

To: Michael Domenica
From: Paul R. Ammann
Subject: **Some Challenges to the Tri-Town Septage Business**
Date: September 6, 2014

As part of its environmental planning, the Town of Orleans has engaged Stantec to conduct a study of the future market for septage and of other plants that could compete for the business, and their costs. This document outlines some factors that should be considered by the Consultant and the Town of Orleans as it makes plans for the future use of the Tri-Town Site. These factors are outlined in the following bullet items.

- At 10 million gallons of septage a year and a needed investment of at least \$5 million to continue operation for at least 20 years, the plant would need to charge at least **12.5¢** to **13.5¢** per gallon (compared to **10¢** per gallon now) to justify (repay) the investment.
- The Yarmouth-Denis and Chatham Plants, well as off-Cape septage treatment facilities, are potential competitors for some or all of the business, especially as costs at Tri-Town might increase.
 - With some limited equipment additions, the Chatham sewage treatment plant would be capable of treating **ALL** of the **10 million gallons of septage per year** at a marginal cost **ONLY 3¢** to **4¢** per gallon, and the town of Chatham could recover the modest, incremental investment in 3 to 4 years. Although the Director of the Board of Health and Environment and the current Chatham Board of Selectmen do not appear to be interested in the current Tri-Town septage business, at some time in the future the town of Chatham might become interested in the very profitable business. This would be present a vulnerability of the Tri-Town Plant.
 - The Cape Cod Commission might consider the collection and treatment of septage on a regional basis and determine where it might be handled most effectively.

- Currently, property owners are encouraged to pump septic systems at least **every three years**. BUT, there is a large body of data and information that indicates pumping can occur safely at less frequent intervals! In fact, there are a number of existing communities where septic tank pumping is based on periodic measurements of scum and sludge levels.
 - For a property with **2 year-round occupants** (typical for Orleans) and with a **1,000 gallon septic tank**, pumping could be carried out every **5 to 6 years** --- safely.
 - Septic tanks could be inspected every three years and the scum and sludge levels measured with a “sludge judge”. The data could be recorded in electronic format and tracked by the Board of Health, the septic pumping contractor and the property owner in order to determine the optimal time for the next pump-out. Experience from several communities indicates that septage pumping can occur at longer time intervals than every 3 years.

- There may be some small adjustments that might partially offset some of the reductions in septage generation.
 - Overall population growth in the Lower Cape of, say, 10% in the region, might add an equivalent of to up to 1 million gallons of septage per year.
 - Addition of biomass from decentralized, or cluster, nitrogen removal operations could increase the quantity of “solid wastes” that would have to be processed.
 - The implementation or expansion of sewer systems in Chatham and Harwich (and in other communities) will result in a decrease in septage generation in the future.

- Overall, there is a likelihood that septage deliveries to the Tri-Town facility could decrease **from 10 million to 5 to 7 million gallons per year** over time. Such a scenario would result in decreased revenues to the owners of a Tri-Town Septage Plant unless tipping fees were increased to even more than **12.5 to 13.5¢ per gallon**.

- If a more modern practice of measuring and tracking scum and sludge levels in all septic tanks is adopted Cape-Wide, an overall excessive capacity for sludge treatment would be created at the Cape facilities.

This information should be considered by Stantec when it prepares its analysis of the septage market and of revenue potential for a future Tri-Town treatment facility.

If there are any questions or concerns, please contact me.

Note that there is extensive backup material to support all of the above statements, and can be made available upon request.