how will the creek flow be changed?**

Hayden Creek flow data was taken from the environmental evaluation performed by the State. There are three statistics considered. These are as follows:

95 percent Exceedance – on average throughout the year, the creek exceeds this flow 95% of the time.
Harmonic Mean – the average flow in the creek.
90dQ10 Low Flow – the lowest 90-day average flow expected to occur once every 10-years.

For Hayden Creek, these numbers are:

95 percent Exceedance = 3.4 cubic feet per second (cfs)
Harmonic Mean = 6.1 cfs
90dQ10 Low Flow = 3.9 cfs

The facility discharge is expected to initially contribute 0.6 cfs of additional base flow. Future growth projections after 20 years calculate this value to be 1.3 cfs.

6. **Will the fish in the creek be safe to eat following the discharge?**

The 2016 Water Quality and Pollution Control in Michigan Sections 303(d), 305(b), and 314 Integrated Report indicates Hayden Creek (Assessment Unit ID (AUID) 040500012406-02) is Not Supporting Water Quality Standards (WQS) (Category 4a Waterbody) for the Fish Consumption designated use due to polychlorinated biphenyls (PCBs) in the fish tissue and the water column. *Currently, the State has designated Hayden Creek as not supportive of water quality standards for fish consumption. Resident consumption of fish from Hayden Creek is at their own risk.*

7. **Was consideration that Hayden Creek is a designated trout stream taken into account?**

Yes. The restrictions on facility discharge water quality are more severe due to this designation. The temperature, dissolved oxygen levels, and pH of the water will all be monitored to ensure the integrity of the creek as a trout stream.

8. **Will the water be safe for swimming?**

The planned facility uses ultraviolet disinfection on all water leaving, and is required to be tested daily for bacteria levels. There are hundreds of treatment facilities like this one operating in

Michigan which discharge into waters-of-the-state without contact restriction. Contact restrictions are not expected from this discharge.

9. Will micro-plastics be discharged into the creek?

The permit regulations developed by the State will require that the facility use microfiltration as a final step in the process. Micro-plastics are defined as having the size of 5 millimeters or less. The design of the filters are for the removals down to 5 microns, which is one twenty-five-thousandths of an inch. For reference, the diameter of a human hair is in the range of 90 microns.

10. Will pharmaceuticals be discharged into the creek?

The Whole Effluent Toxicity (WET) test measures organism response to exposure of the water. It is a replication of the total effect of exposure of aquatic life to toxic pollutants. As part of the operating permit requirements from the State, WRRFs are required to conduct toxicity testing on the outgoing water at least annually.

11. Will this affect the nearby Wolf Lake State Fish Hatchery?

No. The Fish Hatchery is not located on Hayden Creek. It is located on the North Branch of the Paw Paw River approximately 5 miles upstream of where Hayden Creek branches off.

12. Will this affect the nearby Paw Paw Prairie Fen Preserve?

No. The fen area is six miles southeast of the proposed location and away from the creek.

13. How will this affect local wildlife, including endangered species?

Migratory birds, including eagles: No impact - there will not be tree clearing or elevated structures at the outfall.

Massasauga Rattlesnakes: No impact – outlines and guidance provided by the US Fish and Wildlife Service must be followed as part of this project to protect rattlesnake habitat.

14. Will livestock and cattle be able to drink the water?

Yes. The ultraviolet disinfection included in the process requirements kills any residual bacteria that might be present following treatment.

15. How could this benefit those outside of the Village of Mattawan?

Septic tanks have been shown to be a considerable health risk to groundwater and surface waters of the State. This includes creek systems like Hayden Creek. The facility opens up the ability in the future, for township residents to negotiate a partnership with the Village of Mattawan to connect and abandon septic tank sewer systems.

16. When will the discharge begin?

It is anticipated that the discharge would likely begin in late summer or early fall of 2022.