

Welcome to the Water and Sewer Sewer Department Public Information Session. Introductions:

Water & Sewer Commissioners – Alan Cilley and David Toth;

Operator, Ashland Wastewater Treatment Facility – Rusty Cross;

Woodard & Curran -- Tom Schwartz, Julianne Page, Jess Richard.



Tonight we are going to give you a top-level view of our operations beginning with a discussion of the plans for the new The Septage Receiving Station. We are asking voters to approve a \$1.5M State Revolving Fund loan for the project, so we want to discuss why the station is important, how it will work, and how we are going to fund it.

We are also asking the town to approve a \$30K SRF loan to complete our Asset Management Plan for the sewer system. The Asset Management Plan is a tool for longterm planning and funding of capital assets.

There has been some misinformation spread about rates, so we want to correct the record by discussing rate history, providing rate comparisons, and explaining how we set rates.

Finally, we want to give you an overview our our finances to give you an idea of our financial status and show how we intend to fund the key capital projects scheduled over the next few years.

I am going to stop at the end of each section for questions and comments.



This is the site plan drawing of the new Septage Receiving Station. For those who don't know, we take in septage from septage haulers who pay dumping fees. We generated about \$524,000 in revenue in 2017 from only 12 septage haulers. There is a very real need for septage receiving because nearly 85% of the homes in the state have septic systems. The station is also designed to handle town sewage.

As you will see as we go along, the new station is the key to financing water and sewer and maintaining reasonable rates.

## Existing Receiving Station



This is a picture of the existing wooden receiving station. Haulers pull up to the building, connect to a hose that enters the station through a hole in the wall, and dump septage into what is called the headworks. Town sewage also flows through the headworks. The problem with this station is that sewage and septage contain non-biological solids – plastics, rages, and grit – that clog piping and are filling the septage lagoons. The lagoons will eventually have to be cleaned at a cost of between \$750 to \$1M per lagoon.



The headworks consists of a flume through which septage and town sewage is directed to the septage lagoons through a manual bar rack or screen. The bar rack screens out some of the non-biological solids. It is not uncommon to for us accumulate 4 to 5 yards per week, but we estimate at least that much passes through to the lagoons. The other problem is that these solids currently have to be removed by hand, which presents health and safety concerns.



As I have already mentioned, the receiving station is the key to generating the revenue that pays for most capital improvements, We have increased yearly revenues from \$25K in 2004 to \$524,000 in 2017. The largest increase has come over the past four years during which time we generated about \$1.3M.

Instead of a manual bar rack, the new station will employ mechanical screening equipment that will remove almost 100% of the solids, eliminating the need to clean the headworks by hand and extending the useful life of the lagoons for many years.

The system will have a twO-truck dumping station that will accurately measure the amount of septage received and generate bills. Currently, we trust the haulers estimate how much they dump. We expect a 15% to 20% increase in revenues as a result of metering.















The new station will not affect taxes or water and sewer rates since it will be funded solely from septage receiving revenues. I will explain the finances in more detail later.

The project is estimated to cost about \$2.5M It will be funded from capital and unassigned reserves, a matching grant, septage receiving revenues, and an SRF loan pending town approval.

We estimate that the loan payment will be about \$152K per year for 10 years.



The department could fund the project without the loan; however, that would mean delaying completion of the station until we take in sufficient revenues to pay for equipment, and delaying scheduled capital projects, specifically the new piping on Winona Rd and Highland St. Delaying the Highland St. project would mean increased costs since we will be putting new piping during road reconstruction in 2020. It could also mean we would have to dig up the newly paved section of the street.



[Jess Richard, Woodard & Curran]



I am only going to provide a basic overview of asset management to give you an idea of how we would use it and why it is important.

The purpose of asset management is to plan for replacing capital assets: equipment, vehicles, and buildings.

## Asset Management

What is an Asset Management?

Asset Management is a systematic process of operating, maintaining, upgrading and disposing of assets cost-effectively while maintaining a level of service that is acceptable to the customers.

NHDES defines asset management as a systematic process of operating, maintaining, upgrading and disposing of assets cost-effectively while maintaining a level of service that is acceptable to the customers. It involves developing a written plan and using a computer program that analyzes data on assets and develops a long-term plan for replacing assets and funding.

NHDES is strongly encouraging water and sewer departments to adopt Asset Management Plans. They have already given us conditional approval for an SRF loan with 50% principal forgiveness for this purpose pending passage of the warrant article in the March election. They also require an asset management plan for all loans and grants.

We have already completed our Geographical Information System (GIS) and Computerized Maintenance Management System (CMMS) which provide important data for the Asset Management computer program.

To simplify the discussion, I am going to focus on how this works for a single asset: a pump station



The GIS lists, maps, and provides specifications for system assets including the sewer pump stations. The above map shows the Ashland Sewer System including the location of pipes, manholes, and pumping stations.



We can find the exact location of the station, pictures, and specifications by clicking on the map.

-			5 <b>6</b>	✤Lists assets
			· State -	Schedule, track, and document
Equipment PSRIDGPS1	General Laudon	Research Square Parts	Polos Notes Alabards	maintenance
875-000 875-000	Description: Pung Salar #1			maintenance
8770-500 8770-505	Topic Bullio	Conner Manufact (D)	CMMS	<ul> <li>Track maintenance costs</li> </ul>
1010-100 1010-104	Salar in	W10. 48054		* Durani da una interna non a dura
MPD-885- MUNUP	in Service 11 <sup>4</sup>	Benefities CON		*Provide maintenance procedur
P5.875.008.P5.2 P5.875.008.P5.2 P5.875.008.P5.2	Contribution	Lanue		♦Order parts
PERIODPE1 PERIODPE2	Australity	() ang Market		· · · · · · · · · · · · · · · · · · ·
P5-805G-P5-5 P5-008F-0-35-P5-5 P5-008F-0-35-P5-2	Contractor: Scotta Construction Inc.			Manage inventory
PS-00MP2F45-PS-3 PS-00MP2F42-P5-1	Eng Mini Consultante Come aug 10, 2002			Audit and certify completed
I make and	551 604			*Audit and certify completed
101-101-0104		United Class 171	the Oliver + Institute Others	maintenance

The CMMS is a computer program that schedules, tracks, and documents maintenance on all assets that are maintained. We can find everything to do with the maintenance of the pump station on this page including the maintenance schedule, maintenance procedures, completed work orders, parts, and maintenance costs. Information related to the condition of the pumping station and maintenance history are used by the asset management program to determine the useful life of the station and predict when it will need to be replaced.

## Asset Management Plan

- Database of all assets (from GIS and CMMS)
- Rate condition of assets (CMMS)
- Determination of asset useful life (CCMS)
- Determination risk factors
- Prediction of lifecycle costs
- Prioritization of asset replacement
- Evaluation of rates and revenues
- Development of Capital Improvement Program (CIP)

Asset management software includes additional data on the pump station to accurately predict when the station will need to be replaced. The manufacturer may say that the useful life of the station is 15 years. Maintaining the station following the manufacturer's recommendations and replacing parts and equipment can extend the life. Risk factors based on the station's importance to the system as a whole may require that the station be replaced before the end of its useful life to prevent system failure.

The asset management program also predicts the lifecycle cost of operating, maintaining, and disposing of the station, and evaluates the revenues needed to support and replace the station.

The Asset Management Plan covers all Water and Sewer Assets. The software helps develop the Capital Improvement Plan (CIP), and adjusts the CIP as changes occur.



The SRF loan for the Asset Management Plan will have no impact on taxes or rates and will be paid for from unassigned revenues. While the loan is for \$30K, it includes 50% principal forgiveness. The department pays \$30K for the plan an is reimbursed \$15K. If the town does not approve the warrant, the plan will cost the department \$30K.



As I have already mentioned, water and sewer rates will not be affected by either SRF loan. Simply speaking, rates have to cover operational expenses, expenses for things like salaries and benefits, maintenance, testing, computer programs and services, parts, and office supplies. Most capital expenses – buildings, equipment, and vehicles – are paid for from septage receiving revenues. Rates have to increase to cover the costs of inflation.

	Ra	te Histo	ry	
Water	Rates	Sewer	Rates	
1999	\$5.85	2000	\$7.70	
2000	\$2.00			
2010	\$3.85			
2014	\$4.20			
2017	\$4.40			

Our rate history shows that water rates were lowered from \$5.85 to \$2.00 per 100 cubic feet in 2000. The current rate of \$4.40 is still much lower than the rate in 1999. Sewer rates have not been increased during that period. The result has been a very significant loss of revenue that could have been used to maintain, upgrade, and replace equipment and infrastructure. We are now in the position of having to replace old piping, pump stations, aerators, fire hydrants, and other equipment, as well as bring our systems up-to-date so that they operate efficiently. We would not afford to make these improvements without the revenues from septage receiving.



Our water rates are the 10<sup>th</sup> lowest in New Hampshire. A family of 4 in Ashland pays about \$250 a year while the average family in New Hampshire pays about \$475. Our rates have not kept pace with national or state rates. While national rates increased by 41% between 2010 and 2015, New Hampshire rates increased 24.5% and rates in Ashland only increased by 14.3% While this may sound good for rate payers, it means that we barely cover operational costs, and would have no revenues for capital expenses if it were not for septage receiving.



Rates must be set to cover the total cost of providing water and sewer. That includes both operating costs and capital costs. We can keep rates relatively low and stable because septage receiving generates enough revenues to cover most capital costs.

We face financial challenges, as we do now, when we have to complete a number of expensive capital projects over a short period of time. We are asking the town to approve SRF loans so that we can afford to make the needed improvements by spreading reasonable payments out over time



I want to give you an overview of our finances to give you a better understanding of where we stand financially. A quick look at the 2017 balance sheet shows that we have about \$1.9M in cash reserves, which seems like a great deal of money until you consider that the Receiving station alone will cost \$2.5M and that we have \$4.2M in capital projects that need to be done by 2020.

A closer look at our finances shows that we are in good financial position to operate our systems and make the needed capital improvements with the help of loans and grants to supplement septage receiving revenues.



For those who do not know much about municipal accounting, water and sewer are enterprise funds which means that we pay for our operational and capital expenses from rates and fees, not from taxes.

In terms of accounting, water and sewer are considered separate accounts. Water revenues cannot be used to cover sewer operational expenses, and sewer revenues cannot be used to cover water operational expenses.

However, since sewer revenues are dependent on the amount of water consumed, some revenues from sewer can be used for water capital expenses. This also explains why we have to raise rates to cover inflation. Sewer revenues cannot cover water operational expenses.

2017 Bala	ance Sheet
Cash	Assets
Total Cash	\$1,564,962.04
Total Receivables	\$126,570.22
Grants	\$250,000
Total Liabilities	\$12,510.30
Total	\$1,929,021.96

The balance sheet for 2017 shows that we have almost \$2M in cash assets. Most of these assets have come from septage receiving revenues. Revenue from rates just cover the cost of operations

20	UI / Proi	11 & L0	SS
	Sewer	Water	Total
Income	\$735,164.94	\$196,893.43	\$932,058.37
Expenses	\$451,645.34	\$200,038.80	\$651,664.15
Net Income	\$283,519.60	-\$3,145.37	\$280,394.22

The2017 Profit & Loss Statement shows that the net income for water and sewer was about \$280K. Sewer, which consists of sewer and septage receiving, netted \$283K, and water lost a little more that \$3K.

2017	7 Opera	tional E	Expense
	Water	Sewer	Septage
Income	\$196,893.43	\$211,308.30	\$523,856.64
Operational Expenses	\$163,546.81	\$215,017.59	\$109,072.88
Net Income	\$33,346.62	- \$3,709.29	\$414,783.76
3	Note: adjustments were made to Sewer and Expenses for Northern Pass and \$20,000 in	Septage Receiving to account for \$35,000 in or labor costs for the additional employee at the F	he time legal deceiving Station

We can get a better idea of our financial situation when we look at operational expenses and capital expenses separately. We want to make sure that income from rates covers operational expenses, and in the case of water, some capital expenses.

This chart shows that water revenues more than cover operational expenses and paid for some capital expenses.

The chart also shows that sewer revenues by themselves do not quite cover operations, but that revenues from septage receiving cover septage receiving and some of the sewer operations, as well as most capital expenses. If we look back at the previous chart, we see that septage receiving also added about \$280K to cash reserves.

201	7 Capi	tal Expe	enses
Water	Sewer	Septage	Total
\$36,471.99	\$52,894.47	\$31,455.00	\$120,821.46

This chart shows only the capital expenses, which totaled \$120K for 2017. Our plan this year was to complete a number of small capital projects, such as relining the sewer line on Main St., upgrading the 3 pumping stations, and upgrading our SCADA systems – in preparation for building the receiving station and replacing the water and sewer lines on Thompson St. Capital expenses for 2018 on will be much higher because of large, capital projects.



Looking at the long-term capital expenses gives us a complete picture of our financial situation.

We have to be able to fund yearly operational expenses and prepare for long-term capital expenses. We anticipate between \$7.4 and \$9M in capital expenses over the next 10 years. Of that, we will have to spend \$4.2M between now and 2020.

2018         2019         2020         Total           Capital Expenses         \$2,950,000         \$250,000         \$1,000,000         \$4,200,000
Capital Expenses \$2,950,000 \$250,000 \$1,000,000 \$4,200,000
Existing Reserves \$1,929,021 \$1,929,021
Septage Revenues \$500,000 \$500,000 \$500,000 \$1,500,000
Total -\$520,979 \$250,000 -\$500,000 -\$770,979

While we have almost \$2M in cash reserves and will have about \$500K in septage receiving reserves yearly, we cannot complete all of these projects without loans and grants.

When we look at the projected capital expenses for the next 3 years, we can see that we do not have enough cash and revenues to fund all of our planned projects. Even if we expended all of our cash, we would be short about \$770K after three years.

3-Year Projection With Loans           2018         2019         2020           Existing Reserves         \$1,929,021         \$2,229,021         \$2,279,021           Septage Revenues         \$500,000         \$500,000         \$500,000           Capital Expenses         \$200,000         \$450,000         \$1,200,000
2018         2019         2020           Existing Reserves         \$1,929,021         \$2,229,021         \$2,279,021           Septage Revenues         \$500,000         \$500,000         \$500,000           Capital Expenses         \$200,000         \$450,000         \$1,200,000
Existing Reserves       \$1,929,021       \$2,229,021       \$2,279,021         Septage Revenues       \$500,000       \$500,000       \$500,000         Capital Expenses       \$200,000       \$450,000       \$1,200,000
Septage Revenues         \$500,000         \$500,000         \$500,000           Capital Expenses         \$200,000         \$450,000         \$1,200,000
Capital Expenses \$200,000 \$450,000 \$1,200,000
Total         \$2,229,021         \$2,279,021         \$1,579,021

However, by taking out SRF loans, we can spread payments of \$200,000 per year over 10 years, fund all three projects, and have about \$1.5M to either pay off the loans or fund additional capital projects.

Ideally, we would like to fund all of our projects from cash reserves and revenues. The Asset Management Plan will help us move toward that goal. However, we can afford our planned capital projects using loans and grants and still remain financially sound.