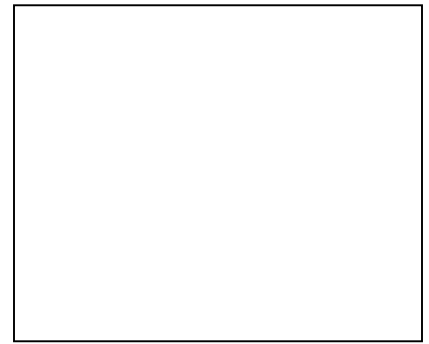


**Town of Fairhaven
Board of Public Works Meeting
January 13, 2025**



Present

Brian Wotton, Commissioner
Robert Hobson, Commissioner
Anne Morton Smith, Commissioner
Daniel Lopes, Commissioner
Hillary Rotondo, Commissioner
Vincent Furtado, BPW Superintendent
Rebecca Vento, Office Manager
Jeffrey Furtado, Water Superintendent
Heather White, Petrini and Associates
Paul Moran, Tighe & Bond
Ian Catlow, Tighe & Bond
Rosemary Costa, Sewer Department

I. Call to Order

Mr. Wotton called the meeting to order at 6:00 p.m.

II. Routine Matters

A. Signing of Departmental Bills

III. Approval of Minutes

A. December 30, 2024

Mr. Hobson motioned to approve the minutes of December 30, 2024. Ms. Smith seconded. Vote unanimous.

IV. Appointments

A. Heather White, Petrini & Associates, Sunset Beach Road Sewer Betterment

Ms. White - I've submitted to the Board a proposed Order of Betterment Assessment for the Sunset Beach Road Sewer project that was recently completed, your consultant GCG Associates prepared a calculation of the total cost of the project and an assessment amount of \$12,793 per property for the 20 properties that benefit from this project. This estimate is based on using the uniform unit method, which is one of the methods that's authorized by statute for the assessment of betterments. These betterments were authorized by Town Meeting and the Board has previously recorded two notices that these betterments would be assessed upon completion of the project. At this time the next step according to the statutory processes, is for the Board to issue this order of betterments. It'll get recorded at the Registry of Deeds and we'll provide notice to the Assessors, who will then provide notice to the Collector, who will then notify the property owners that this bill is being issued to each of the properties. I'm happy to answer any questions about the order itself, the process or any other information that the Board would like.

Ms. White if the Board has no questions I would recommend the Board vote to adopt the order as written, and also specifically to apply the uniform unit method of assessment.

**Town of Fairhaven
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Ms. Smith motioned to Adopt the Order of Betterment Assessment as written and to apply the Uniform Unit Method of Assessment for Sunset Beach Road Betterment. Mr. Lopes seconded. Vote unanimous.

B. Tighe & Bond, Comprehensive Wastewater Management Plan

Mr. Catlow and Mr. Moran gave a second presentation (Attachment A) for the Comprehensive Wastewater Management Plan.

V. Item for Action

A. Interview / Hire Sewer Department Treatment Plant Operator

1. Rosemary Costa

Mr. Furtado – Ms. Costa has been with the Town for about 7 years. A few months ago, Mr. Oliveira retired and since that time Ms. Costa has been filling in as a treatment plant operator. This position requires a Grade 5 Wastewater license and she currently has a Grade 3.

Ms. Rotondo – How long does it take to get the license?

Mr. Furtado – She could take the test whenever it is available and whenever she is ready.

Ms. Costa – I start Mr. Furtado's class tomorrow to refresh on the math portion of the test.

Mr. Furtado – I recommend the promotion with one year to get the Grade 5 license.

Mr. Lopes motioned to promote Ms. Costa to the Treatment Plant Operator in the Sewer Department starting at a Grade 12 Step 2 with one year to obtain her Grade 5 Wastewater License. Ms. Rotondo seconded. Vote unanimous.

B. Lloyd Center for the Environment, 2025 Proposal for Piping Plover Management at West Island Town Beach \$8,788.00

Mr. Wotton motioned to approve the Lloyd Center for the Environment 2025 Proposal for Piping Plover Management at West Island Town Beach in the amount of \$8,788.00. Mr. Hobson seconded. Vote 4-1 with Mr. Wotton opposed.

C. Sign Agreement for Professional Services, Beta Group ADA Compliance Program \$72,000.00

Mr. Furtado – This is an assessment to have them look at all the sidewalks and the bike path to make sure that we are ADA Compliant. This agreement will be paid out of Chapter 90.

Ms. Smith motioned to Sign the Agreement for Professional Services with Beta Group for ADA Compliance Program in the amount of \$72,000.00. Mr. Lopes seconded. Vote unanimous.

**Town of Fairhaven
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D. Sunset Beach Road Betterment

Ms. Smith motioned to adopt the Order of Betterment Assessment as written and to apply the Uniform Unit Method of Assessment for Sunset Beach Road Betterment. Mr. Lopes seconded. Vote unanimous.

E. Preliminary Budget Review FY26

Mr. Furtado – We received a blanket direction that anything that was General Fund to decrease the operating budget two percent from the FY25 Budget and not touch the salaries with the exception of step increases. Water and Sewer, we were asked to level fund the budgets, but we had to increase a few things to reflect the increases in the contracts. We are going to split this up over a few sessions because Mr. Crabb is at the Select Board meeting tonight regarding the trees on Union Street.

Mr. J Furtado reviewed the FY26 Water Budget & Capital Plan with the Board and answered any questions that the Board had.

VI. Table Matters

A. n/a

VII. Public Comments / Open Forum

VIII. Old Business / New Business

A. Superintendent

Superintendent Report for January 13, 2025

- POTW upgrade meetings
- POTW upgrade Change Order Meeting
- FY 26 Budgets
- FY 26 Capital Planning
- Continue Labor Counsel matter
- CDBG Logistics
- CWMP Review
- Chair Capital Planning Committee
- MRV SRF
- Meet with interim TA
- Meet with new Labor Counsel
- Sunset Beach Road Betterments
- Cell Tower Meeting

**Town of Fairhaven
Board of Public Works Meeting
January 13, 2025**

- Bridge St \$\$ Extended

Mr. Furtado answered any questions that the Board had regarding the Superintendent Report.

B. Board Members

Mr. Hobson – What is the status of the sidewalk in front of the ice cream store on Ferry Street? Can you check with Mr. Crabb because he said that he would repair it in the spring. Water Street is getting really bad, we need to fix it, also there is another pothole that is getting deeper.

Mr. Furtado – Mr. Crabb estimates that Water Street would cost between \$300,000 and \$400,000 to fix. As for this year's roadwork allotment we might have to cut that in half.

Ms. Smith – I was wondering about bulky item pickup, people keep leaving them out without calling E L Harvey. Is it possible for E L Harvey to tag the items letting people know that they have to schedule and pay to get the items picked up?

Mr. Wotton – I think that this would be on the Board of Health, they are the ones who would enforce this.

Mr. Lopes – With budget season approaching, do we know when we will be assessing the trash fees?

Mr. Furtado – The Board voted on it sometime last March.

C. Marine Resources Committee – BPW Related Matters

Mr. Hobson – The last Marine Resources Committee meeting was canceled.

D. Community Preservation Committee – BPW Relate Matters

Ms. Smith – CPC is not meeting for another week. Has there been any feedback from the residents of what they would like to see in the parks?

IX. Set Date for the Next Meeting

Ms. Smith motioned to set the date for the next meeting on January 27, 2025 at 6:00 p.m. Mr. Wotton seconded. Vote unanimous.

X. Adjourn

Mr. Wotton motioned to adjourn the meeting at 7:55 p.m. Ms. Rotondo seconded. Vote unanimous.

Respectfully submitted,

Rebecca L. Vento

Rebecca Vento
Office Manager

Minutes approved on January 27, 2025



Fairhaven CWMP: Future Conditions & Wastewater Management Alternatives

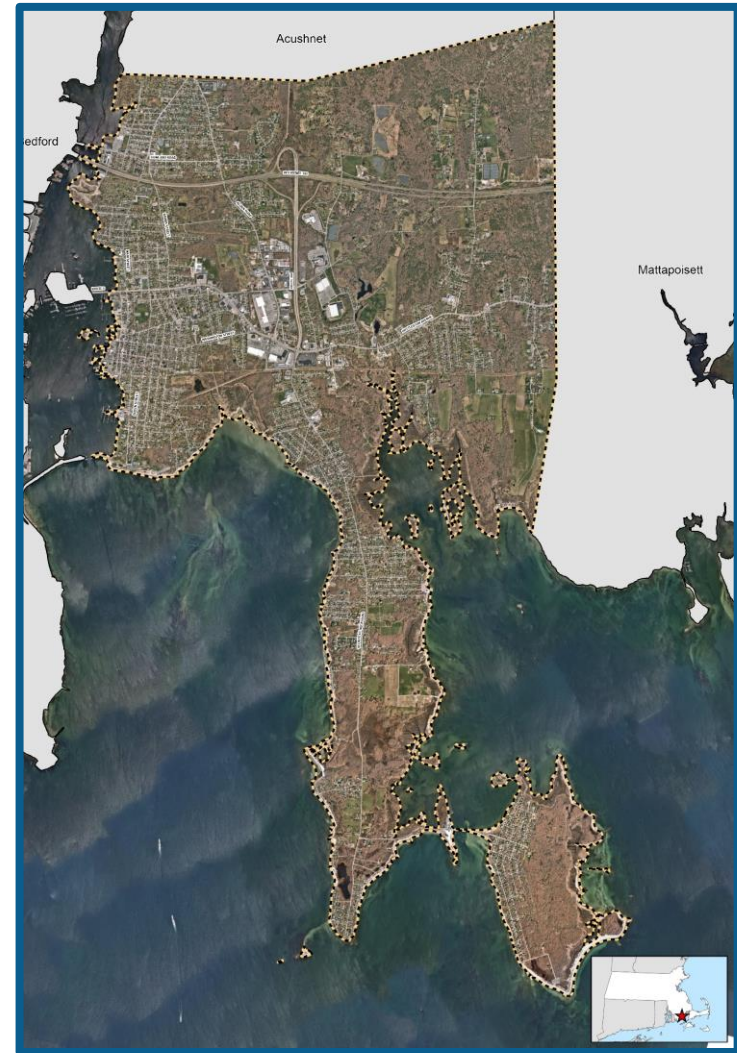
January 13, 2025

Project Director: Ian Catlow, PE
Project Manager: Paul Moran, PE

AGENDA

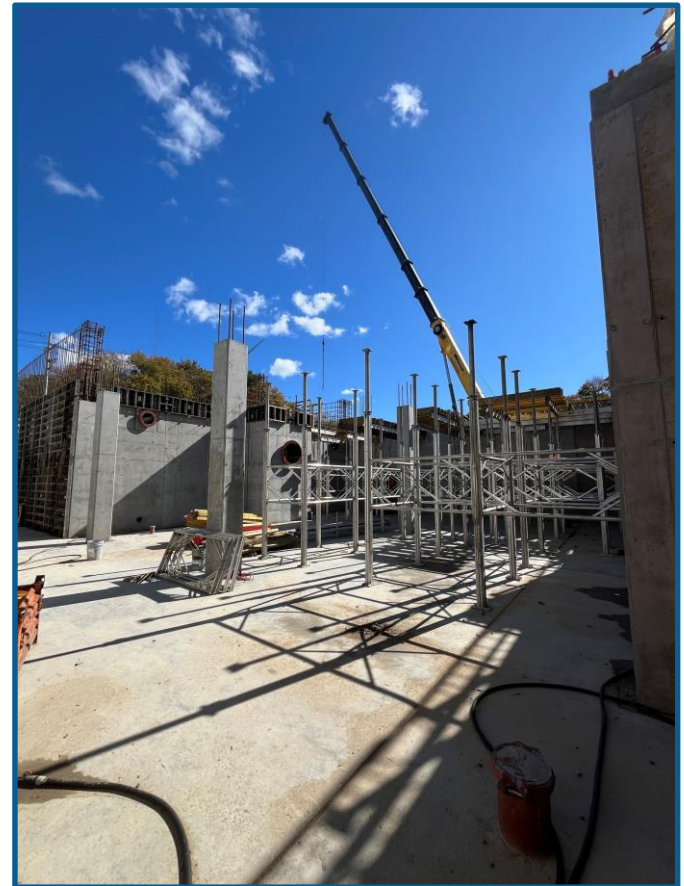
Scope/Report Contents:

1. *Intro*
2. *Review of Planning Efforts*
3. *Existing Conditions*
4. *Needs Analysis*
5. **Future Conditions**
 - Buildout Analysis
 - Flow Projections
6. **Wastewater Management Alternatives**
 - Regional / Centralized / Satellite Treatment
 - Decentralized Alternatives
 - Permeable Reactive Barriers
 - Policy Alternatives
7. *Alternatives Analysis*
8. *Recommended Plan*
9. *Schedule & Adaptive Management*

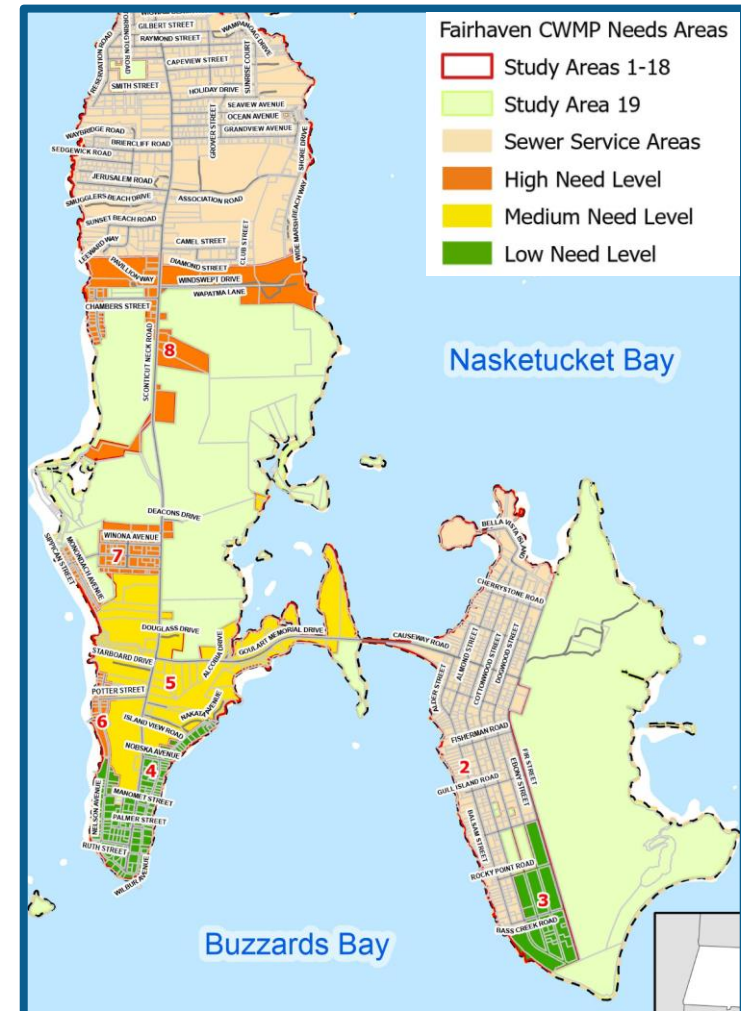
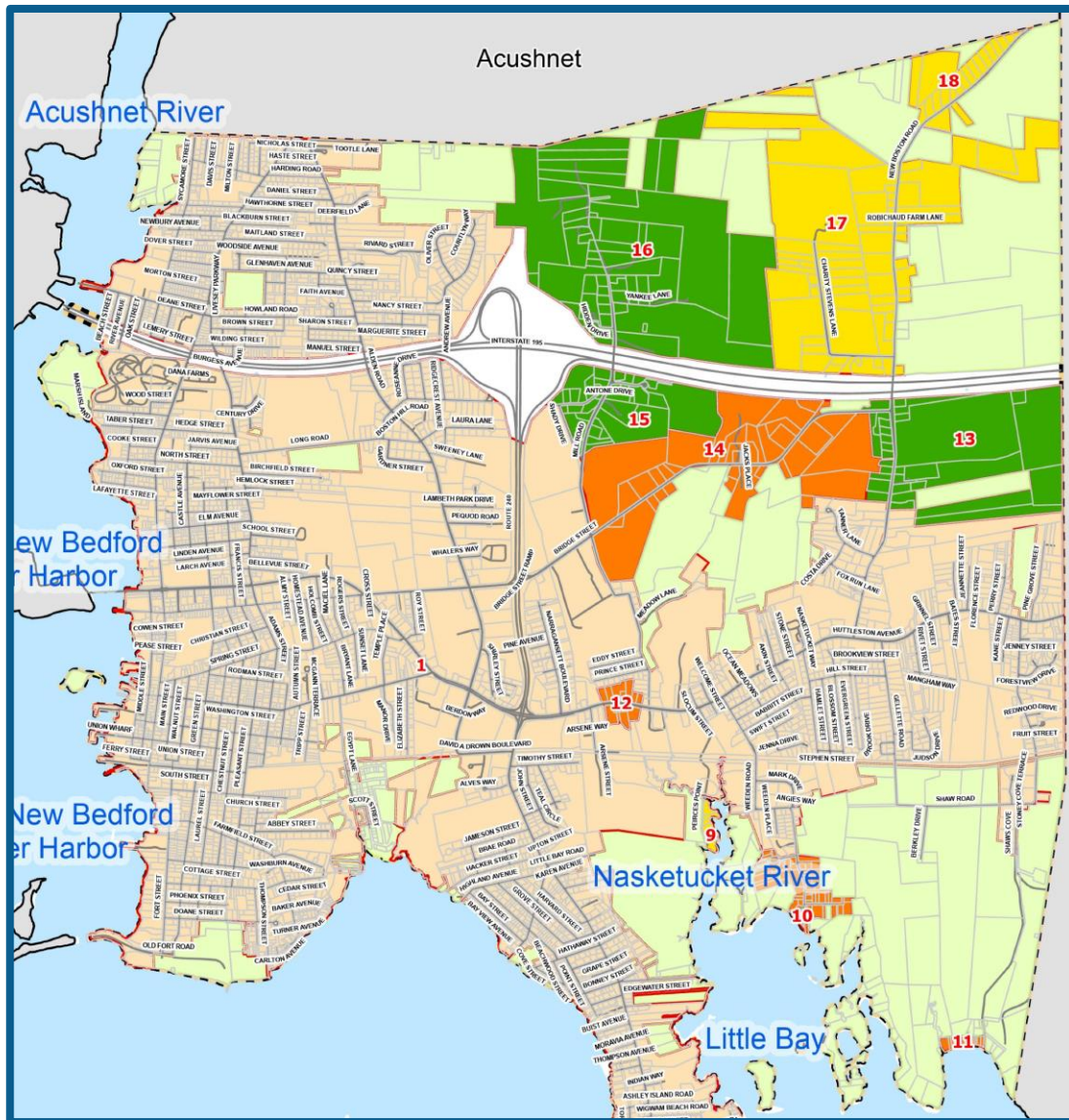


NOVEMBER 18 PRESENTATION RECAP

- **Complete Study to Obtain 0% Loan Funding for WPCF Upgrade**
- **Remediate Water Quality**
 - Primary Concern: Nitrogen
- **Available Capacity**
 - Fairhaven WPCF: 1.03 MGD
 - West Island WWTF: None



NEEDS RANKING



FUTURE CONDITIONS – FLOWS AND LOADS

- **Base Condition**

- Two Flow Estimation Methods:
 - Fairhaven Historical Average Water Demand: 48 gpcpd
 - MassDEP Water Conservation Standard: 65 gpcpd
 - Fairhaven Average Occupancy: 15,924 people in 6,031 houses
 - Household Use: 172 gallons per household
- Nitrogen Loads: MEP Method

- **20-Year Buildout**

- Considers population projection
- Ultimate buildout potential based on zoning & wetlands for each parcel
- Commercial/Industrial/Business allowance
- Considers historical projections for comparison
- 20-year growth based on historical new construction starts
- Estimates developed for each study area

REGIONAL / CENTRAL / SATELLITE TREATMENT

- **Regional:**

- Connection with New Bedford Infeasible
- Mattapoisett sends flow to Fairhaven
- Acushnet sends flow to New Bedford

- **Central:**

- Fairhaven WPCF removes TN to 3 mg/L (limit of technology)

- **Satellite:**

- Suitable for high density isolated areas
- West Island WWTF Removes TN to 7 mg/L



DECENTRALIZED TREATMENT ALTERNATIVES

- Cesspools
- Traditional Septic Systems
- Tight Tanks
- Innovative / Alternative (I/A) Septic
- Enhanced I/A (EIA) Septic

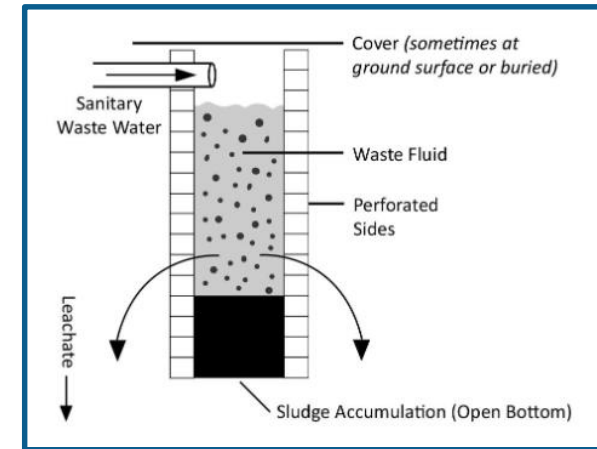


Image courtesy of the EPA

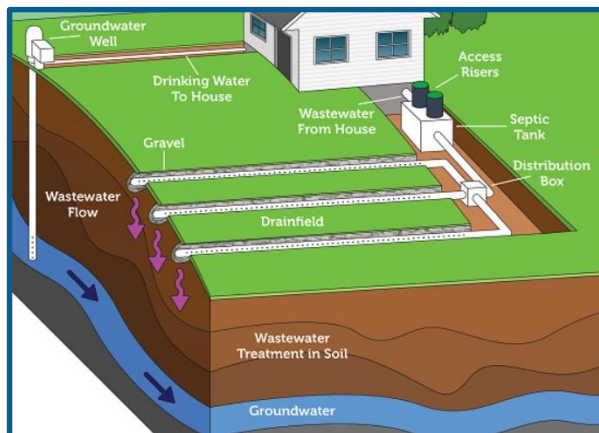


Image courtesy of the EPA

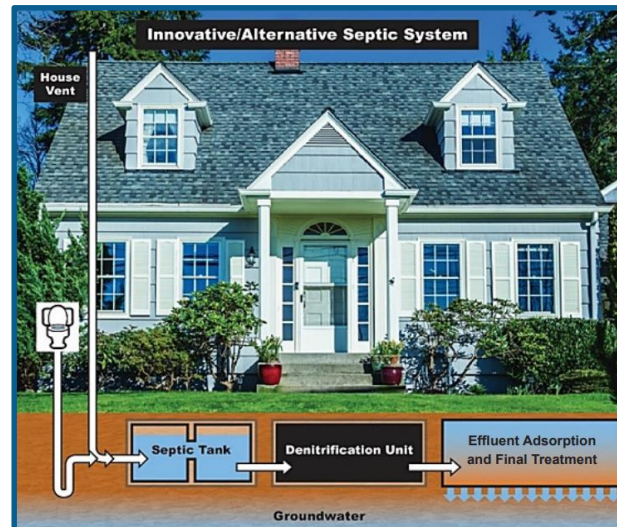


Image courtesy of NEWEA

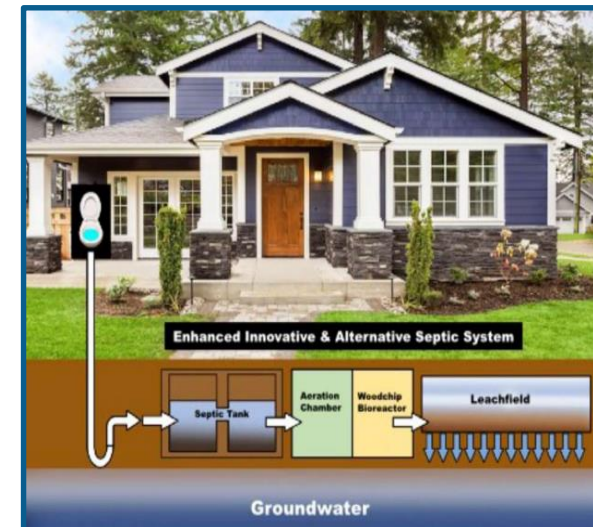


Image courtesy of NEWEA

TRADITIONAL SEPTIC SYSTEMS

- **Baseline alternative Since 1975 (Title 5)**

- 600 in Fairhaven
- Low maintenance
- Removes BOD, TSS, some nitrogen

- **1995 Updates:**

- More stringent standards
- Mandatory inspections at sale

- **Effluent TN: 23.6 mg/L at property line**

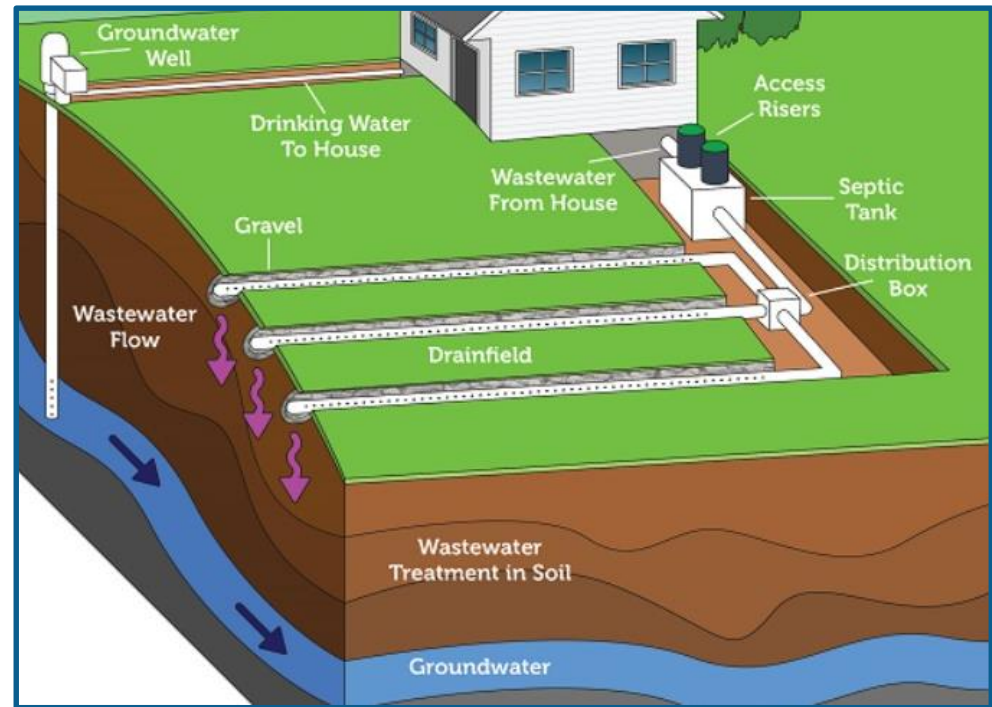


Image courtesy of the EPA

TIGHT TANKS

- **Last Resort**

- Storage only, no treatment
- All wastewater stored and pumped. No environmental impact.
- 40 in Fairhaven

- **Highest Maintenance Cost per gallon used**

- Estimated typical household cost: \$8,000 per year
- Actual average cost: \$500 per year, reflects severely restricted water usage



Image Source: <https://www.premiertechnaqua.com/en-us/septic-system/holding-tank>

INNOVATIVE / ALTERNATIVE (I/A) SYSTEMS

- **Various technologies available**
 - Designed for TN removal
 - Site limitations
- **Title 5 Approval Required**
 - Two systems available for effluent limit of 19 mg/L TN
 - 20% reduction in TN Loading
- **Challenges**
 - Increased construction cost
 - Increased maintenance cost
 - Biological treatment impacted by temperature & seasonal use

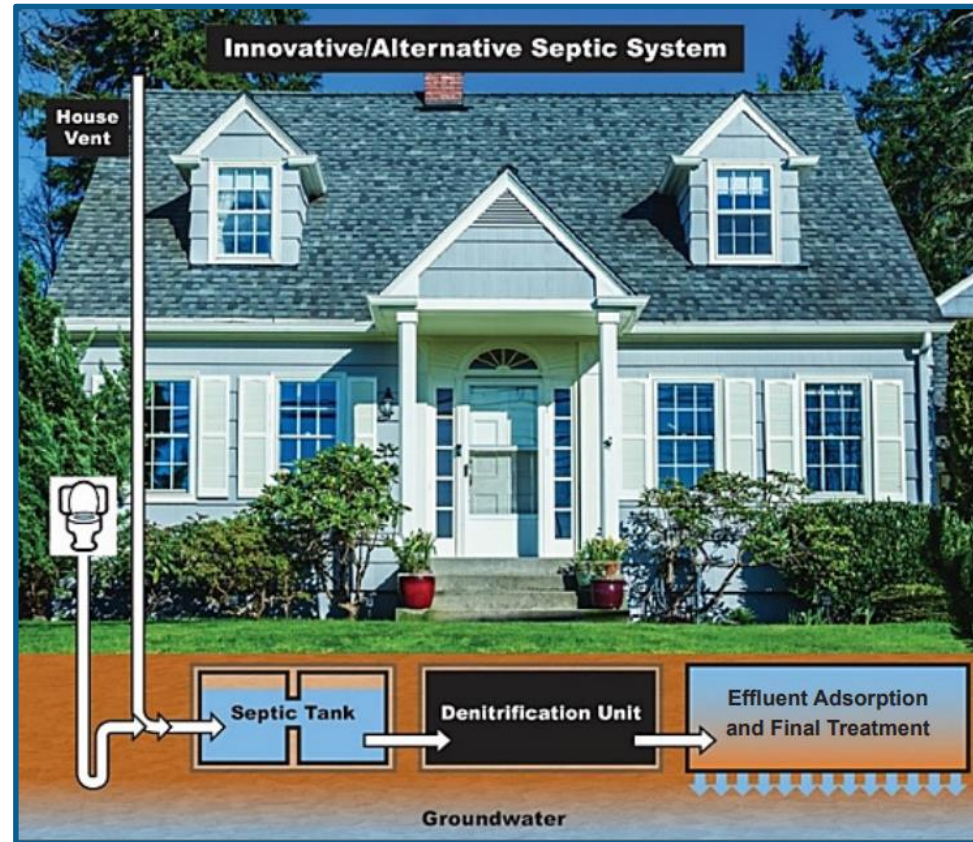


Image courtesy of NEWEA

ENHANCED I/A ON-SITE

- **Technologies in development / permitting**

- Two systems available for provisional use
- TN effluent limit of 10 mg/L TN
- 60% reduction in TN loading

- **Challenges**

- Higher construction cost
- Higher maintenance cost
- Biological treatment impacted by temperature & seasonal use
- Provisional Use Only
 - Adaptive Management Plan

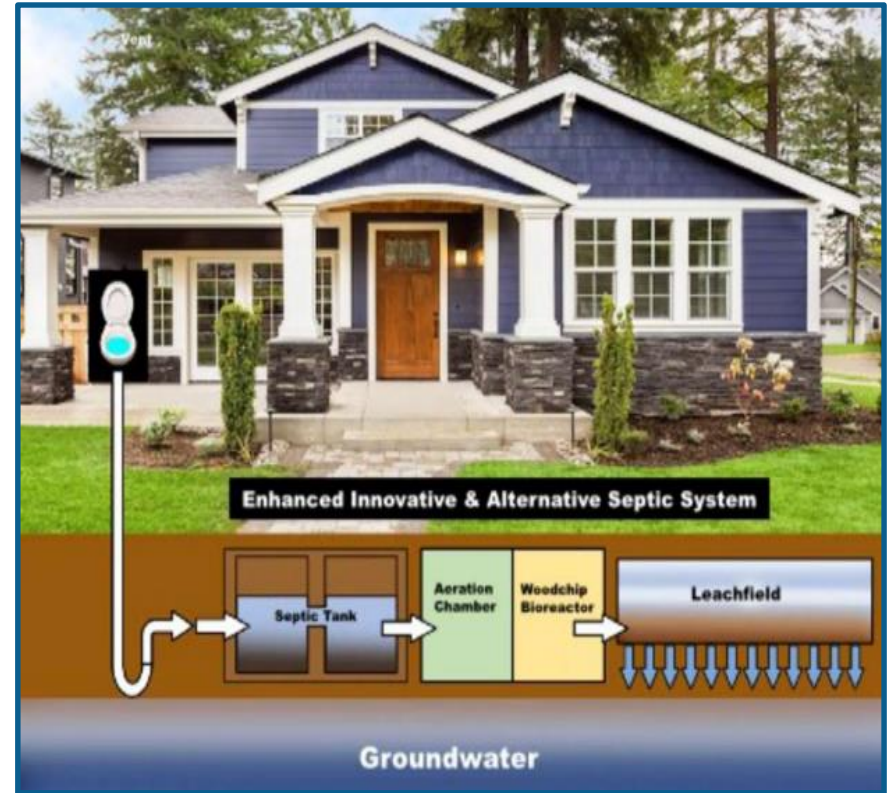


Image courtesy of NEWEA

CLUSTER SYSTEMS

- **Serves multiple homes in a neighborhood**
 - May facilitate development in poor septic conditions
 - Shared cost for I/A Systems
 - 1 recently installed on Starboard Dr.
- **Challenges**
 - Feasibility is location-specific

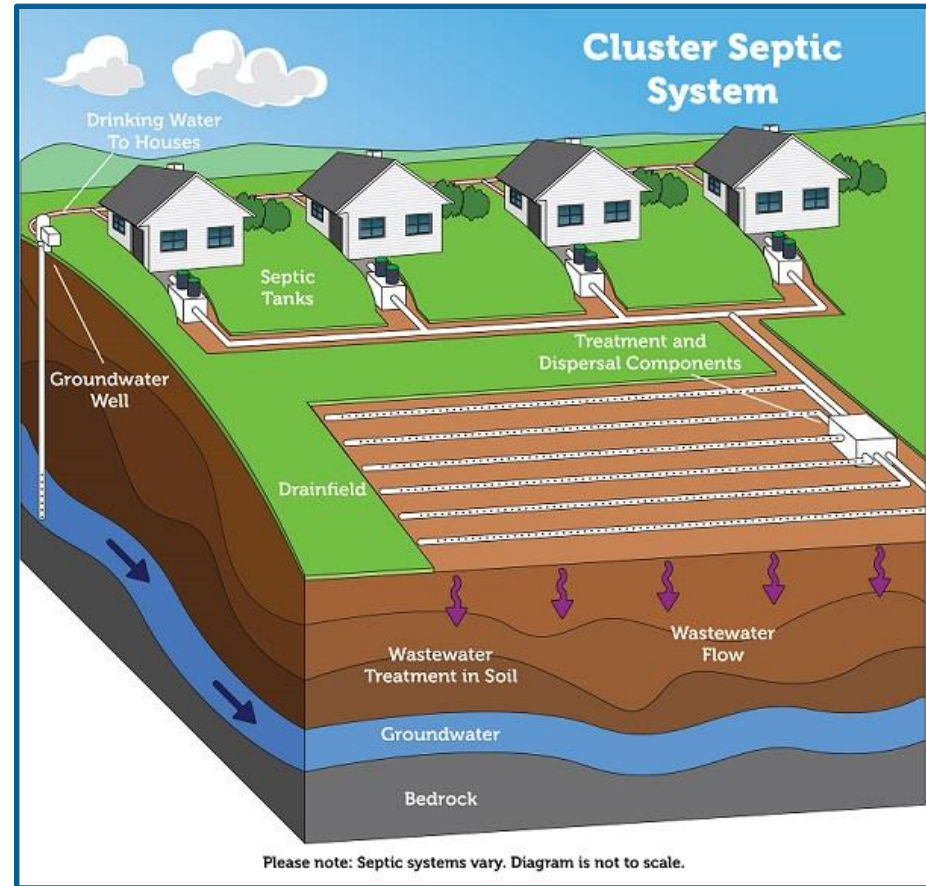


Image courtesy of EPA

PERMEABLE REACTIVE BARRIERS

- **Can remove nitrogen in groundwater flow**
 - May be suitable for high density areas at sensitive water bodies
- **Challenges:**
 - 200' to 300' buffer
 - No potable wells downstream
 - Extensive monitoring needed

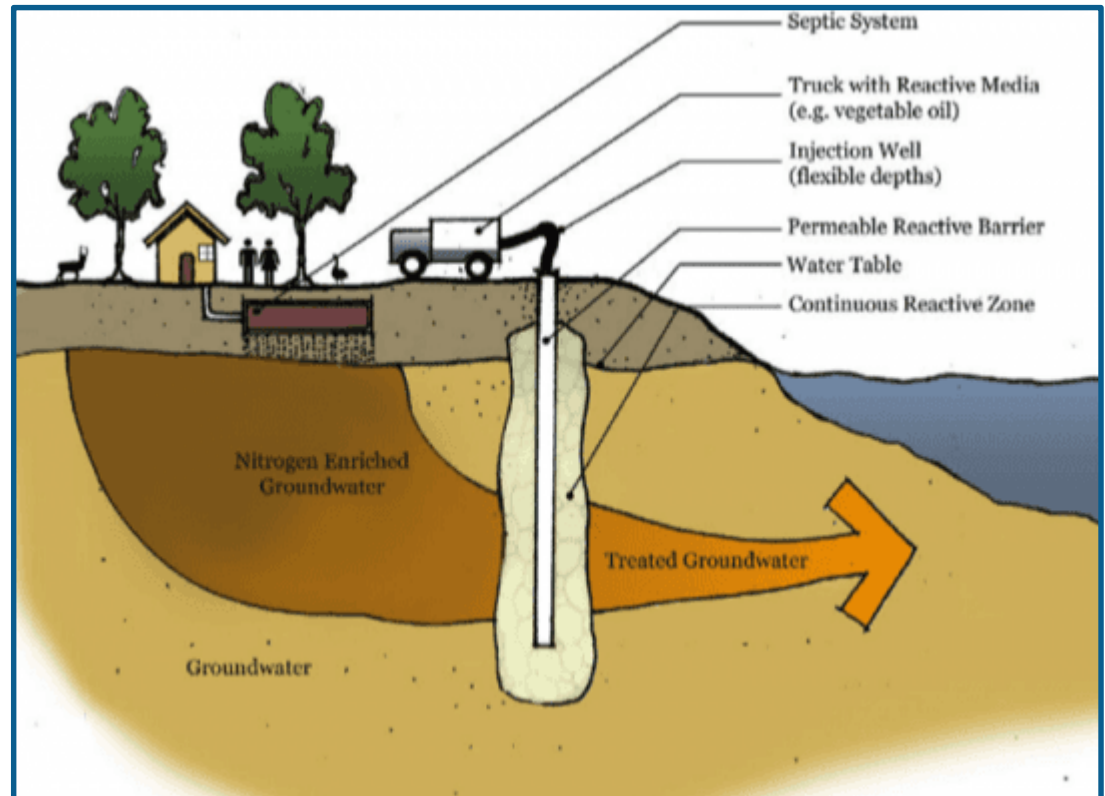
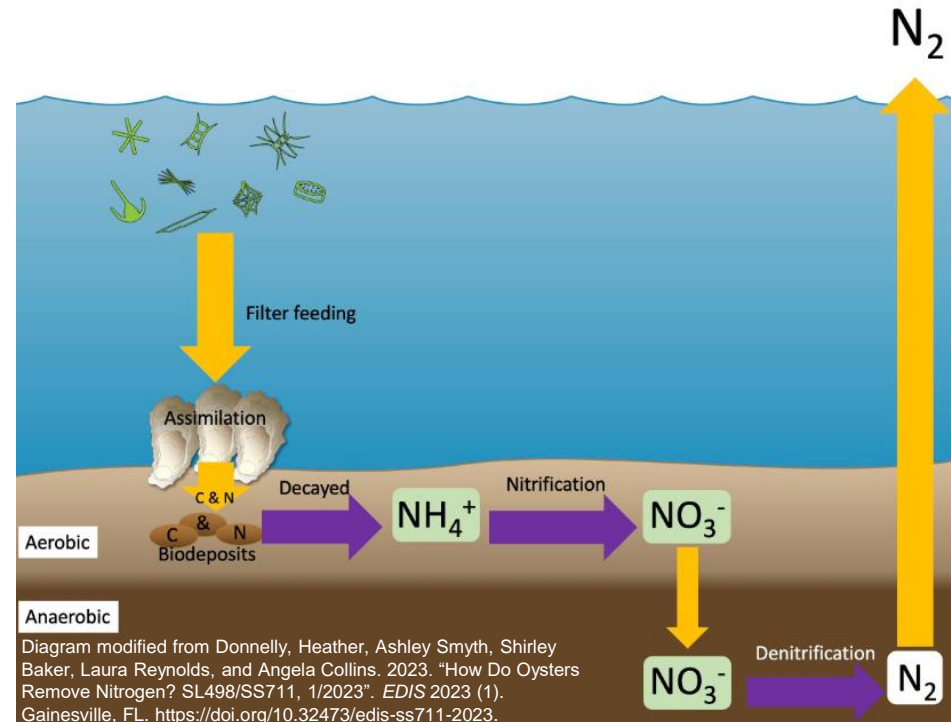


Image Credit: Town of Eastham, MA

[https://www.eastham-ma.gov/264/Permeable-Reactive-Barrier-at-Salt-Pond#:~:text=A%20permeable%20reactive%20barrier%20\(PRB,groundwater%20flowing%20into%20Salt%20Pond](https://www.eastham-ma.gov/264/Permeable-Reactive-Barrier-at-Salt-Pond#:~:text=A%20permeable%20reactive%20barrier%20(PRB,groundwater%20flowing%20into%20Salt%20Pond)

SHELLFISH AQUACULTURE

- Whole oyster biomass: 0.41% nitrogen¹
- Median N removal via oyster harvest: 36 kg/y over 5 years¹
 - Increased N removal each year
 - Estimated total N removal of 93.1 kg in 2020 (4.7 g N / kg oysters)
- Median N removal via enhanced sediment denitrification: 9.5 kg/y over 5 years¹
 - Increased denitrification rates 0.2 – 2.9x (median 1.1)
- Orleans demonstration project cost (2016 – 2018): \$1,380,000²
- Successful demonstrations:
 - Orleans & Falmouth, MA
 - Ninigret Pond, RI
 - Newmarket, NH



1. Calculated from data included in the Lonnie's Pond Aquaculture/TMDL 2020 Annual N Removal/Harvest Report Final Parts 1 and 2, February 1, 2021, prepared for the Town of Orleans by the Coastal Systems Program, School for Marine Science and Technology, University of Massachusetts Dartmouth.
2. Cost reported in AECOM Technical Services, Inc. *Lonnie's Pond Aquaculture Management Plan*. Town of Orleans, MA Water Quality and Wastewater Planning, 2018, including estimated 2018 c.y. cost, assuming reporting in 2018 USD. Cost adjusted for inflation from January 2018 to May 2024.


- 
- A close-up photograph of numerous oysters, some open and some closed, showing their characteristic dark, textured shells and lighter-colored interiors. The oysters are piled together, creating a dense, textured background.
- Water quality improvements localized
 - Primarily removal of particulate matter
 - Limited in-depth statistical analyses preclude robust interpretation of existing pilot studies
 - Ecosystem carrying capacity
 - Potential for sediment over-enrichment & induced anoxia
 - Performance is highly site-specific

Photo reproduced from AECOM Technical Services, Inc. *Lonnie's Pond Aquaculture Management Plan*. Town of Orleans, MA Water Quality and Wastewater Planning, 2018, <https://www.town.orleans.ma.us/DocumentCenter/View/771/Lonnies-Pond-Aquaculture-Management-Plan-PDF>

SHELLFISH AQUACULTURE LIMITATIONS

POLICY ALTERNATIVES

- **Facilitate Aquaculture**
 - Difficult to Track/Quantify Benefits
- **Water Reuse**
 - Gray water
 - Irrigation
- **Fertilizer Regulations**
 - Potential to reduce excess fertilizer TN loading by 20%

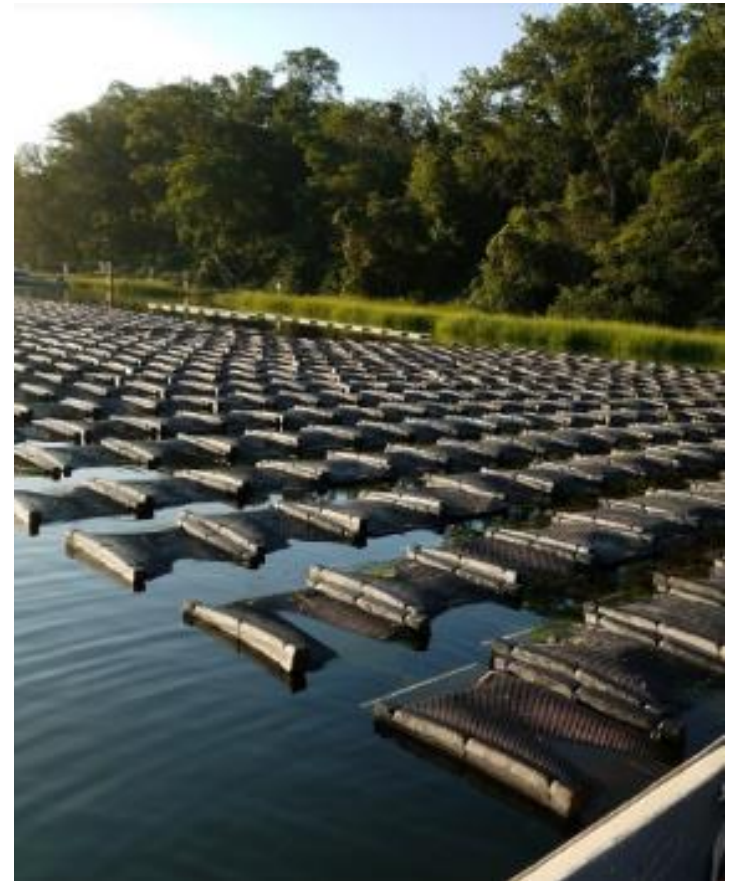


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NEXT STEPS

- **Alternatives Analysis**
 - Develop wastewater alternatives for each study area
 - Evaluate costs & benefits for each
- **Recommended Plan**
- **Implementation Schedule & Adaptive Management Plan**
- **Questions? Comments?**
 - PAMoran@tighebond.com
 - 978-314-2108