OTTER CREEK ENGINEERING

September 18, 2020
(rev. November 2, 2020)

Ms. Mary Ann Goulette, Town Manager
Town Office
35 Marble Street
West Rutland, VT 05777

Subject: Potential Consolidation of West Rutland's and Rutland Town Fire District's Water and Wastewater Systems

Dear Mary Ann:

As requested by the Selectboard, this report incorporates and expands upon an earlier report prepared by our firm, dated December 19, 2019. The purpose of this report is to provide further information for potential negotiations regarding the possibility of Rutland Town Fire District #1 (RTFD#1 or District) transferring the operations, ownership or both, of its water and wastewater systems to the Town of West Rutland (Town). This report is not intended to recommend specific conditions or alternatives that would serve as the basis for such a "merger". Each municipality should individually evaluate the pros and cons of such an action. This report in intended to provide additional information to facilitate those evaluations.

A Fire District, under Vermont statutes, is a municipal district, operated much like a Town, with an elected governing body (Prudential Committee), Clerk, Treasurer and the same election/voting requirements as any Vermont municipality. However, like many small similar municipalities, RTFD#1 has had challenges maintaining a committed governing body and managing the operation and maintenance of its infrastructure. A close example is/was Rutland Town Fire District #10. The potential merger with the adjacent, larger West Rutland community is attractive in that the two wastewater systems are already interconnected and the water systems are currently connected, but functionally separated, a gate valve (used for emergencies).

This report is intended to focus discussions regarding the physical, managerial, and economic changes which might occur with such a consolidation or acquisition.

EXISTING ASSETS AND FACILITIES

RUTLAND TOWN FIRE DISTRICT #1

Water System - The RTFD#1 water system was constructed in 1980 to completely replace an antiquated water system, constructed 50 years+ earlier by the Vermont Marble Company to serve the Center Rutland Mill, homes and businesses in that immediate vicinity. Due to serious water quantity, quality and regulatory issues, the District, in the late 1970's, obtained State grant and loan funding to construct a complete water system replacement.

The District water system provides both domestic and fire protection service throughout the District boundaries, generally encompassing Business Route 4 (from Rutland City to Simons Avenue), much of East Proctor Road, Simons Avenue, and portions of Barrett Hill Road and Campbell Road. Key components include:

- 60 gallon per minute (gpm) gravel packed well (permitted for 43,200 gallons per day)
- 203,000 gallon concrete water storage tank
- 2,400 feet of 12" ductile iron water main
- 5,800 feet of 8" ductile iron water main
- 2,600 feet of 6" ductile iron water main
- 1,500 feet of 6" asbestos cement water main (Maplewood Park)
- Suspended insulated water main over Otter Creek
- 25 fire hydrants
- Emergency interconnection with Rutland City water system
- Emergency interconnection with West Rutland water system

The District currently has 111 customers, equaling 143 equivalent residential units (ERU's).

The District's system has operated successfully, and without need of significant repair, since its original construction. There are no significant State regulatory issues to be resolved regarding this system. Likely necessary improvements in the short term include: replacement of customer water meters, replacement of the well pump, the pump control and alarm system and certain building improvements to the well pump station. The District currently has two certified water operators, with one retirement expected in the near future.

The District's average daily water consumption (from the well) is 15,500 gallons per day (gpd). This equates to an average water use of 107 gpd per ERU, which is excellent and indicates there is no significant water loss or leakage in the system. Typically, water use per ERU ranges from 150 -200 gpd but, given the general older age and smaller family size within the District, this average water use is reasonable.

Wastewater Collection System – The Fire District owns and maintains a wastewater collection system, essentially covering the same customer base as the water system described above. Wastewater is collected at a central pump station, located at the intersection of Routes 4 and 3, and then pumped to West Rutland's collection system, via a force main along Business Route 4. The pump station is operating reliably with no major capital needs in the immediate future.

Property - The District owns 67 acres, encompassing the well, well pump station, and water storage tank, with access from East Proctor Road. The property is bisected by a Green Mountain Power electrical transmission line. In addition, the District owns 24 acres between Campbell Road and Barrett Hill Road, the site of one of the District's original water sources, now abandoned.

Water Rates- The quarterly current water rate structure for the District is:

$0.33 for the first 7,000 gals, plus
$0.25 for each additional 100 gals, plus
$30 per ERU bond payment (closed in 2027), plus
$78 per ERU bond payment (closed 2020)
This rate structure includes a third annual bond payment of $5,333/yr (complete 2021)

Sewer Rates – The quarterly current sewer rate structure for the District is:

$0.45 per 100 gals (District O&M), plus
$0.70 per 100 gals (West Rutland treatment) – Varies based on actual total flow

West Rutland

Water System - The West Rutland water system has had several major upgrades over the past 40 years and has no State regulatory compliance issues. Over the past four decades, the Town has developed two 450 gpm gravel-packed well sources, constructed a well pump control building, constructed two water storage tanks with substantial fire protection storage, upgraded much of its water transmission and distribution system, and installed radio-read customer water meters. The Town employs two certified water operators.

Key components of the West Rutland water system include:

- Two 450 gpm gravel-packed wells, with a total permitted capacity of 648,000 gpd
- An 820,000 gallon water storage tank on Durgy Hill
- A 180,000 gallon water storage tank on Clark Rill Road
- A ductile iron and cast iron water main distribution system throughout the “village” area, with fire hydrants
- New 12-inch HDPE water main along Business Route 4 from Pleasant Street to RTFD#1

The Town has an average daily water consumption of 186,400 gpd. Given the permitted capacity of the water services, the Town presently has approximately 460,000 gpd of unused source capacity. The second well was developed to be a 100% backup for the other well (not a State regulatory requirement). Even with that local limitation, the Town has 137,000 gpd of unused source capacity.

The Town currently has 763 water customers, equating to 1,003 equivalent residential units (ERU’s). This equates to an average water consumption of 186 gpd/ERU, which is excellent and reflects that there is little water waste or leakage in the system.

Wastewater System

The Town owns and operates a 450,000 gpd capacity wastewater treatment facility, located on Clear Water Boulevard and constructed in 1999. The wastewater collection system generally encompasses the same area as the water distribution system, including the newly constructed low pressure collection system along Business Route 4. Given that the treatment facility is 20 years old, it can be expected that a facility upgrade project will be required within the next 5-10 years.

The Town has 795 wastewater customers (1,037 ERU’s), not including wastewater flow from RTFD#1.

GOALS OF A CONSOLIDATION

For a merger or consolidation to be successful there has to be benefits, which exceed risks, for each party. Some of these benefits can be quantified and others are more subjective. For this specific West Rutland / RTFD#1 consideration, it would seem the following goals are a focus:

1. Maintaining “affordable” customer water and sewer charges as compared to similar communities with similar services. For perspective, the average cost of water service in Vermont municipalities is approximately $600 per year per household. Average sewer service is approximately $800 per year per household.

2. Having neither municipality feels it is unduly subsidizing the other.

3. Having sufficient management and operation/maintenance personnel in place such that physical facilities and financial systems are maintained to acceptable State and municipal standards.

4. Maintaining an equitable and fair utility rate structure while providing for necessary maintenance of existing facilities.

5. Anticipating immediate and future capital improvements needs such that unanticipated “spikes” in user costs due to emergencies are avoided to the extent possible.

6. Providing well-managed and well-maintained infrastructure, minimizing emergency repairs and unanticipated capital improvements.

7. Having an ability to immediately respond to emergency repairs, customer concerns, and/or state compliance issues, without undue loss of service, cost or customer dissatisfaction.

POTENTIAL PHYSICAL OPERATING ALTERNATIVES

Because the District and Town utilities are already interconnected, there are only relatively simple changes required to operationally consolidate the systems. In fact, no physical changes to the wastewater system would be required if West Rutland acquired ownership and/or operation of the District’s wastewater system. The District’s wastewater is already pumped to the Town’s wastewater Treatment Facility.

However, there are a few physical and operational alternatives available if West Rutland were to acquire ownership and/or operation of the District’s water system. These are:

1. Continue to operate the District system, as it currently exists, a separate public community water system

   In this alternative, West Rutland would acquire the District’s water and wastewater systems and continue operation of the systems as they currently exist. The water system would continue to be regulated by the State as a separate system. This could either be a short term or long term alternative. However, if continued long term, the previously-stated capital improvements would need to be incorporated.

   The benefit of this alternative to the District is its ability to no longer operate, maintain and manage these utility infrastructures. The District could liquidate its assets and petition the Town and Legislature to dissolve.

   A possible alternative to this would be the District contracting out the maintenance and some administrative roles to West Rutland, similar to the Rutland City – Alpine Pipeline relationship. In this case, the District would continue to exist, with its elected positions.

2. Abandon the District's water supply well, construct a pressure reducing control vault at the interconnection of the District and Town systems (to lower the pressure by 43 psi) and construct an altitude valve vault at the District's storage tank (to prevent overflow), such that the District's water storage tank is maintained in use

   Similar to the connection between Castleton Fire Districts #1 and #3, West Rutland would become the water source for the District, eliminating the District's reliance on a single, limited capacity well and the future cost to maintain/upgrade that water source.

   The District's water storage tank would remain in service as well as the transmission main from East Proctor Road to the tank. The District's water storage tank is approximately 100 feet lower in elevation than West Rutland's two water storage tanks. This equates to a 43 psi difference. This alternative would require construction of an altitude valve vault at the storage tank, a control valve in the pressure-reducing valve vault, and a control system to fill the tank.

   In this alternative, it is unlikely the District would make these changes just to change its water source. Even as a merged system, owned by West Rutland, the benefit of retaining the District's small water storage tank would have to justify the cost of the improvements.

3. Abandon the District's water supply well and water storage tank. Construct a pressure-reducing valve vault at the interconnection of the two systems.

   While the District's water storage tank would continue to provide service, at minimal maintenance cost, for decades to come, it is not required if the systems consolidated. West Rutland has one million gallons of water storage, sufficient for both systems, and the new 12-inch water main along Business Route 4, currently connecting the systems, will provide sufficient fire protection to the current District customers. A pressure reducing vault would be constructed at the current emergency interconnection (in front of the Fire Station). In addition, consideration should be given to installing pressure reducing valves at each user water meter location where system pressures would exceed 80 psi if the pressure reducing valve vault failed to adequately reduce the system pressure. This would provide protection against over pressurization, through redundancy of fixtures.

   From an operations point of view, this alternative is the most beneficial. Abandoning the District's well, well pump station, storage tank, and water transmission main also would allow the sale of the District's 67 acres currently housing these facilities, allowing a one-time return to District customers. In addition, costs associated with maintaining and upgrading these facilities would not be required.

POTENTIAL OWNERSHIP/MANAGEMENT ALTERNATIVES

There are two obvious alternatives regarding how the District's utilities could be owned and/or managed by the Town of West Rutland. These include, but may not be limited to:

1. District Maintaining Ownership of Its Utilities

   As mentioned earlier, with this alternative, the District would simply "contract out" the operation and maintenance (and presumably the administrative services) to the Town. The Fire District would continue to exist and the Prudential Committee would continue as its

governing board. However, day to day operation, maintenance, meter reading and potentially billing and collections would be completed by the West Rutland staff. This alternative would be similar to the Town Manager/Selectboard relationship in many ways, whereby the Prudential Committee would continue to set policy and serve as the elected governing board but delegate most administrative duties to the Town.

Undoubtedly, the District would pay a fee for these services and it is likely that neither party would see a strong advantage to this arrangement, but such shared service agreements do exist successfully.

2. The District transfers ownership of its water and wastewater utilities to the Town of West Rutland, and the Fire District is dissolved.

   With this alternative, West Rutland would obtain ownership of the District's complete water and wastewater infrastructure and would incorporate the District's customers into its own customer base. The Fire District would continue to exist to pay off its remaining loans and either retain ownership or sell its two properties. Pending no further District obligations, it could petition the Town and Legislature to dissolve.

   Under this alternative, all existing District water and wastewater customers become West Rutland customers, with the same services as all West Rutland customers receive. However, customers in the District (Rutland Town) would not be able to vote on water/wastewater operation budgets or capital improvement bonds. Currently, that condition exists for the wastewater service provided by West Rutland in that West Rutland establishes sewer treatment rates without District participation.

   For a legal perspective, see attached email from J. Paul Giuliani, Esq., a Montpelier attorney who has assisted with the creation of dozens of fire districts and assisted in the project financing / bonding of most of Vermont's municipal water and wastewater projects over the past 40+ years.

FINANCIAL/USER RATE ALTERNATIVES

The decisions regarding consolidation of the two utilities, for many persons, will be based on cost. *Is there a cost advantage to me if the systems are consolidated?*

To examine this question, let's break the question into a few categories, assuming alternative 2 above:

1. Fire District Assets/Liabilities – After March, 2021, the District will have just one outstanding loan, assessed at $30 per ERU per year, ending 2027. On the asset side, the District has two properties, 67 acres on East Proctor Road and 24 acres on Barrett Hill Road. These properties are currently listed as $87,000 and $40,400 respectively on the Town's Grand List. The current net value between the outstanding loan and the property values is approximately $97,000, which could mean an average payment of $877 to each District customer (based on distribution by service connections) or $681 per ERU.

2. User Rates Based on O&M Costs Only - Given that the District is "contributing" a relatively new water distribution system to the consolidation, paid for by District customers, it could be considered fair that these new West Rutland customers (former District customers) do not contribute to West Rutland's existing capital improvement bond payments.

Therefore, for former District customers, a separate rate schedule would apply, only incorporating operation and maintenance costs. This provision would not apply for future capital improvements, which would provide a mutual benefit for the entire consolidated systems.

See the attached Table for this approach, where District users would pay for water at West Rutland's current O&M rates. Sewer would be charged at the current treatment agreement plus the equivalent of the District's O&M budget. In total, this alternative would cost current District customers, just $6,000 more than what they are currently paying for water and sewer service, likely less, in that District labor currently budgeted for sewer operations would not be required. From the Town's perspective, this approach would still provide over $80,000 in increased revenue, without an appreciable increase in expenses.

3. User Rates Based on Existing West Rutland Rates - This alternative would have all new customers assessed at the current rate schedule set for all West Rutland customers. However, it is assumed that there would be no "new connection/allocation" fees assessed to the new customers.

   See the attached Table for how this approach compares to existing District charges. In total, this alternative would cost current District customers about $38,000 more than the current District assessment.

COMMENTARY ON USER RATES

Water and wastewater rate schedules historically varied significantly from municipality to municipality, but over the recent decades, there have been more commonality. Fifty years ago, there were rates charged per individual plumbing fixture (i.e. $5 per bathtub). Even today there are rates that increase with more consumption, and in other communities, rates decrease with increased consumption. In some communities, certain customer types (farms, industries) get lower rates. In other communities, free water/sewer is given to non-profits (churches, schools, etc.). All of those were established for valid reasons (to attract/retain jobs, give a break to community used buildings, etc.), but they create some inequity. If those inequities provide a generally accepted community benefit, then the rate structure is "fair." However, in more recent times, communities establish the same rates for all customer types.

Likewise, to promote equality, each customer is assigned a number of ERU's (Equivalent Residential Units) or EDU's (Equivalent Dwelling Units) for some aspects of a rate schedule. An ERU (EDU) is an equivalent of a single residential unit based on typical water use. A single family home or apartment is 1 ERU. A restaurant may be several ERU's, etc., and capital repayment is typically done on an ERU basis, not consumption.

Municipalities also typically have a minimum, or base, charge to cover the cost, and value, of a parcel having municipal water service regardless of water consumption (empty building, wintering down south, etc.).

Although most water and wastewater system costs are "fixed" and not based on flow, most municipalities charge for these services on a "per gallon" basis to promote conservation and reduce over consumption (which then leads to increased capital costs).

West Rutland follows the trends described above for its water system, with a separate ERU-based bond repayment, a water base charge, and a "per gallon" charge for water consumption. However, West Rutland retains a fixed "per ERU" charge for all wastewater costs. The Town could examine if this is the best way to assess sewer costs in the future.

For perspective, a typical annual municipal water bill in Vermont is about $500 per year for a single family dwelling. Annual sewer service is typically $700-$800 per year. By comparison, the cost of these West Rutland utilities is low.

FUTURE LIABILITIES

1. If the District continues to operate its water and wastewater systems, it should be anticipated that sufficient funds need to be raised within the next 5 years for: well pump replacement ($25,000), customer water meter replacement ($50,000), well pump station building improvements ($5,000), and pump control system replacement ($30,000). These are approximate estimates. Further in the future, sufficient funds should be in place to replace the submersible wastewater pumps. If the Town were to acquire the District's systems, the costs related to the well pump station would not be necessary. The water meter replacement costs could be included in a Town water meter replacement program. The wastewater pumps could be cycled into the Town's schedule for wastewater pump repair/replacement.

2. There should be some recognition of the Fire District's limited, single water source. While the District's 60 gpm well is more than sufficient to supply the District (and has for 40 years), this past year's drought required the well discharge to be scaled back to just 25 gpm, about the minimum to safely supply the District. There are emergency connections, in place, to both the Rutland City and West Rutland water systems for supplemental supply. However, loss of the District's single source of water would force the District to, at least, become a consecutive water system to one of these larger systems.

3. From the Town's perspective, an acquisition/merger would involve the Town owning and/or operating additional infrastructure, requiring management and maintenance. If the resultant systems do not include the District well and storage tank, the maintenance will be limited to water mains, hydrants, water services and the wastewater pumping station. It would seem, these additional tasks would be within the skills and schedules available within the existing West Rutland staff. But, this needs to be evaluated by the West Rutland administration. In addition, these utilities would be located in another Town. While this does not pose any operational issues, the Town will want to work with the Rutland Town Selectboard to have a clear agreement as to work in Rutland Town highway right-of-ways, and any other concerns the Town Selectboard may have if such a change were made.

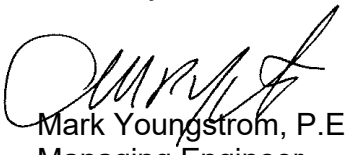
4. If such a consolidation occurs, it should be understood that, in all likelihood, future capital improvements to either the Town or former District systems would be equally shared among the combined user base. While West Rutland does not plan for any major water system improvements in the immediate future (with the possible exception of water meter replacement), West Rutland's wastewater treatment facility, being 20 years old, will soon be scheduled for a significant upgrade within the next 5-10 years. However, since the District is already a wastewater customer of the Town, any future increase in wastewater service already exists, regardless of consolidation.

IN CONCLUSION

There is no significant financial disadvantage for the District to not consider turning over its water and wastewater utilities to West Rutland and eventually dissolving the District. Likewise, there is no apparent disadvantage or significant risk for West Rutland to assume ownership of the District's utilities. In general, the managerial and financial stability provided by a single larger municipality will assure the necessary maintenance, regulatory compliance and capital planning necessary for continued reliable service at the least cost.

We appreciate the opportunity to submit this report. If you have any questions regarding its contents, or you wish to meet to discuss it, please do not hesitate to call me.

Sincerely,



Mark Youngstrom, P.E.
Managing Engineer

cc: Howard Burgess, Chair RTFD#1 Prudential Committee