Milford WWTF Upgrades

Public Information Meeting

16 January 2023

HOYLE TANNER

Trusted Experts | Innovative Results

Agenda

Public Outreach & Consensus Building

History of the Milford WWTF

Need for Improvements

Upgrade Costs, Funding & Repayment

Why Now

Public Outreach & Consensus Building

- **Public Tours –**
  June & October 2022
- **Pumpkin Fest –**
  October 2022
- **MWU Facebook Page –**
  November 2022
- **Project Specific Website –**
  December 2022
- **Public Information Meeting –**
  January 2023
- **Deliberative Session Presentation –**
  February 2023

Milford WWTF History

- 1978 the Town voted to build the WWTF (completed in 1982)
- Built with Clean Water Act Funds
  75% Federal Grant
  20% State Grant
  5% Town Funds
- WWTF Cost $6.7M ($27.3M in 2022 dollars)
- Also Built 78,000 LF of collector sewers ($7.8M)
- Cost of project shared by sewer users & tax-payers

Infrastructure: Expected Useful Life

Typical lifespan of WWTFs is 50 years. Major upgrades need to happen every 20-30 years.

Replace mechanical/electrical/ process equipment (M/E/P) every 20-25* years.

**Currently, much of Milford MEP is original.*

Incorporate advances in technology & upgrades for regulatory requirements.

No Major Upgrades → *Targeted Upgrades* → *Diligent Staff Maintenance*

Other NH WWTF Upgrades

Other NH communities have done major WWTF upgrades recently for similar reasons

Town	Price of Upgrade	Population	MHI	Year Completed
Milford, NH	$23.9 Million	16,411	$79,647	2026 (est.)
Merrimack, NH	$22.6 Million	25,969	$108,422	Ongoing
Portsmouth, NH	$92 Million	21,418	$78,712	2020
Lebanon, NH	$14 Million	13,718	$67,698	2020
Exeter, NH	$53.5 Million	14,306	$73,109	2019
Newmarket, NH	$14 Million	9,147	$73,734	2018

Milford WWTF Need For Improvements

NPDES Discharge Permit has added requirements for phosphorus reductions & metals removal

Existing Facility can't meet the new requirements without advanced treatment process

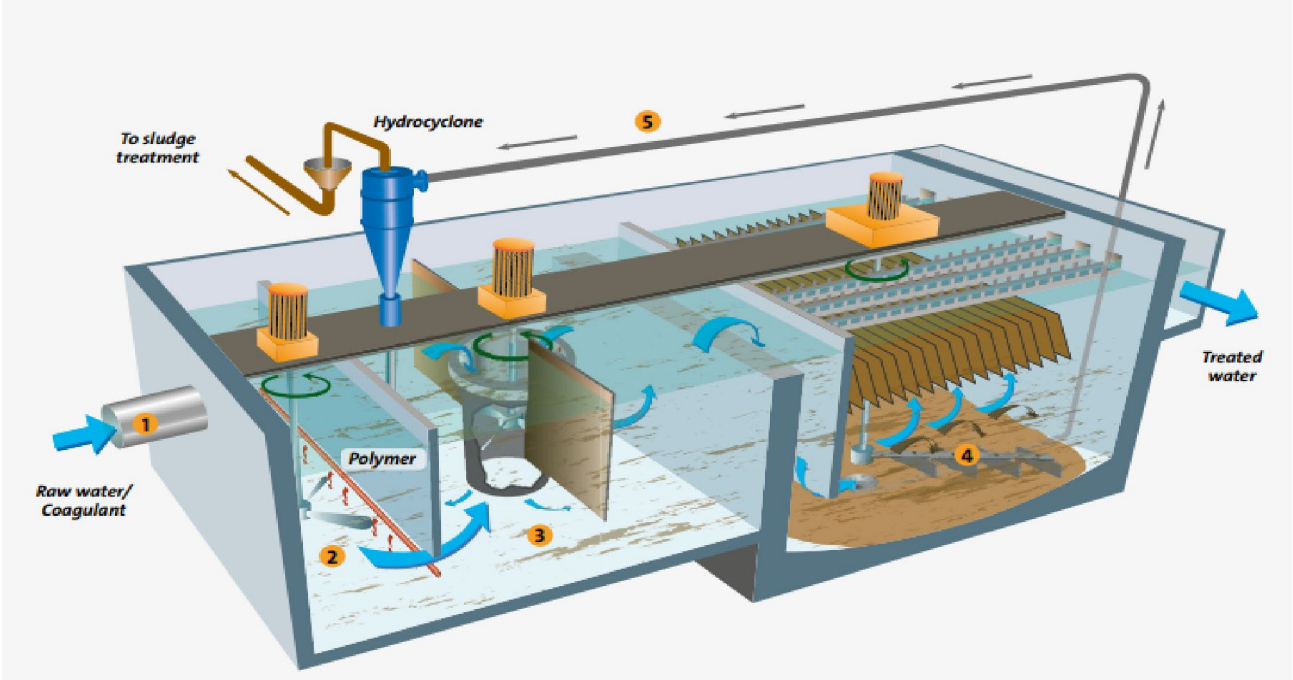
2 Studies completed for advanced treatment & age-related improvements

Combined improvements will support & improve operational efficiency over the next 20-30 years


Key Facility Areas
1 Future Advanced Treatment
2 Main Pump Station
3 Primary Clarifiers
4 Aeration Tanks
5 Sludge Storage
6 Sludge Processing
7 Chemical Storage & Blowers
8 Electrical Duct Bank
Secondary Clarifiers
Aeration Blowers

Advanced Treatment Process

- New Permit includes phosphorous & metals removal - new process required
- Advanced treatment process options studied
- Pilot tested 3 technologies in 2021
  - Best performing option for Milford (Veolia Actiflo)
- Other improvements needed to support advanced treatment



Main Pump Station

- All wastewater & septage go through this facility
- Building needs flood protection (historical flooding up to 2-ft deep)
- Flow meters, large valves & force main configuration needs changes for redundancy & efficiency
- New section of electrical duct bank needs to be extended for emergency power

Primary Clarifiers

- Original equipment rusted, failing, obsolete & needs to be replaced
- Concrete needs to be refurbished, coated & restored

Aeration Tanks

- Aeration equipment has reached its service life (~20 years)
- Concrete tanks have visible cracks & spalling
- New aeration equipment will improve treatment capacity & quality prior to advanced treatment
- Improved energy efficiency

Sludge Storage

- Original gravity thickeners are currently undersized
- New advanced treatment process will generate more sludge
- Increased sludge storage needed to improve sludge processing efficiency

Sludge Processing

- Existing sludge processing in main operations building
- Limited capacity to remove processed sludge
- Creates a hazardous environment in the existing building
- Inefficiencies with current sludge processing magnified due to added advanced process sludge generation

Chemical Storage & Blowers

- No bulk chemical storage at the WWTF
- Bulk storage reduces operating costs
- Disinfection building is underutilized & will be retrofit for bulk chemical storage & blowers
- Blowers will be replaced to improve treatment in the aeration tanks
- New blowers will be located closer to the aeration tanks & be more energy efficient

Funding the Major Upgrades

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Estimated $23.9 Million Project Cost

Assumptions

$3,600,000
CWSRF Loan with 15% Principal Forgiveness

14.89%
Town of Wilton contribution (after grants)

2.536%
CWSRF interest rate

June 2023 MWU applies for 20% State Aid Grant

20 Years
Payback period

Opinion of Costs Notes

- Build American Buy America (BABA) requirements on NHDES CWSRF funded projects could impact cost & material availability
- 5% contingency for construction
- Engineering costs based on percentage of construction
- Projecting costs to future years can be done using Engineering News Record (ENR) regional cost escalation data

Cost Sharing for Milford WWTF Upgrade

Connected Residents

Connected Commercial & Industrial Businesses

Non-Connected Residents & Businesses

Presentations made to Board of Selectmen, CIP Committee, and Budget Advisory Committee

Consider:
Impacts to User Rates
Impacts to Tax Rates
Bond Terms (Interest Rate & Payback Period)

Equitable cost sharing

Funding the Major Upgrades

- Cost of project shared between sewer users & tax-payers
- Sewer Users will see a 25% rate increase in 2025 & a 5% rate increase in 2028 (30% rate increase in 2025 if no State Aid Grant (SAG))
- 2025 average annual sewer bill:
  Residential - $528 for an average user at 125 gpd ($550 w/o SAG)
  Commercial - $2,644 for an average user at 500 gpd ($2750 w/o SAG)
- 2026 average annual tax rate increase (estimated):
  $0.19/$1,000 assessed value or $72/yr. for a $350,000 home;
  ($0.28/$1,000 assessed value or $98/yr. for a $350K home w/o SAG)

Why Now?

- Meet new permit limits
- Age-related upgrades needed
- Accommodate community's future
- Current low interest rate
- Reduced burden through loan forgiveness & Wilton contribution
- Potential for additional grant funds
- Single construction project costs less

WWTF benefits everyone in Town of Milford

Milford Businesses & Industry thrive from a well-operated WWTF

30 more years of continued service to the community

Spread the word about the good work our Water Utilities Department does

Stay Informed

Water Utilities Department Facebook

https://www.facebook.com/MilfordWaterUtilities

Wastewater Treatment Facility Project Website

https://milfordnhwwtf.com/

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