Appendix 3 – Supporting Information

Background on Hauled Sewage Rate Setting

The Region conducted a review of its hauled sewage rate setting approach in response to questions raised at Public Works Committee about the suitability of the current rate and specifically how the revenue collected compares to the true cost of hauled sewage treatment.

Hauled sewage has significantly higher pollutant concentration than sewage received through the collection system (pipe network). For that reason, treatment is much more costly as compared to regular wastewater and the cost of hauled sewage treatment cannot be determined by simply applying the wholesale wastewater rate to the volume of hauled sewage collected at receiving facilities.

Region staff reviewed various potential methodologies to determine the best approach for setting the hauled sewage rate. Each potential methodology was evaluated against various parameters including fairness, accuracy, complexity, and practicality of implementation. After careful evaluation, staff recommend the Weighted Pollutant Concentration Method.

Simply put, the Weighted Pollutant Concentration Method identifies how much it costs to remove various types of pollutants from wastewater, and then determines what it costs to treat an “average” sample of hauled sewage. In other words, the operational & maintenance (O&M) costs are deemed proportional to the relative amounts of treatable pollutants contained in the hauled sewage. This method determines the average concentration of pollutants in regular wastewater and the weighting of each pollutant in the total sewage treated to determine the cost per kilogram to treat each pollutant. This cost is then applied to the average pollutant loading in hauled sewage to determine a treatment cost.

The average strength of various sources of hauled sewage was determined based on a three (3) year historical average of laboratory results from collected samples of hauled sewage. The data used to calculate the Weighted Pollutant Concentration Method is credible, with testing being performed by the internal accredited lab and based on samples collected from sewage haulers. Samples collected and tested were in the thousands, ensuring the data is representative of the overall pollutant concentrations and fit for the purpose intended.

This method accounts for treatment costs at facilities receiving hauled sewage and purposely excludes costs from other wastewater facilities and the sewage collection system not involved in collecting and treating hauled sewage. This ensures the rate charged reflects the true cost of hauled sewage acceptance and disposal.

Hauled sewage received at plants uses up capacity that would otherwise be available for the treatment of wastewater. Therefore, a portion of the proposed hauled sewage rate accounts for capital sustainment needs as well as future capacity expansion needs. Regional staff analysed the most current asset inventory to ensure the portion of the rate contributing to capital sustainment only accounts for the assets that are used in the treatment of wastewater and omits those associated with collection to ensure fair and accurate cost recovery.

Similarly, the portion of the rate contributing to capital expansion needs was determined by looking at the assets required for treatment in the Development Charge Background Study. As rural homeowners do not pay development charges related to wastewater when building, they have not contributed to future infrastructure needs but are still using capacity at wastewater treatment plants. Therefore, those utilizing the hauled sewage program are taking up capacity that could otherwise be used for growth from urban areas. A disposal fee that accounts for this ensures accurate full cost recovery and removes the subsidy on the program currently being covered by development charges.

Due to the variation in pollutant loading between residential and commercial sources of hauled sewage across the Niagara Region, staff recommend moving to a multi-rate disposal fee to distinguish between “low concentration” and “high concentration” waste producers. Under a single rate structure, lower concentration and residential waste producers essentially subsidize the higher concentration producers in the food and beverage industry. Under the multi-rate structure, those driving the cost of treatment pay accordingly. Low concentration sources are defined by having a Biochemical Oxygen Demand (BOD) concentration of under 10,000 mg/L which generally translates into a total pollutant concentration of under 15,000 mg/L. Conversely, a high concentration source is defined by a BOD concentration over 10,000 mg/L and a total pollutant concentration over 15,000 mg/L. **Appendix 1** to Report PW 26-2024 outlines the proposed typical disposal fee for different sources of hauled sewage. **Figure 1** below breaks down the rate into the three (3) components: O&M Cost, Capital Sustainment Cost, Capital Growth Cost.

Figure 1: Hauled Sewage Rate Breakdown

Sewage Type	O&M Costs	Capital Costs (Sustainment)	Capital Costs (Growth Related)	Total Cost ($/1000 gallons)
Low Concentration	$48	$19	$3	$71
High Concentration	$111	$45	$8	$165

In closing, staff recommend the Weighted Pollutant Concentration Method as the most suitable method to establish a rate methodology that will account for the true cost of treating hauled sewage as a Regional service.