



Town of

*Orleans*  
Massachusetts

# Orleans Water Quality Advisory Panel

## Water Quality and Wastewater Planning

### Program Status Update

October 19, 2016

#### Agenda

1. Approval of Meeting Minutes of September 14, 2016
  2. Public Comment
  3. Tri-Town Septage Treatment Facility Decommissioning and Demolition Update
  4. Update of Financial Planning and P3 Discussions
  5. NT Technology Demonstration Project Status
  6. Monitoring and Modeling Plan (AMP) Update
- Break
6. Freshwater Ponds Planning Update
  7. Amended CWMP Document: Review, Comments Received and Next Steps
  8. Next Steps-Pending Town Meeting Results
  9. Other Items
  10. Public Comment



## Tri-Town Septage Treatment Facility Decommissioning and Demolition Update

### ❖ Decommissioning Plan

- Coordinating with Board of Managers for the Items Not Completed

### ❖ Design Phase

- Prepared 60% Contract Documents for Demolition for Tri-Town Septage Treatment Facility and Compost Facility
- Regulatory Coordination and Permit Meetings
  - Mass Historical Commission – No Adverse Impacts
  - MassDEP – No Approval Required
  - Cape Cod Commission - No Approval Required
  - MEPA - No Filing Required
  - Orleans Conservation Commission – No Impacts Identified
  - Orleans Site Plan Review Committee – Meeting to be Scheduled
  - Old King's Highway Regional Historic District – Need to file Certificate of Appropriateness (in process)



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

### ❖ Miscellaneous

- Namskaket Marsh Area Environmental Conditions - USGS Report/Presentation to BOS on 10/12/16

### ❖ 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



## Update of Public-Private Partnership and Financial Evaluations

### ❖ Status of Discussions

- Five Downtown Business Forum Meetings Held over Summer
- Representatives from BOS, Planning Board and Engineering Team Participated in Discussions

### ❖ Planning Board Providing Updates Regarding Possible Rezoning of Downtown Area to Increase Density

### ❖ 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

### ❖ Updating Financial Model to Run Scenarios



## Update of Public-Private Partnership and Financial Evaluations (cont.)

### ❖ Evaluating Affordability

- Definition of Affordability is Relative to Individual Users
- Benchmarks for Household Affordability
  - » EPA : 2% of Median Household Income
    - Orleans MHI is \$58,235 (2010-2014 ACS); 2% is \$1,165
  - » Tighe Bond Annual Wastewater Costs Survey (2014)
    - Average of \$756 /year (does not necessarily include capital cost)
  - » Comparative Household Costs
    - Average Cable/Internet Bill is about \$200 monthly, \$2,400 annually
    - Average Cellphone Bill is about \$150 monthly, \$1,800 annually
- Investigating Methods to Evaluate Non-Residential Affordability



## Update of Public-Private Partnership and Financial Evaluations (cont.)

### ❖ Ongoing Evaluations

- Evaluating phasing to reduce rate impacts in any one year
- Confirming all cost estimates
- Investigating metrics for non-residential affordability



## Update of Public-Private Partnership and Financial Evaluations (cont.)

Financial Model Output Cases

Description	Output Cases											
	1	2	3	4	5	6	7	8	9	10	11	12
<b>Financing Options</b>												
20-Year SRF with 0% Interest Rate		X										
30-Year SRF with 0% Interest Rate			X	X	X	X	X	X	X	X	X	X
<b>Funding of Capital and Financing Costs</b>												
100% Property Taxes		X	X	X				X	X	X	X	X
100% Special Assessments					X	X						
80% Special Assessments/20% Property Taxes							X					
30% Special Assessments/70% Property Taxes												X
<b>Number of Wastewater Treatment Facilities</b>												
Two (Downtown Area and Meetinghouse Pond Area)	X	X	X	X	X	X	X			X		
One (Downtown Area only)								X	X		X	X
<b>Contingency Costs</b>												
25% Contingency – Capital/Replacement Costs		X	X	X	X	X	X	X	X			
15% Contingency – Capital/Replacement Costs										X	X	X
<b>Project Costs Offsets</b>												
90% Grant/Principal Forgiveness					X							
25% Grant/Principal Forgiveness						X	X	X		X	X	X
21% Design/Build Savings on Capital Costs						X	X	X		X	X	X
7% Design/Build/Operate Savings						X	X	X		X	X	X
Septage Revenue			X	X	X	X	X	X	X	X	X	X
5% Local Options Taxes						X	X	X		X	X	X



## NT Technology Demonstration Project Update Aquaculture

- ❖ **Lonnies Pond Project - Shellfish maintenance and water quality monitoring ongoing**
- ❖ **Oyster Bed Propagation - Proposed location for demo moved from Quanset Pond to Kent's Point due to concerns about Quanset (predation, wave action, movement of sand spit, land use conflicts). Kent's Point favorable ( in town-owned area, in impaired section of Pleasant Bay, good access, visible for public education, in No Wake zone)**
- ❖ **Town Cove Project -quahog survey work plan developed**
- ❖ **Enhanced Aquaculture in Pleasant Bay and Town Cove – Work plan prepared for targeted communication with Growers (thoughts on actions required to increase shellfish propagation, current constraints on ability to expand, etc.)**



## NT Technology Demonstration Project Update Permeable Reactive Barriers - Eldredge Park

- ❖ **Submitted Underground Injection Control permit application (Form BRP WS06) to MassDEP. Approval was received on 09/15/16**
- ❖ **Presented to Nauset Regional Schools Board meeting on 09/22/16. The motion to allow Town of Orleans to perform the PRB demonstration test on school property passed unanimously**
- ❖ **Initiated drilling for well installation on 09/29/16. Four monitoring wells and three soil borings were completed through 09/30/16.**



## **NT Technology Demonstration Project Update Permeable Reactive Barriers - Eldredge Park (cont.)**

- ❖ **Monitoring wells installed were surveyed to obtain elevations**
- ❖ **Groundwater samples will be collected from monitoring wells installed in September and several existing wells on school property**
- ❖ **Remainder of monitoring wells are being installed in October 2016**
- ❖ **PRB emulsified vegetable oil (EVO) solution injection, starting 11/14/16**
- ❖ **PRB Workshop scheduled for 09/26/16, prior to injection commencement**



## **NT Technology Demonstration Project Update Permeable Reactive Barriers - Landfill Site**

- ❖ **Prepared preliminary investigation plan with cost estimate for additional groundwater investigation at the landfill to assess 1,4-dioxane extent and nitrogen flux**
- ❖ **Prepare response to comments received regarding Town Cove Nitrogen and The Septage Lagoons on 10/13/16**



## **NT Technology Demonstration Project Update Nitrogen Reducing Barriers (NRB)**

- ❖ **Conducted Meeting with Barnstable County to discuss NRB design, installation , monitoring and funding – 09/30/16**
- ❖ **Prepared a Draft Technical Memorandum on Nitrogen Reducing Barriers Feasibility – 10/06/16**
- ❖ **Site Visit to Barnstable County Test Center – 10/14/16**



## **Amended CWMP Document: Review and Submission Plan**

- ❖ **Draft ACWMP Submitted to Town on 6/30/16 and Resent on 7/12/16**
- ❖ **Comments Being Compiled - Due 10/15/16**
- ❖ **Major Issues will be Summarized and Discussed with BOS on 11/09/16**
- ❖ **Draft ACWMP will be Further Updated Based on Work July 2016-October 2016**
  - Shellfish Demo at Lonnie's Pond; planning for Kent's Point Demo, Town Cove Quahog Survey, and Enhanced Aquaculture in PB and Town Cove
  - PRB Demo at Eldredge Park
  - Downtown Planning/P3 Discussion Results
  - Financial Model
- ❖ **Final ACWMP will be Submitted to MassDEP, CCC and others end of December 2016**





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Break

## Warrant Agenda for Fall Special Town Meeting: Review and Recommendation

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

- November 2016 to June 2017 – October 24, 2016 Special Town Meeting
- Warrant Article Approved by BOS on September 21, 2016
- Amount Requested = \$3,256,700

### ❖ Scope of Work

- Task 1 – Continued Planning and Engineering – \$2,484,700
  - Effluent Disposal
  - Demonstration Projects: Shellfish/Aquaculture, Permeable Reactive Barriers (PRB), and Nitrogen Removing Barriers (NRB)
  - Facilities Engineering – Downtown Area Preliminary Design Report (25%)
  - Regulatory Coordination
  - Update of Amended CWMP





## Warrant Agenda for Fall Special Town Meeting: Review and Recommendation

### ❖ Scope of Work Recommendations (cont.)

- Task 2 – Adaptive Management and Implementation - \$436,500
  - Water Quality Monitoring: MEP compliance
  - Water Quality Monitoring: Project Baselines
  - MEP Study and Report Updates
  - Namskaket and Little Namskaket Adaptive Plans
  - Stormwater and Fertilizer Management
  - Revise Comprehensive Plan for Cedar Pond and Rock Harbor Creek Watershed
  - WQ Remediation and Protection Plans for Priority Freshwater Ponds
- Task 3 - Program Management - \$335,500
  - Technical Oversight and Program Management
  - Public Engagement Coordination
  - P3 Development and Financial Analyses
  - Regulatory Coordination



## Proposed OWQAP and Other Meetings

### ❖ OWQAP Meetings

- November 9, 2016, 9:00 am to Noon

### ❖ Public Information Activities

- NT Technologies Working Groups
  - NRB Barnstable County Test Center Site Visit
  - Shellfish Working Group October 17, 2016
  - PRB Working Group October 26, 2016
- Status Reports on NT Demonstration Projects
- Special Town Meeting Flyer



## Proposed Summer OWQAP and Other Meetings (cont.)

### ❖ Other Meetings

- Downtown Business Forum
  - October 20, 2016, 9:00 am to 11:00 am - Postponed
- Orleans Citizen's Forum
  - October 20, 2016, 3:30 pm to 5:00 pm
  - Council on Aging
- Special Town Meeting - October 24, 2016
- Funding Ballot Question - November 8, 2016



## Other Items and Public Comment

### ❖ Public Comments and Questions





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Thank You