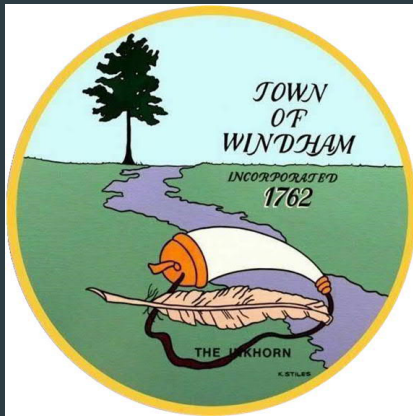


Wastewater Collection, Treatment & Disposal in North Windham

Siting & Design - 2020

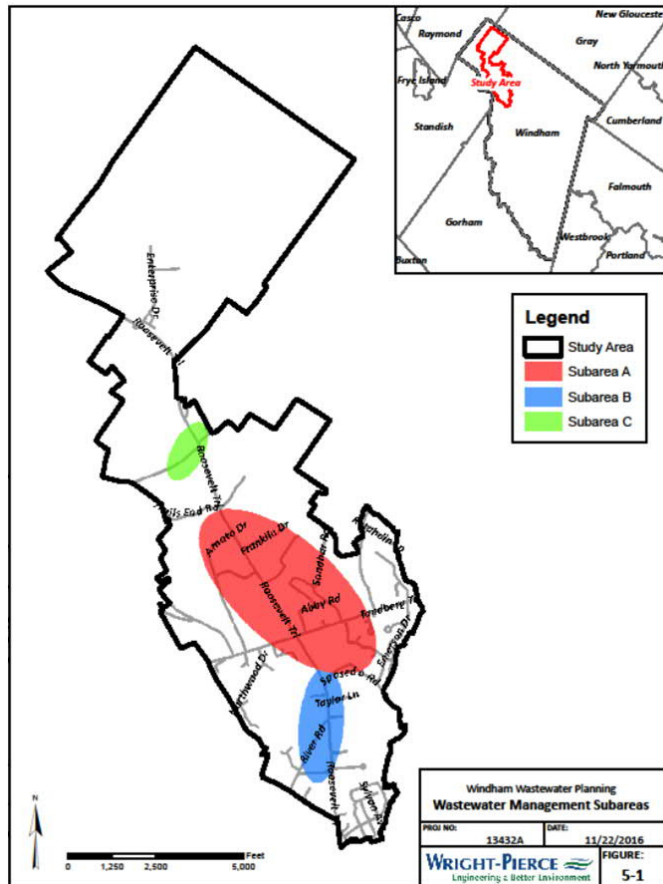


Portland Water District
Portland, ME

SOME WASTEWATER HISTORY

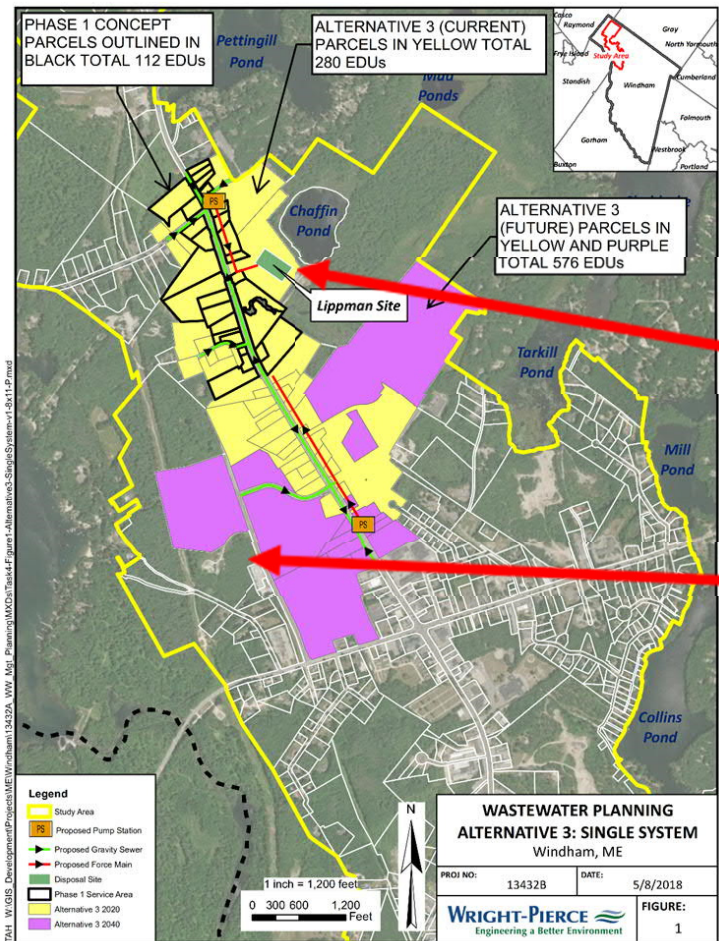
- ▶ 2012 Referendum, Regionalize with Westbrook:
 - ▶ \$38M (now \$55+ million not including collection system)
 - ▶ 175,000 gpd
 - ▶ 80% of votes opposed
- 2014 Wastewater Planning Advisory Committee
 - ▶ Localized cluster wastewater treatment
 - ▶ Subsurface disposal in North Windham
- 2015 New Focus on Nitrogen
 - Wastewater Needs Assessment
 - Search for Disposal Sites

WASTEWATER NEEDS ASSESSMENT



- ▶ Prior Study areas in North Windham
- ▶ Groundwater quality is threatened by nitrates from septic systems
- ▶ Lack of Public Sewerage is Limiting Development
- ▶ >50 percent of wastewater flow in the 2,300-acre planning area from most densely developed 270 acres in 3 Subareas

SEARCH FOR DISPOSAL SITES



Chaffin Pond Site 2018

Manchester Drive Site 2019

MEETINGS WITH DEP AND PWD - FEBRUARY 2020

- ▶ DEP Confirmed No Feasible Nearby Surface Discharge Locations
 - ▶ Presumpscot River Class A Between Sebago and Pleasant River
 - ▶ No capacity in Pleasant River
 - ▶ Avoid Kettle Pond
 - ▶ Avoid Sebago Lake and Basin
 - ▶ No large property locations available along Presumpscot River for subsurface systems
- ▶ Discharge to subsurface possible if far enough away from ponds and/or phosphorous treatment to <0.1 mg/l.
- ▶ DEP has no experience with wicks, but had no particular objections either, Massachusetts DEP has allowed wicks for several years.
- ▶ Evaluation of wicks would require detailed groundwater evaluation and potential pilot installation

TREATMENT TECHNOLOGY



- ▶ Scalable processing technology providing advanced treatment methods for the proposed flows, wastewater composition and effluent limits
- ▶ Modular system design in “tractor trailer” spacing for expanded capacity as the future needs for wastewater treatment arise

Wick Design

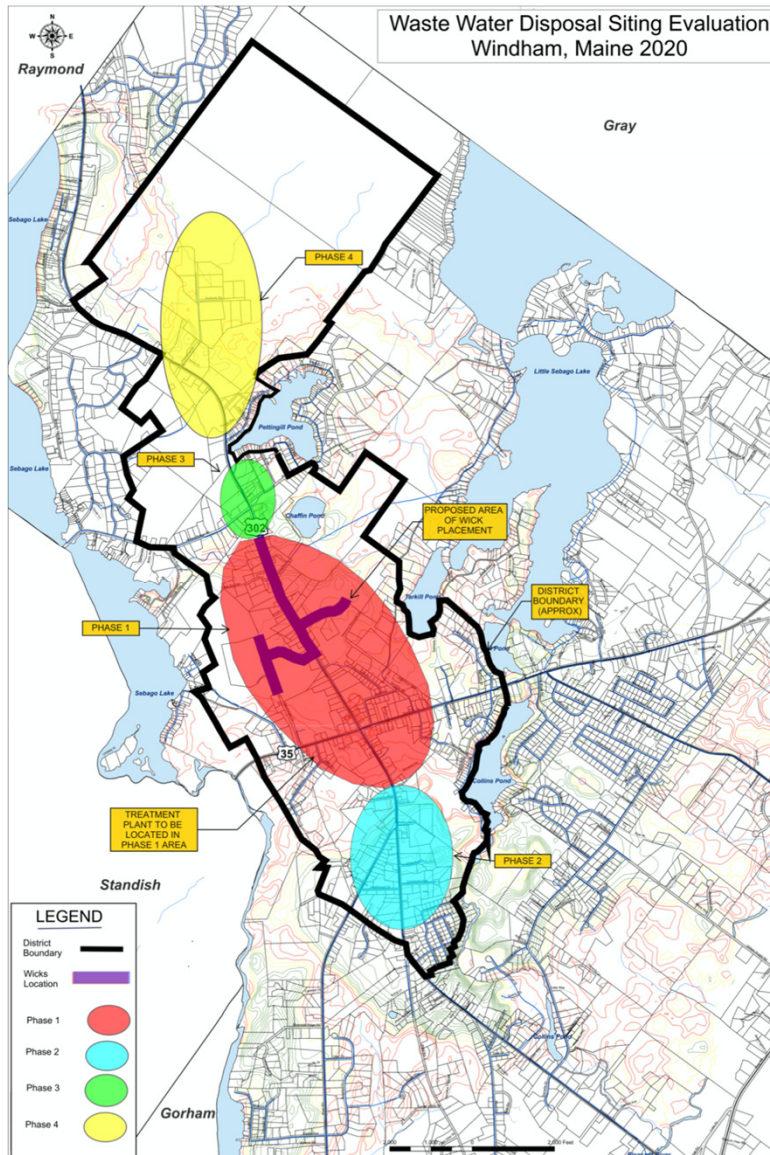


- ▶ Tiny footprint
- ▶ Requires high-permeability soils
- ▶ Completely out of sight
- ▶ Massachusetts has installs and approved by Mass DEP (none in Maine)



WICK INSTALLATION ON MARTHAS VINEYARD

(photo by Martha's Vineyard Times)



Proposed Area for New Wastewater District

LEGEND

District Boundaries



Wick Locations



Phase 1



Phase 2



Phase 3



Phase 4

PLAN FORWARD

Develop a Memorandum of Understanding with PWD for designing and constructing a collection, treatment and disposal system in North Windham.

Portland Water District -lead on these items

- ▶ Develop a Request for Proposal from Engineering Consultants for the engineering and design of the North Windham System (the Project).
- ▶ Provide the town Engineering Estimates at the preliminary design phase and at the 90% design phase.
- ▶ Advertise and bid the Project and provide the town a project budget before proceeding.
- ▶ Develop a budget to operate and maintain the Wastewater System as part of the District annual assessment to the Town. Amend current contracts for South Windham.
- ▶ Finance the Project and investigate funding opportunities such as the State Revolving Loan Fund and or any Stimulus funds that may be available for the construction of the Project.

Town of Windham --lead on these items

- ▶ Provide the District with all previous studies regarding the North Windham System.
- ▶ Acquire and convey to the District by quitclaim deed any real estate interest, whether fee interest or easement interest, required to construct and operate the North Windham System.
- ▶ Cooperate with the District in obtaining all applicable licenses, permits and approvals for all of the actions contemplated by this Agreement per federal, state and local laws.
- ▶ Designate a sewer district and establish a sewer user fee for users of the North Windham System.
- ▶ Pursue all available funding options in cooperation with the Portland Water District for the successful development of this project.

Funding and Finances

- ▶ Expenses incurred by either party pursuant to this Agreement shall be paid by the Town through its annual assessment by the District.
- ▶ The District will bond finance all costs associated with the design and construction of the North Windham System and the Town will reimburse the District for the annual debt service charge and operating cost through the District's annual sewer assessment pursuant to the District's Charter.
- ▶ The Town agrees to secure Town meeting approval for all long-term obligations at the annual or a special town meeting prior to the District's commitment to finance the North Windham System.

Timeline for New Wastewater Treatment Facility in North Windham

- ▶ Overall timeline is 4.5 to 5 years to being able to "flush" a toilet into the new Windham wastewater treatment system.
- ▶ This is a major project and involves multiple levels processes
 - ▶ Design and System Engineering
 - ▶ Public Participation
 - ▶ Funding approvals
 - ▶ Obtaining of easements & site location of treatment plant
 - ▶ Implementation
 - ▶ Testing, Verification of System Engineering
 - ▶ Celebration of Turning System Active 😊

Thank You

