



Town of

Orleans
Massachusetts

Orleans Water Quality Advisory Panel

Water Quality and Wastewater Planning

Program Status Update

August 17, 2016

Agenda

- 1. Approval of Meeting Summary of July 13, 2016**
- 2. Tri-Town Septage Treatment Facility Decommissioning and Demolition Update**
- 3. Status of Public-Private Partnership Options Evaluations**
- 4. NT Technology Demonstration Project Update**
- 5. Monitoring and Modeling Plan (AMP) Update**

Break

- 6. Freshwater Ponds Management Planning**
- 7. Amended CWMP Document: Review and Submission Plans**
- 8. Proposed Summer OWQAP and Other Meetings**
- 9. Warrant Agenda for Fall Town Meeting: Discussion**
- 10. Other Items**
- 11. Public Comment**



Tri-Town Septage Treatment Facility Decommissioning and Demolition Update

❖ **Decommissioning Plan**

- Final Work Plan Submitted on July, 12, 2016
- Operating Staff Completing Facility Decommissioning
- Conducting on-going Coordination with Operating Staff

❖ **Design Phase**

- Completed Field Investigations (Hazardous Materials Assessment; Environmental Site Assessment (ESA); and Equipment Inventory)
- Preparing Contract Documents for Demolition

❖ **Compost Shelter Demolition is Part of the Tri-Town Septage Treatment Facility Demolition Contract Documents**



Tri-Town Septage Treatment Facility Decommissioning and Demolition Update (cont.)

❖ **Next Steps: Coordination and Permit Meetings**

- Orleans Site Plan Review Committee - August 17, 2016 at 10:00 am
- MassDEP
- NPDES Stormwater Permit
- Natural Heritage Endangered Species Program
- Cape Cod Commission
- Old King's Highway Regional Historic District Committee
- Massachusetts Historical Commission

❖ **Schedule**

- Decommissioning – June 2016 thru August 2016
- Contract Documents – June 2016 thru November 2016
- Bidding – November 2016 thru February 2017
- Town Meeting Appropriations (Brewster, Eastham & Orleans) – May 2017
- Demolition – September 2017 thru February 2018



Status of Public-Private Partnership Evaluations

- ❖ Engaging Selectmen, residential and business community, Planning Board, FinCom, Health Department, Selectmen, engineering team
- ❖ Addressing zoning needs, issues and opportunities
- ❖ Considering growth options in light of SRF 0% financing requirements
- ❖ Updating current on-site system management costs to compare with potential centralized collection and treatment costs
- ❖ Developing scenarios for allocating capital and operating costs to downtown properties based on value of centralized system, water usage.
- ❖ Using financial model to achieve balanced, fair allocation of costs between downtown owners and other Orleans customers
- ❖ Timeframe: Recommend best option and next steps in late August



Financial Assessment: Define “Best Case” Plan

- ❖ **Include “Special Assessments” for Downtown customers according to value of the system**
- ❖ **Phase Implementation Period over 40 years**
- ❖ **Utilize Design-Build : Capital Cost Savings of 20%**
- ❖ **Reduced Contingency to 10%**
- ❖ **Obtain SRF at 0%**
- ❖ **Obtain Federal/State Grant at 25%**
- ❖ **Consider Town-wide Tax at 20%**
- ❖ **Expand Local Usage Tax to Cover 20% of Annual Costs**
- ❖ **Include Septage Revenue**
- ❖ **Other?**



NT Technology Demonstration Project Update: Shellfish/Aquaculture

❖ On-Going Activities

- 198,000 1-inch and 2-inch Oysters in 800 Bags in Late June
- Maintaining System Every 7 to 10 Days
- O&M and Monitoring through October 2016
- Evaluating Alternative for Oyster Wintering
- Stormwater and Bog Monitoring

❖ Schedule

- Draft Monitoring Report by January 31, 2017
- Planning/Decision Making in February 2017 for Summer 2017 Program

❖ Next Shellfish Working Group Meeting

- August 22, 2016 at 4:00 PM
- Skaket Room of Orleans Town Hall
- Frequent Project Updates Being Distributed



NT Technology Demonstration Project Update: Shellfish/Aquaculture (cont.)

❖ Next Steps – Late Summer / Fall 2016

- Quanset Pond – Initiate Development of Work Plan (ie. Baseline Monitoring, and Conduct Viability Study to Optimize Tray Size, Planting Density and Installation Logistics)
- Town Cove – Planning for Quahog Population Survey as First Step in Demonstration Project Design
- Existing Growers – Continue Discussion to Expand and Optimize Production from Existing Grants



NT Technology Demonstration Project Update (cont.): Permeable Reactive Barriers (PRB) – Eldredge Park

- ❖ **Prepared and Submitted Underground Injection Control Permit for MassDEP Review and Approval**
- ❖ **PRB Workshop – August 15, 2016 at 2:00 at Town Hall**
- ❖ **Next Steps**
 - Install Monitoring Wells and Collect Baseline Groundwater Samples – Late August / Early September
 - Application of Food-grade Carbon Substrate through Direct-push Tooling - Mid to Late September
 - Groundwater Sampling for Performance Monitoring



NT Technology Demonstration Project Update (cont.): Permeable Reactive Barriers (PRB) – Eldredge Park

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NT Technology Demonstration Project Update (cont.): Permeable Reactive Barriers (PRB) – Eldredge Park



NT Technology Demonstration Project Update (cont.): Permeable Reactive Barriers (PRB) – Town Landfill

❖ **FY17 Interim Budget - Current**

- Develop Scope of Work and Estimated Cost for Initial Assessment of the Extent of Groundwater Contamination - 1,4 dioxane and Nitrogen

❖ **Balance of FY17 Budget – October 24, 2016, Special Town Meeting**

- Add Monitoring Wells
- Conduct Sampling and Analysis
- Identify and Evaluate Alternatives
- Prepare Conceptual Design (Recommended Alternative) and Estimated Cost

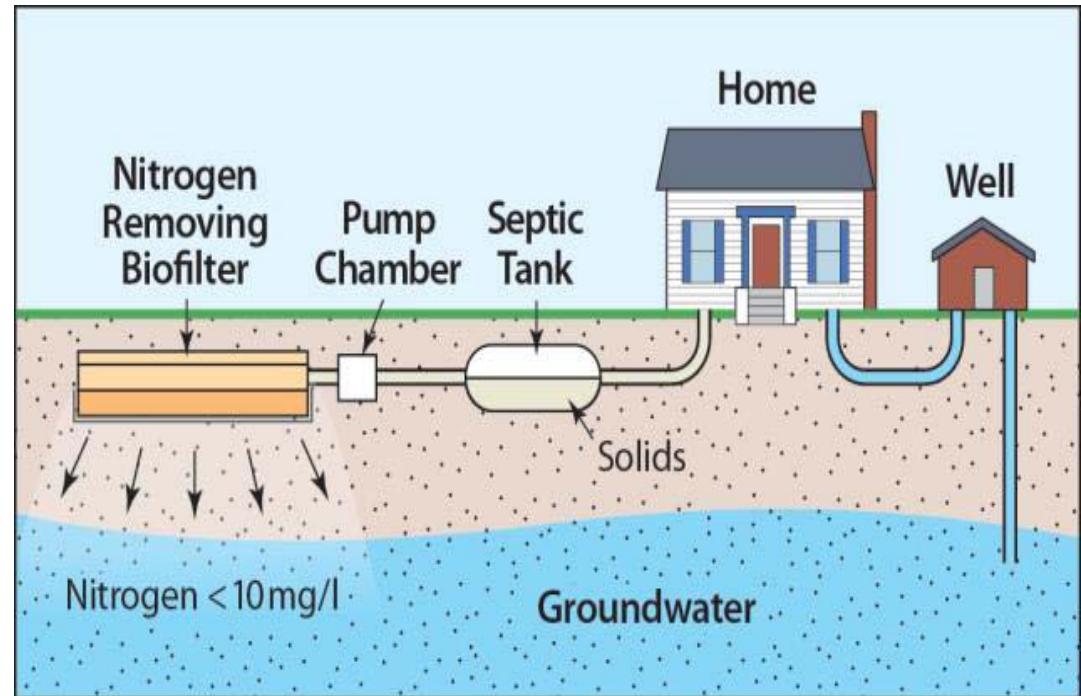
❖ **FY18 Budget**

- Design Recommended Alternative
- Implement Recommended Alternative



NT Technology Demonstration Project Update (cont.): Horizontal On-Site PRBs - Nitrogen Removing Biofilter

- ❖ Preparing Technical Memorandum on the Feasibility of Nitrogen Removing Biofilters (NRB)
- ❖ Developing a Scope of Work and Estimated Cost to Plan, Design and Implement Up to Four Individual on-site NRB Demonstration Projects
- ❖ Subsidy to Homeowners for Individual on-site NRB Demonstration Projects with potential Grants through the Barnstable County Board of Health



Conceptual schematic of Nitrogen Removing Biofilter (NRB).
Source: The New York State Center for Clean Water
Technology, June 2016

Monitoring and Modeling Plan (AMP) Update

- ❖ **SMAST Scope of Work / Priorities and Schedule**
- ❖ **Water Quality Monitoring for MEP Compliance**
 - Ongoing coordination with SMAST and other WQ monitoring programs
 - Planning data base integration and management
- ❖ **Water Quality Monitoring for NT Project Baselines**
 - SMAST technical and monitoring support for Lonnie's Pond demo project
 - Developing scope, budget for Quanset Pond demonstration project
 - Nauset Estuary – Town support of increased monitoring program
 - MEP compliance and MEP model recalibration – Nauset and Pleasant Bay data gap analyses (in conjunction with PBA)
- ❖ **Ponds**
 - Working with SMAST to review and integrate new water quality data
 - Developing scope, schedule and budget for Ponds Management Plan for Fall Town Meeting approval





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Break

Freshwater Ponds Management Plan

- ❖ **Draft Scope of Work: Review and Comments**
- ❖ **Data Base Management**
- ❖ **External Scientific and Technical Support: Goals and Options**
- ❖ **On-Going Responsibilities and Town Management**
- ❖ **Budget for Remainder of FY2017 and 2018**
- ❖ **Other Issues**



Amended CWMP Document: Review and Submission Plan

❖ Supplement to Existing CWMP

- Description of Current Plan and Changes from Original CWMP
- Summary of Financial Plan, P3 Evaluation and Potential Cost Allocations
- Regulatory Requirements
- Draft Implementation Schedule
- Summary of Technical Memoranda with Technical Memoranda in Appendix

❖ Draft ACWMP Submitted to Town on July 12, 2016

- Over 100 pages and 30 Appendices
- Address Questions/Comment and Update through the Fall
- Next Steps: Plans for DEP, MEPA, CCC review

❖ 208 Submission Requirement:

- Orleans Submitted draft ACWM Cape Cod Commission
- Need to review, update and revise Commission draft submission to EPA



Proposed Summer OWQAP and Other Meetings

❖ **OWQAP Meetings**

Summer OWQAP Workshops - Town Hall at 19 School Road

- September 14, 2016, 9:00 am to Noon

❖ **Public Information Activities**

- NT Technologies Working Groups
- Status Reports on NT Demonstration Projects

❖ **Other Meetings**

- Cutoff for Warrant article: September 8, 2016
- Special Town Meeting – October 24, 2016
- Funding Ballot Question – November 8, 2016



Warrant Agenda for Fall Town Meeting: Discussion

❖ **Balance of FY 2017 Budget Request and Approval**

- November 2016 to June 2017 – October 24, 2016 Special Town Meeting
- Review and discussion of draft recommendations
- Recommendations for FY 2018 early authorization items



Other Items and Public Comment

❖ Public Comments and Questions





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Thank You