North Windham

Wastewater Treatment Facility

- Process (steps) and the Memorandum with Portland Water District
- History of Wastewater and potential solutions
- Professional Services Selection (Step 2)

  (Design, Engineering, Analysis & Cost Estimation for Project)
- Funding and Next Steps

12/8/2020

Process of examining the North Windham Sewer Option

Steps for North Windham Sewer analysis and development

Step 1 Established a memorandum agreement with Portland Water District.

Step 2 is to identify and retain an engineering company to determined the feasibility, engineering, analysis, design, system parameters , implementation and cost estimation. 10 to 12 months

Step 3 would be to receive Town referendum approval for the funding to implement the North Windham Sewer Project.

Step 4 Completion of construction, testing, obtaining all state and federal final approvals, going online. Approximately 3 years +/- from final feasibility.

Some Windham Wastewater History

Wastewater system does three basic things;

- **Collects**
- **Processes**
- **Disposes**

- 2012 Referendum, Regionalize with Westbrook:
  - $38M (now $55+ million not including collection system)
  - 175,000 gpd
  - 80% of votes opposed

- 2014 Wastewater Planning Advisory Committee
  - Localized cluster wastewater treatment
  - Subsurface disposal in North Windham

- 2015 New Focus on Nitrogen
  - Wastewater Needs Assessment
  - Search for Disposal Sites

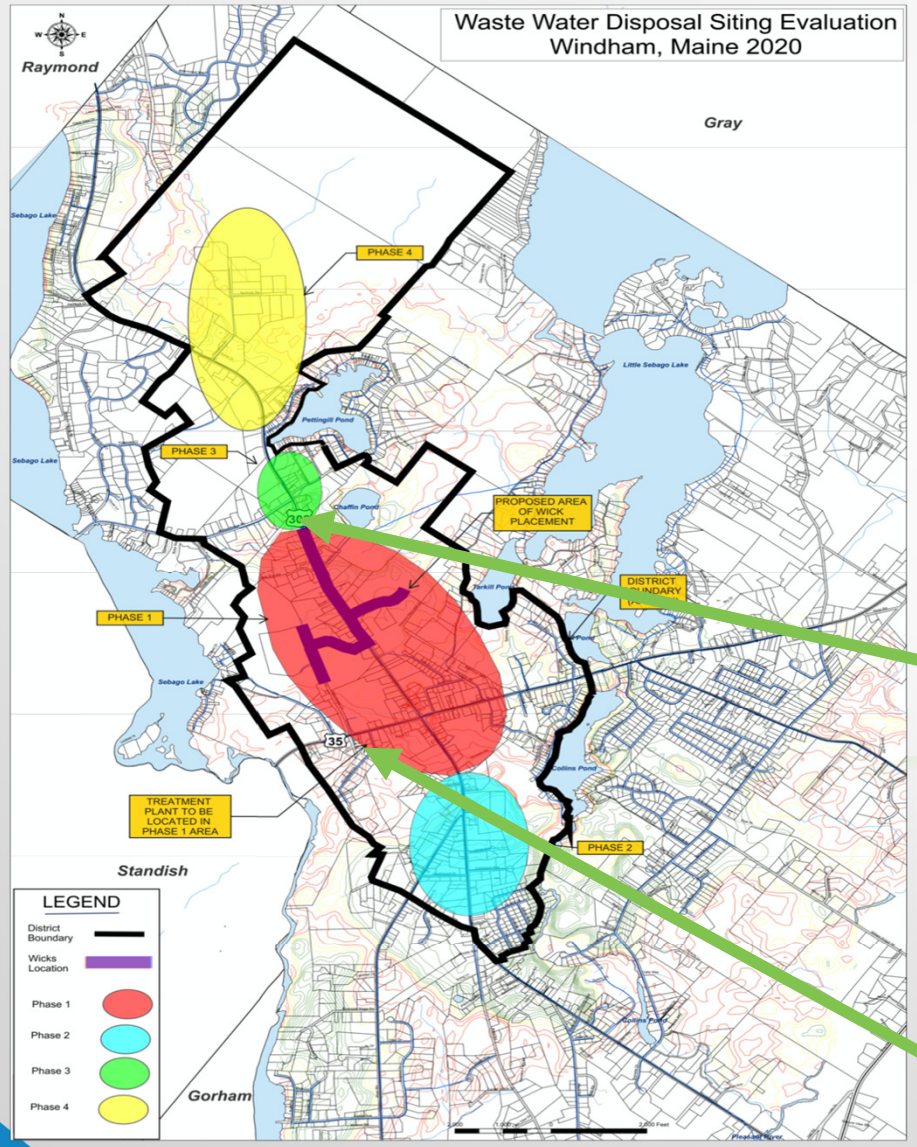
Economic Development Impacts with North Windham Sewer

Increased Daytime, Evening and Weekend Visitors

More Customers for our businesses with more Amenities for Residents

- **Existing buildings:**
  - Restaurants – customer count based on building size not septic capacity
  - Multi-use properties – tenant selection no longer dependent upon septic capacities
  - Underused properties – immediately eliminate septic considerations when deciding property utilization design – remove septic vs stormwater conflict
- **New construction:**
  - Restaurants – larger buildings with increased seating capacity now possible
  - Offices – larger, multi-story buildings will allow higher daytime employee counts and increased daytime population
  - Residential – larger multi-family housing, multi-story buildings will increase evening and weekend population

Proposed Area for New Wastewater District



LEGEND

District Boundaries

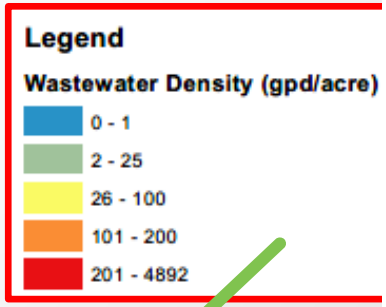
Wick Locations

Phase 1

Phase 2

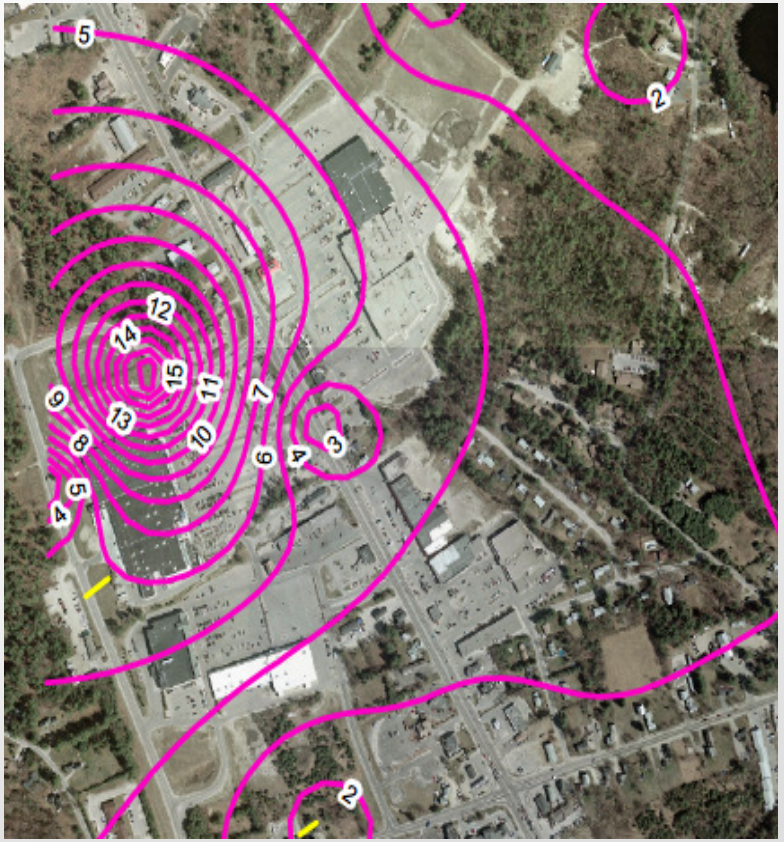
Phase 3

Phase 4



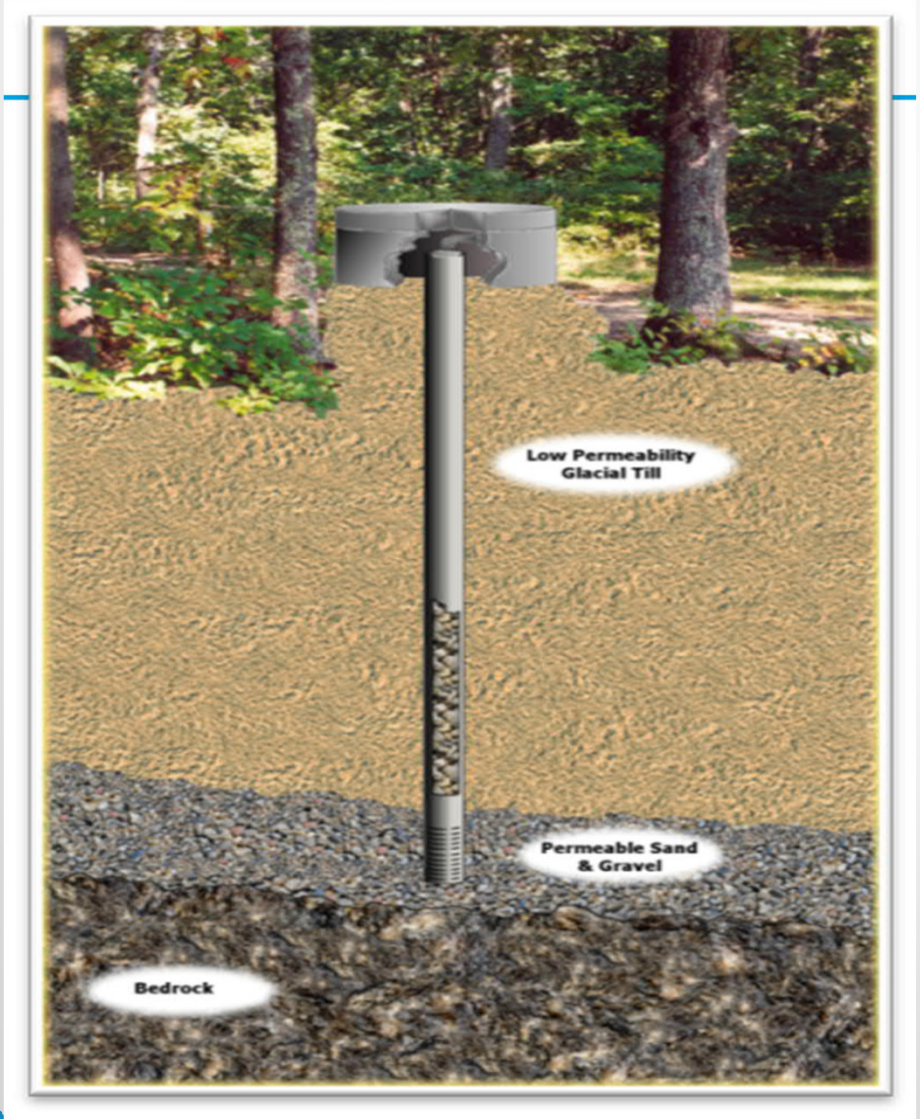
Key Project Drivers

- Reduce nitrogen loading to the groundwater in the area
- Collect and treat wastewater to reduce pollutant loading to nearby ponds and lakes
- Support the Town's vision for the future, facilitate growth and development



Groundwater nitrate concentration data (2016 Needs Assessment)

Wick Design



- Tiny footprint
- Requires high- permeability soils
- Almost completely out of sight

Treatment Technology

Similar System

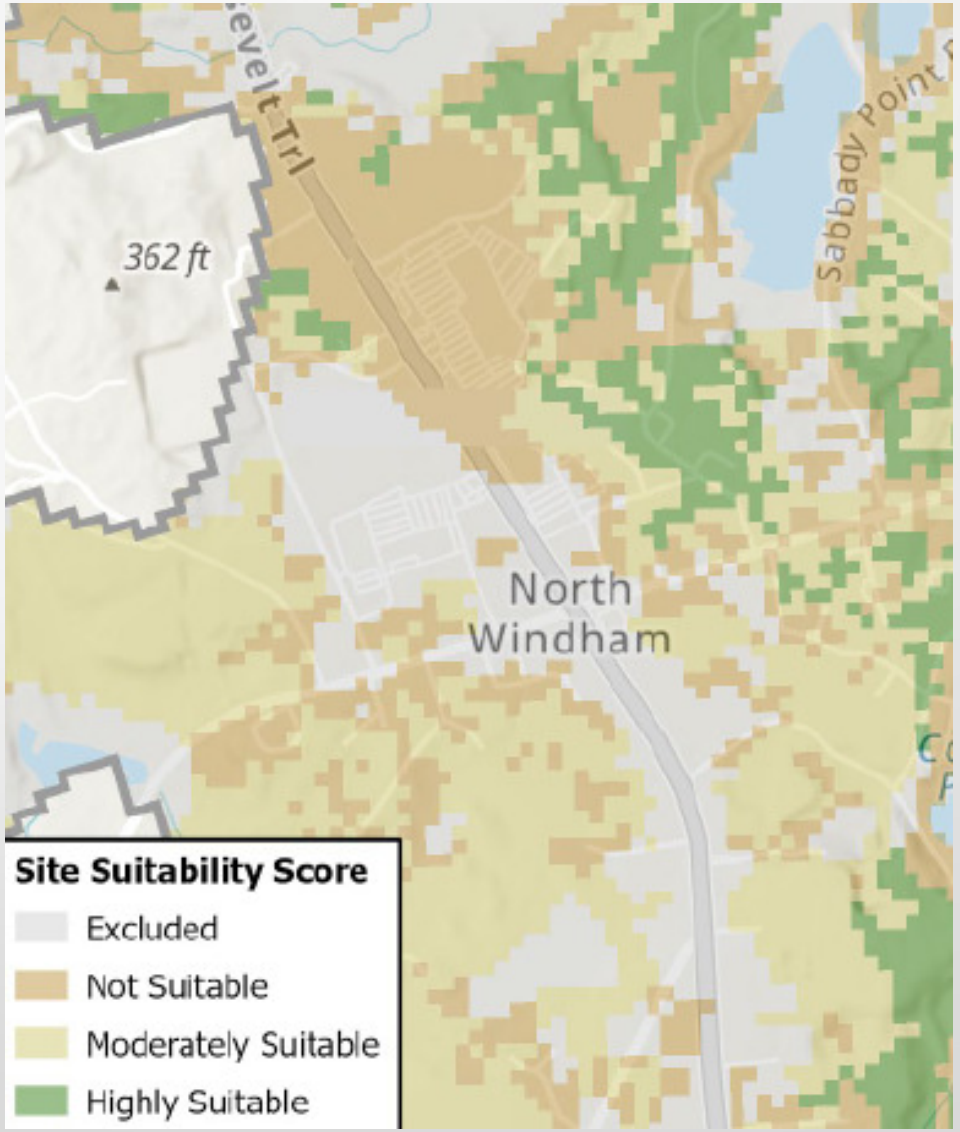
- Scalable processing technology providing advanced treatment methods for the proposed flows, wastewater composition and effluent limits.
- Modular system design in "tractor trailer" units allows for expanded capacity of future needs.

Leveraging Recent Town Wastewater Planning Efforts

- A single, central WWTP located in the Phase 1 area is most efficient and effective
- Groundwater discharge within Phase 1 area is most viable, surface water discharges not likely to obtain DEP approval
- Prior hydrogeologic assessments and area-wide model files available for use

Engineering Challenges

- Effluent disposal
  - Consider all available technologies including innovative alternatives
  - Pollutant fate and transport model, hydrogeoligic engineering to confirm long term benefit
- Accurate budgetary cost estimates drives 'front loaded' preliminary design effort
- WWTP resiliency to meet nutrient removal goals
- Most cost-effective collection system extents



Professional Services Recommendation Key Drivers

- Team configuration and project approach that drives development of an accurate budget by reducing major cost risk factors through more detailed preliminary design
- The proposed team is led by local expertise and includes nationally recognized technical leaders to build the team's breadth and depth of experience in the most technically challenging areas
- The approach reflects the criticality of holistically assessing the entire Phase 1 area to find the most effective overall solution

Selection/Negotiation Summary

- Six established Engineering firms submit proposals, criteria in the selection proc

#	Weighting Factor	Criteria Description
1	10%	Core Team Demonstrated Experience Engineering New Centralized Wastewater Collection and Treatment Systems
2	15%	Hydrogeologic Engineering and Groundwater Discharge Systems Qualifications and Experience
3	20%	Accurate Construction, Operation and Maintenance Cost Estimating Experience
4	20%	Demonstrated Collaborative Approach and Thorough Vetting of Creative Alternatives
5	15%	Clarity of Scope and Understanding of Project Objectives
6	10%	Project Management Approach and Demonstrated Success Managing an Expedited Schedule
7	10%	Operation and Maintenance Considerations, System Longevity and Maximizing Return on Initial Investment

- Collaborative discussions enabled a thorough review of proposed scope and alignment with RFP
- Established allowances
  - Lump sum contract addresses known needs
  - Allowances built in to adjust based on assessment results

The selected firm is Tighe Bond Engineering to be approved by PWD 12/21

RFP cost estimation from selected vendor

- $650,000 lump sum contract to complete the preliminary design of the WWTP, effluent disposal system, and collection system in the focus area
- $311,000 of allowances to be accessed by written authorization to account for:
  - Up to 2 additional effluent disposal sites ($70k)
  - Site evaluations to expand the collection system to cover the remainder of the Phase 1 Area ($70k)
  - Develop plans and cost estimates to expand the collection system to cover the remainder of the Phase 1 Area ($78k)
  - Public outreach assistance ($8k)
  - Engineering costs of PWD ($85k)
  - **Estimated total soft costs is $961,000**

North Windham Funding for Wastewater (engineering, design and costing)

Funding for step 2 of the proposed project

A) Would be funded through Portland Water District based on RFP cost submissions not to exceed $961,000.

B) These expenses would be repaid through future sewer assessment fees for that area. The expenses would be carried as a separate account from all existing residential and commercial accounts in South Windham.

C) The North Windham TIF district would also be utilized to cover those initial engineering and analytical expenses. When the project analysis is completed the Town can decided to implement or not. Expenses incurred to date would be the responsibility of Town and should the Town not implement the project, the TIF would pay for those expenses over five years. Should the Town implement the Wastewater system, those expenses would be incorporated into the cost of the new sewer system. The funding for the system would be with PWD and federal/state grants using CWSRF

Timeline for New North Windham Wastewater Treatment Facility is approximately 4 to 5 years

This is a major project and involves multiple levels of processes

- Design and System Engineering
- Public Participation
- Funding approvals
- Obtaining of easements & site location of treatment plant
- Construction/Implementation
- Testing, Verification of System Engineering
- Celebration of Turning System Active

Thank You