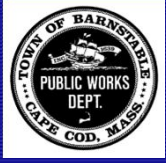


# ***Barnstable Town Council***

## ***Update on Wastewater Efforts In Barnstable***

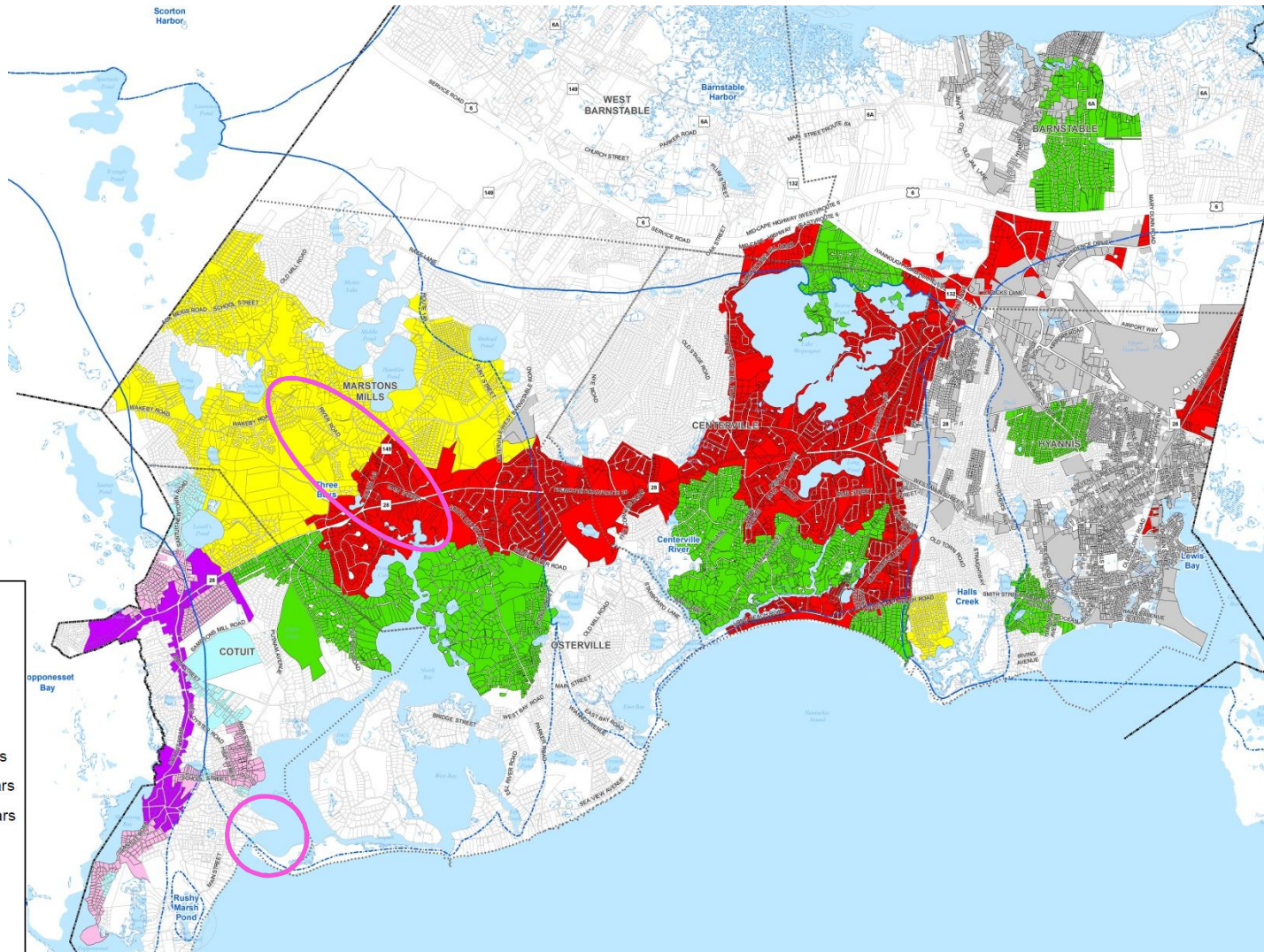
Department of Public Works  
February 27, 2020



# Update Since January



- *Draft CWMP is in the MEPA Process*
  - *Met with MEPA for site visit on February 21, 2020*
  - *Keys upcoming dates are:*
    - *ENF Comments Due: 3/2/20*
    - *ENF Decision, EIR Comments: 3/12/20*
    - *EIR process begins thereafter, timeline will be dependent upon comments received.*
- *Continued Public Outreach*
  - *Met with Indian Pond Association – February 5, 2020*
  - *Will meet with Barnstable Association for Recreational Shellfishing (BARS) – March 3, 2020*
  - *Will Meet with Osterville Mens Club (OMC) – April 1, 2020*
- *Finishing Conceptual Sewer Layout for all Three Phases*
- *Continued Preliminary Design on Specific Projects*

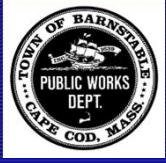


**Legend**

- District Villages
- Watersheds
- Parcels

**Sewer Phasing**

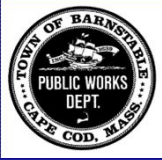
- Phase 1: 0-10 Years
- Phase 2: 11-20 Years
- Phase 3: 21-30 Years
- Stage 1
- Stage 2
- Stage 3
- Existing Sewer



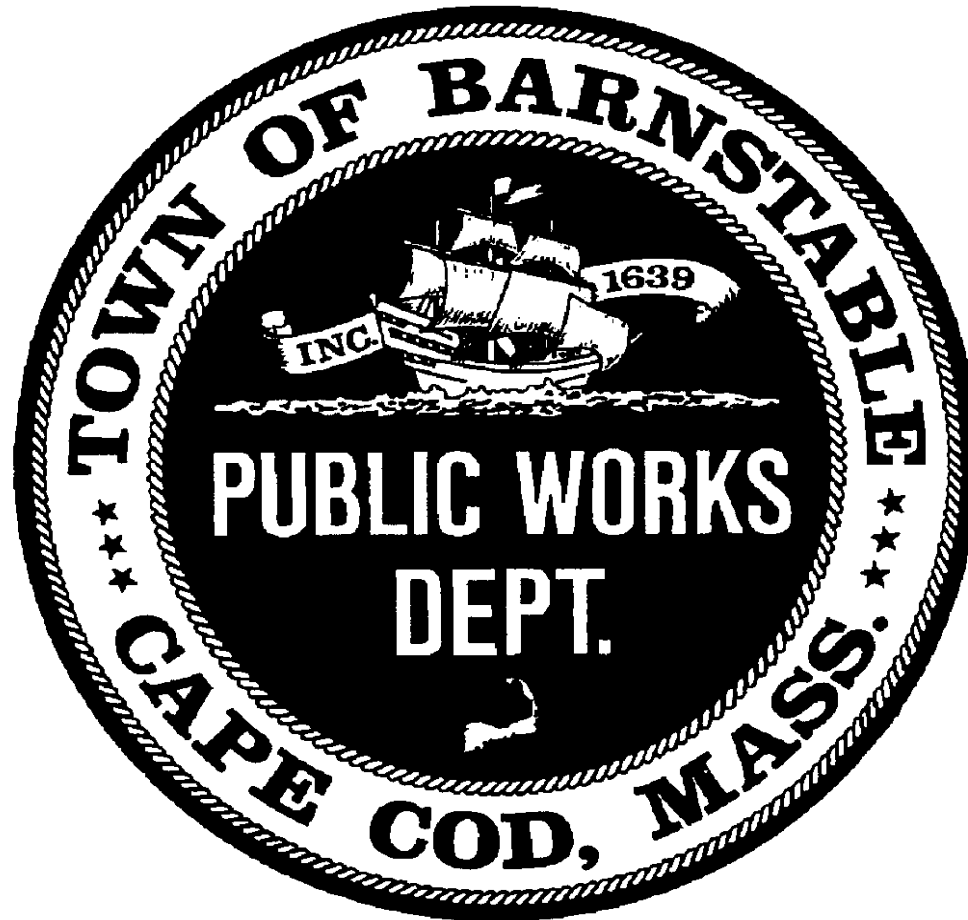
# Next Steps

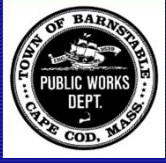


- *Ongoing public outreach as requested*
- *Staffing Discussions to implement the plan*
  - *Preliminary Design in house*
  - *Final Design by consultants*
  - *Construction Administration (CA) and Inspection in-house with some consultant support*
  - *WPCF design, CA, and inspection by consultants*
- *Continuing preliminary design of traditional projects*
- *Permitting efforts*
- *Continuing to meet with Vineyard Wind regarding the Strawberry Hill Road Project and Phase II*



# Discussion?

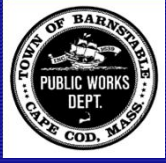




# *Financial Policy Decisions*



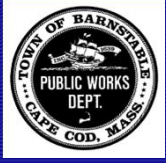
- *How will the town differentiate General Benefit Facility costs from Specific Benefit Facility costs?*
- *What assessment method will be used for allocating those costs?*
- *What limit, if any, will be set on the maximum amount for a sewer assessment?*
- *What interest rate will be charged on sewer assessments?*
- *What amortization period will be used sewer assessments?*
- *When will a property abutter be required to hookup?*



# *Financial Policy Decisions - Continued*



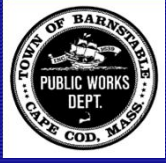
- *Will bond amortization be authorized beyond 20 years?*
- *Will the General Fund contribute to the program? If so;*
  - *How much?*
  - *What mechanism will be used?*
- *Will a Systems Development Charge be included?*
- *Should the town pursue special legislation to create a revolving loan program?*
  - *Amortization period and loan rate?*
- *Should the town administer a connection program?*



# General Policy Issues



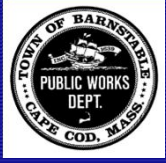
- *Effluent Disposal*
- *Handling of Private Roads*
  - *Easements needed for the pipes*
  - *With the planned improvements does the Town take them?*
- *Governance of the sewer system (Sewer Commissioners)?*
- *Approval of an updated Sewer Use Ordinance*
  - *Has a series of decisions associated with it*
- *Inter Municipal Agreements*
  - *Watershed Permits*
  - *Shared Technology*
  - *Conveyance of flows through adjoining Towns (JBCC)*



# *Projects Funded and Underway*



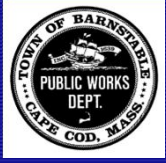
- *Phinneys Lane Sewer Expansion*
  - *Conceptual Design \$315,000*
  - *Final Design \$735,000*
- *Long Pond Area Sewer Expansion*
  - *Conceptual Design \$402,000*
  - *Final Design \$938,000*
- *Attucks Lane Sewer Extension*
  - *Design \$100,000*
- *Cotuit Bay Channel Dredging*
  - *Phase I \$1,000,000*
  - *Phase II \$750,000*
- *Marstons Mills School Pump Station & Collection System*
  - *Conceptual Design \$612,000*



# *Projects Funded and Underway*



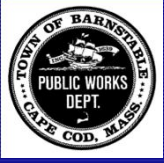
- *Marstons Mills River Treatment System*
  - *Evaluation \$250,000*
  - *Design \$612,000*
- *WPCF Effluent Disposal Capacity Study*
  - *\$195,000*
- *WPCF Effluent Disposal Location Evaluation*
  - *\$150,000*
- *WPCF and Collection System Improvements*
  - *Biowin Modeling \$55,000*
  - *Clarifier Upgrades and Rehab \$2,289,505*
  - *Generator Upgrades \$904,000*
  - *Solids and Septage Receiving Building Improvements*
    - *Design \$450,000*
  - *Sewer Capacity Evaluation \$200,000*
  - *Pump Station Evaluation \$200,000*



# *Projects Funded and Underway*



- *Joint Base Cape Cod WWTF and Effluent Disposal Analysis*
  - \$250,000
- *Cotuit and Western Marstons Mills Sewer*
  - *Conceptual Design \$250,000*
- *Vineyard Wind Associated Sewering*
  - *Design \$835,000*
  - *Construction \$8,500,000*
- *Municipal Separate Storm Sewer System (MS4) Program*
  - *Part 1 \$87,500*
  - *Part 2 \$150,000*
- *Route 28 and Yarmouth Road Associated Sewering*
  - \$1,300,000

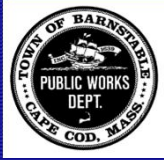


# The Plan Summary

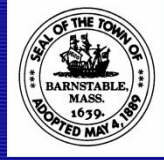


Watershed	Number of Parcels to be Connected to Sewer	Total Resulting Removal of Nitrogen (kg/day)	Total Resulting Removal of Nitrogen (kg/yr)	Notes
Lewis Bay	1,081	15.8	5,767	Includes Stewarts Creek Project
Halls Creek	351	4.8	1,752	
Centerville River	4,434	71.6	26,134	
Three Bays	3,714	74.9	27,339	
Rushy Marsh	0	0.0	0	
Popponeset Bay	524	8.4	3,066	
Barnstable Harbor	740	11.7	4,271	
Undefined	162	4.5	1,643	
<b>Total:</b>	11,006	192	69,971	

- *In addition, improvements at the WPCF will reduce existing nitrogen in Lewis Bay by an additional 18.9 kg/day or 6,898.5 kg/yr*
- *Does not include Non-traditional Improvements*



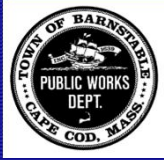
# Results By Phase or Stage



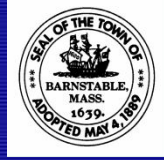
	<b>Phase 1 (0-10 Years)</b>	<b>Phase 2 (10-20 Years)</b>	<b>Phase 3 (20-30 Years)</b>	<b>Total</b>
<b>WW Captured (gpd)</b>	782,000	653,000	335,000	<b>1,770,000</b>
<b>Load N Removed (kg/day)</b>	78	65	33	<b>176</b>
<b>Number of Parcels Affected</b>	4,610	3,130	2,100	<b>9,870</b>
<b>Approximate Road Miles</b>	90	60	40	<b>190</b>
<b>% of N Removed by Plan</b>	44%	37%	19%	

*Does not include benefits from Non-traditional approaches*

	<b>Stage 1</b>	<b>Stage 2</b>	<b>Stage 3</b>	<b>Total</b>
<b>WW Captured (gpd)</b>	37,200	84,500	22,800	<b>144,500</b>
<b>Load N Removed (kg/day)</b>	4	8	2	<b>14</b>
<b>Number of Parcels Affected</b>	250	480	160	<b>890</b>
<b>Approximate Road Miles</b>	6	9	3	<b>18</b>



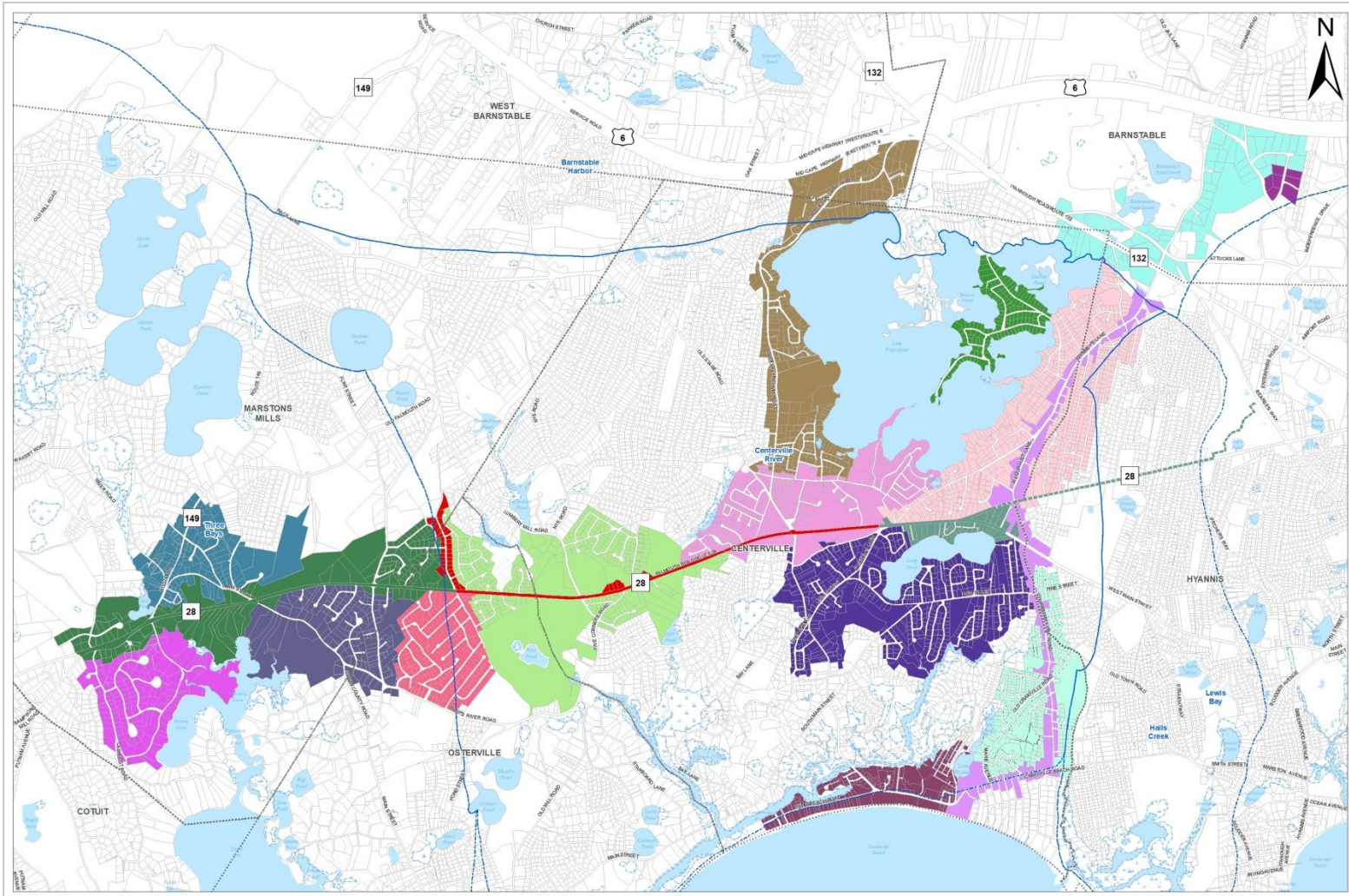
# Summary of Funding for CWMP

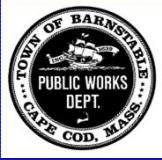


<b>Funding Sources</b>		
Estimated Principal Subsidies on Bond Issues	\$112,229,437	11%
Sewer Assessments	\$255,764,639	24%
Investment Earnings	\$11,397,346	1%
General Fund Contribution	\$70,500,000	7%
System Development Charges	\$19,624,000	2%
User Rate Revenue	\$128,524,045	12%
Rooms and Meals Taxes including STR	\$463,211,220	44%
<b>Total funding sources</b>	<b>\$1,061,250,687</b>	<b>100%</b>

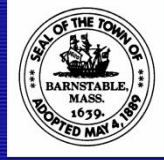


# Phase I Projects





# Phase I Implementation



Project	Number of Parcels Connected	Wastewater Captured (gpd)	Total N Removed (kg/day)	% of Total N Removed in Phase 1
Merchants Way	7	0	4.7	6.0%
Strawberry Hill Road	240	47,066	0.9	1.2%
Route 28 East	49	9,440	11.4	14.7%
Old Yarmouth Road	131	22,603	0.6	0.7%
Phinneys Lane	653	94,200	7.9	10.1%
Long Beach	203	37,647	3.6	4.7%
Route 28 Centerville	41	5,534	4.1	5.3%
Huckins Neck	148	21,506	3.3	4.2%
Long Pond Area	606	114,599	5.9	7.6%
Great Marsh Road	406	79,299	5.3	6.8%
Old Craigville Road	397	41,512	2.4	3.1%
Route 28 Marstons Mills	157	36,429	3.3	4.2%
Osterville Woods	328	59,571	5.2	6.7%
Shootflying Hill Road	348	52,306	1.7	2.2%
Lumbert Mill	357	53,221	9.4	12.0%
Osterville-West Barnstable Road & South County Road	153	32,787	3.7	4.8%
Marstons Mills Main Street	144	24,123	2.1	2.8%
Prince Cove	158	32,972	0.0	0.0%
Attucks Lane / Kidds Hill Area	87	16,893	2.2	2.9%
<b>Total</b>	<b>4,613</b>	<b>781,708</b>	<b>77.7</b>	<b>100.0%<sup>1</sup></b>

**Phase 1 is 44%  
of the Overall  
Plan.**