



March 3, 2024

Vassalboro Sanitary District
Board of Trustees
PO Box 183
N. Vassalboro, Maine 04989

Dear Trustees,

This letter follows up on our conversations regarding the funding received and repayment concerns for the Vassalboro Sanitary District (District). At the meeting in November 2023, it was evident that there were concerns among the community on how to pay for the operations, maintenance, and debt obligations. To the benefit of the community as a whole, the District was successful in receiving money from local, state, and federal funding sources for the project, including:

| Source | Description | Loans | Grant | Total |
|---------------|--|--------------------|--------------------|--------------------|
| USDA | United States Rural Development | \$2,113,000 | \$1,700,000 | \$3,813,000 |
| CWSRF | Clean Water State Revolving Fund | \$1,049,000 | \$1,041,000 | \$2,090,000 |
| DEP | Department of Environmental Protection | \$0 | \$600,000 | \$600,000 |
| CDBG | Community Development Block Grant | \$0 | \$997,340 | \$997,340 |
| Town TIF | Municipal Tax Increment Financing | \$0 | \$290,000 | \$290,000 |
| | Totals | \$3,162,000 | \$4,628,340 | \$7,790,340 |

Even with the funding provided by these entities, the resulting loans will significantly impact the District's customer base, which is comprised of 200 customers. One prudent option would be to consider the shared human and ecological benefits this project will provide to the community – not just the District customers - and how the financial impact could best be shared among all community residents.

The community places a high value on protecting the environment, as evidenced by the efforts to restore the Alewives with municipal tax increment financing (TIF). In considering the most appropriate way to address the District's financial situation, the public needs to understand some basic concepts surrounding wastewater, the difference between primary and secondary wastewater treatment, and the benefits of the District's wastewater upgrades on the community.

Wastewater

Wastewater, or water that has been used can be domestic, commercial, or industrial. Domestic wastewater can carry chemicals, germs from homes, and urine and feces. Commercial and industrial wastewater can have even more harmful impacts on the environment, depending on the kind of facility. This waste stream can carry soluble and insoluble contents that impact acid and base levels and fats, oils, and grease from restaurants and commercial businesses. When insufficiently treated byproducts have the opportunity to

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flow directly or indirectly into rivers, lakes, streams, and soils, they damage the environment in numerous ways. Its effects on flora, fauna, terranean, and subterranean creatures can be detrimental.

The current definition of effluent is waste that pours into or flows into our water. As is widely understood, wastewater effluent can pose many hazards for humans, animals, and the environment. It can be toxic, corrosive, reactive, acidic, and ignitable. **Wastewater pollutant loads can include paint, solvents, oils, herbicides, pesticides, human waste, food waste, fats, oils and grease, pharmaceuticals, and many other products.** Therefore, effluent must undergo treatment before being reused or redirected into the ecosystem.

Wastewater carries pollutant loads that are harmful to the environment. Most states require secondary wastewater treatment, defined as removing biodegradable organic matter from sewage or similar kinds of wastewater. The goal is to achieve a high degree of effluent quality in a sewage treatment system suitable for the intended disposal or reuse options. **The sand filters previously used only provided primary treatment, and the existing sewer system did not comply with phosphorous limits.** Secondary, or tertiary, treatment is a method of treatment that consists of eliminating non-biodegradable pollutants. Since sand filters do not offer secondary treatment, continued use of the filters would have harmed the public and the environment. The most viable option was to pump the effluent to the neighboring Town, where secondary treatment could be provided, instead of continued use of the sand filters.

Environmental and Ecological Impacts

Wastewater contaminates soil, and after rainfall, the soil runs into connecting waterways or seeps into aquifers. The attached figure notes that the sand filters are very close to the aquifer. Protecting our waterways and our aquifers is essential for everybody in the community. The work the community took for the Alewife species is evidence of this. Two fish ladders were constructed in the north section of Town. One built near the North Main Street Treatment Plant and the second near the Cemetery Treatment Plant. The construction of the fish ladders and the use of TIF funds to provide for them make it clear that the community is interested in protecting the environment. The project to abandon the treatment facilities will continue to have significant positive impacts on the community and its natural resources for many years.

Excessive nutrient levels in wastewater, particularly nitrogen and phosphorus, contribute to eutrophication. When these nutrients enter water bodies, they stimulate the rapid growth of algae and aquatic plant life. As these organisms increase, they reduce the water oxygen levels, resulting in the death of fish and other aquatic species. This can interfere with the natural balance of the ecosystems, having severe ecological repercussions and causing the formation of "dead zones" where no marine life can survive. A map showing the ecological impact is attached.

Wildlife in and around water bodies can suffer significantly, as they are susceptible to problems from negative impacts on the water. The impacts on fish, amphibians, and invertebrates will disrupt the food chains and loss of habitat due to water pollution, and this can lead to a decline in wildlife species, disrupting the ecosystem dynamics. In addition, many biodegradable substances from the wastewater effluent may enter the water. Organisms will start breaking them down, using up considerable amounts of



dissolved oxygen. Critical for marine life to survive, the dissolved oxygen can become depleted, which is life-threatening to aquatic species. The oils and grease in effluent are much harder to break down. They can settle on the water's surface, which blocks the light needed by photosynthesis for aquatic plants, which suffocates fish and affects birds' ability to fly. In addition to the project's impact on wildlife, the benefit of the project can be felt by boating enthusiasts, fishermen who enjoy nature and the outdoors, and the general population of Vassalboro. Failing to protect the waterways from the harmful causes of under-treated wastewater can also harm those who consume the fish.

When water flows in the environment, it is always moving. It moves around the Town into the waterways, rivers, streams, by the boat ramp, near the swimming hole and then infiltrates the aquifers. The Kennebec Water District's Water Treatment Plant draws its source water directly from the West Basin of China Lake. Removing the sand filters and pumping the wastewater to Winslow also helps protect public health, as the wastewater isn't being discharged and making its way into China Lake.

Economic Impact

Municipalities with access to adequate wastewater treatment are more likely to attract commercial and industrial businesses. Potential homeowners may like the advantages of connecting to the sewer system; however, if that sewer system has astronomical charges, they're not very likely to buy homes in this area. Furthermore, if the cost of being connected to the sewer rises to such a level, some people will be forced to sell their homes, and potential home buyers may not be interested. The economic impact of high sewer rates on individuals and businesses is a problem for the whole the Town. The industry standard is to consider household income when trying to determine whether wastewater rates are "affordable" in a community. While no two situations and situations are alike, anything above 1.5-2% of the Median Household Income (MHI) for an area is generally considered unaffordable.

Using the Environmental Protection Agency (EPA) Affordability Assessment Tool and a sample sewer bill from the District, the current rates (at 2.11% of MHI) are considered unaffordable for many in the community. The calculation is shown below:

| Quarterly Bill | Annual Bill | Affordability (% of MHI*) |
|-----------------------|--------------------|----------------------------------|
| \$374.40 | \$1,497.60 | 2.11 |

*Vassalboro MHI: \$70,958 (S1901 Income in the Past 12 Months, in 2022 Inflation-Adjusted Dollars). \$1419.16 would be the annual rate at 2% of MHI.

Several communities in New England have chosen to fund wastewater infrastructure from the general tax base. Under this scenario, the loan payment could be split such that half of the loan payment would be paid on the tax base, and the other half would be paid out of the sewer budget, ensuring that the sewer rates are within the affordability criteria set forth by EPA. Two scenarios are shown in the table below.



| Description | Includes all Debt | Includes 1/2 of the Debt |
|-------------------------------|-------------------|--------------------------|
| Estimated Number of Tax Bills | 2,740.00 | 2,740.00 |
| Annual Loan Payments (P&I) | 120,265.00 | 60,132.50 |
| Cost Per Tax Bill | \$43.89 | \$21.95 |

The approximately \$22 increase in the tax bill is a small amount to pay for the ecological, environmental, economic, and health benefits that all the Town's residents enjoy. Maps showing Ecological Impacts and Human Impacts are attached.

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