

May 8, 2025

The Tonawanda Seneca Nation requested technical assistance from the Syracuse University Environmental Finance Center (SU-EFC) in reviewing the 2025 update to the Basis of Design Report for the Village of Oakfield Wastewater Treatment Facility Proposed Connection of STAMP Force Main. Findings from this independent review are detailed below and provided to the Nation.

SU-EFC partners with communities across New York to access critical water and wastewater infrastructure funding, especially those that have historically lacked opportunities to bring projects to the funding stage. Our team of researchers, engineers, peer advisors, and finance experts work closely with elected officials, utility directors, and other community groups to provide a wide range of services that are available at no cost to communities. SU-EFC's technical assistance services are intended to support informed decision-making for its community and Native Nation partners. Technical reviews are supported through a portfolio of federal technical assistance and training cooperative agreements, under which SU-EFC operates independently.

Summary

Upon review, the new pipeline proposed in the BODR raises several concerns that could impact public health and the environment. While the engineering design is reasonable given the constraints defined by GCEDC, the rationale behind some of these constraints is not fully explained. Primary concerns for the Village of Oakfield involve the municipality's capacity to manage increased demands on their facility, from both a managerial and financial perspective. Another concern is the accuracy of expected flow levels, based on prior flow estimates provided by the applicant in its two previous BODRs, and the lack of provisions for planned future growth. A final concern regards design choices made for the pipeline that are more subject to jurisdictional and scheduling constraints than sound engineering principles, leading to an expensive and overcomplicated system. Additional information is included in the sections below.

Concerns About Managerial Capacity

It is not clear whether the new plan to transport wastewater to an ageing municipal system is feasible from a managerial perspective. The original plan, first proposed in 2013, was to pipe wastewater to a facility in another municipality (Village of Medina). A Memorandum of Understanding (MOU) was signed and in force for four years, at which point the Village of Medina declined to renew the MOU. Information is not provided as to

why municipal leaders chose not to renew the MOU. After the Village of Medina's decision, GCEDC restructured its plans to instead provide onsite treatment, as outlined in previous BODRs. The latest revision is now proposing a similar pipeline transport arrangement to another municipality, the Village of Oakfield.

The report acknowledges that the Village of Oakfield's current wastewater treatment facility (WWTF) needs significant improvements. While there is a soft commitment to support those improvements, the BODR states that improvements will only be implemented "as funding allows." This raises concerns about the Village's ability to manage the increased demands on their facility, including:

- Regulatory requirements by NYSDEC for the Village of Oakfield to add phosphorous treatment. While the applicant is proposing to fund capital costs of upgrading the WWTF to meet the new requirements, there is no mention of covering the costs of additional operations and maintenance needs at the expanded facility.
- Inflow and Infiltration (I&I) issues, which could require an entire sewer replacement for the Village of Oakfield that would increase costs, with no discussion of who would be responsible for financing the replacements. The Village of Oakfield's sewer system is affected by but not directly included in the project scope and therefore would not be within GCEDC's funding obligations.

Concerns About Facility Capacity

Throughout the permitting process, the applicant's demand estimates have been drastically reduced with each revision.

In 2013, the applicant estimated it would generate 1 million gallons per day (MGD) of sanitary wastewater and 11 MGD of industrial wastewater, for a total of 12 MGD. No information was provided as to how the 12 MGD figure was calculated, or the assumptions made. In 2017, this estimate was reduced from 12 MGD to 6 MGD, referencing onsite recycling of industrial wastewater but providing no other justification. In 2025 (the current BODR), the new estimate has been reduced to just 20,000 gallons per day (gpd) of sanitary wastewater, which is just 2% of the original. Industrial wastewater estimates are now placed at 0 MDG.

While the Village's WWTF does have some available capacity, it would not be able to treat the original 1 MGD of sanitary wastewater. The WWTF's current average design flow is 130,000 gpd and the permitted monthly average is only 0.5 MGD (500,000 gpd). Conveniently, the stated estimate of 20,000 gpd is low enough to remain within the facility's permitted capacity. It should be noted that DEC has the potential to reduce the

permitted capacity in their upcoming review to 0.34 MGD, as the facility is limited by its secondary treatment capacity.

Inflow and Infiltration could increase flow to the plant past its permit limits in wet weather, which would result in untreated discharges into the surrounding environment. In the 2015 evaluation, it was estimated that I&I contributed an additional 50,000 gpd. Typically, adding more flow to a system can increase the frequency of untreated sewage discharges into waterways during rain events. According to records, from 2019-2023 there were already 6 days per year when flow exceeded the facility's 0.5 MGD capacity.

Increased flows can also lead to higher water levels and potentially flooding. The plant was originally designed in 1979 to handle a maximum flow of 1.1 MGD. It appears that current peak hourly flows (1.36 MGD) would already be flooding the control weirs. An accurate hydraulic profile would be needed to determine whether water levels would change throughout the WWTF with the additional flows. However, the applicant has not updated the hydraulic profile to determine that impact.

There are also additional flows mentioned in the BODR which are not accounted for in determining the WWTF's capacity. For example, the pipeline map shows potential tie-ins from multiple hamlets in Alabama. The BODR states those tie-ins could add up to 58,000 gpd of additional flow, which was only considered in designing the main pump station, and not the WWTF. Additional documentation listed the Full Buildout Design Flows as 287,000 gpd, with 187,000 gpd from STAMP and 100,000 gpd from the Town of Alabama. While adding another 287,000 gpd would still technically be within the existing WWTF permit limit of 0.5 MGD, it would exceed the potentially reduced updated permit limit of 0.34 MGD.

Finally, there are concerns about who will be responsible if the applicant's flows increase beyond the 20,000 gpd estimated by the applicant. Per the BODR, "Flows in excess of 20,000 gpd will require additional coordination with the Village of Oakfield prior to discharging to the collection system." This leaves the Village responsible for managing any additional flow resulting from the applicant increasing its usage over time, as well as monitoring the wastewater characteristics of new flows to determine the type and level of treatment required.

From a business perspective, the updated BODR states that tenants of STAMP will not be allowed to use the proposed wastewater system for process (industrial) wastewater, unless they get their own permit. For businesses evaluating whether to move their operations to STAMP, the reality of needing to apply for their own treatment permits may decrease its appeal. All of this suggests that STAMP is not in fact designed to support industrial activities.

Design Concerns

Additional concerns that would warrant requesting more information include:

- Elevation gains. One aspect of this new proposal is the recipient WWTF in the Village of Oakfield is at a much higher elevation than STAMP. Safely transporting wastewater uphill over long distances requires the construction of multiple pump stations, which are expensive. Pump stations would not be necessary if the pipeline were instead designed to go downhill to a different treatment facility.
- Siting of connection point. The BODR states that three options were considered for where to connect the pipe. The best option, according to the BODR, is a connection point located in the middle of town, which will cause “extensive road reconstruction and coordination” for the Village of Oakfield.
- Finally, more information should be requested to determine whether the proposed pipeline location will be carrying untreated wastewater over streams that flow into the wildlife refuge and to the Nation. The proposed pipeline would cross several streams on its way to the Village of Oakfield’s WWTF. If any of those streams flow northwards into the refuge—and it appears that they do—it significantly increases risks to public health and the environment should pipe leakage or failure occur. A failure along the pipeline would give sewage a direct path to ecologically sensitive areas, with no options to mitigate the harm. Pipes eventually age out and break, particularly in smaller systems where municipalities do not have the resources to proactively monitor, inspect and replace pipe sections. Absent a robust, well-funded plan for operations and maintenance of the pipeline, it would be pragmatic to conclude one expected outcome of the proposed pipeline is that there will, at some point in the future, be times when untreated sewage is discharged into the watershed. In such a case, it is unclear what requirements the STAMP Sewer Works is held to for reporting spills or overflows on the NY Alert System.

END OF REVIEW