

Town of Yarmouth, MA Comprehensive Wastewater Management Plan Notice of Project Change (NPC) as Single EIR

EEA No. 14659

MEPA Remote Site
Visit

March 10, 2022



Yarmouth
water

**CDM
Smith**

Presentation Agenda

- Background
- NPC Overview
- Recommended Plan – 2011 vs. today
- Permits Required for each Phase
- Resiliency and Adaptive Management Plan
- Cost Recovery Options
- Schedule and Proposed Next Steps

Our Nitrogen Issues



Mill Creek Algae Bloom May 2011



Parkers River Fish Kill

Background

- 2011 CWMP With Mandatory Environmental Impact Report (EIR)
 - MEPA Certificate issued 8/26/2011
- WRAC (formerly IWRP Committee)
- Assessment of Barnstable Great Marsh/Bass Hole & Bass River Watershed MEP Reports
- DHY evaluations
- Cost Recovery Planning
- Updated Recommended Plan
 - with sewerage in Bass River Watershed
 - Same Yarmouth Treatment Option as 2011
- 2022 Notice of Project Change as Single EIR



Notice of Project Change

- Section 1 - Introduction
- Section 2 – Evaluation of Estuaries and Embayments
- Section 3 – Updated Wastewater Collection System Evaluations
- Section 4 – Updated Wastewater Treatment System Evaluations
- Section 5 – Updated Effluent Recharge Evaluations
- Section 6 – Cape Cod Commission’s 208 Plan Technologies
- Section 7 – Updated Recommended Master Plan and Alternatives
- Section 8 – Updated Environmental Impact Analysis and Mitigation

Barnstable Great Marsh/Bass Hole & Bass River Watersheds

Table ES-3 Decrease in Present Great Marshes-Bass Hole System Attenuated Septic Loading to Meet Nitrogen Thresholds

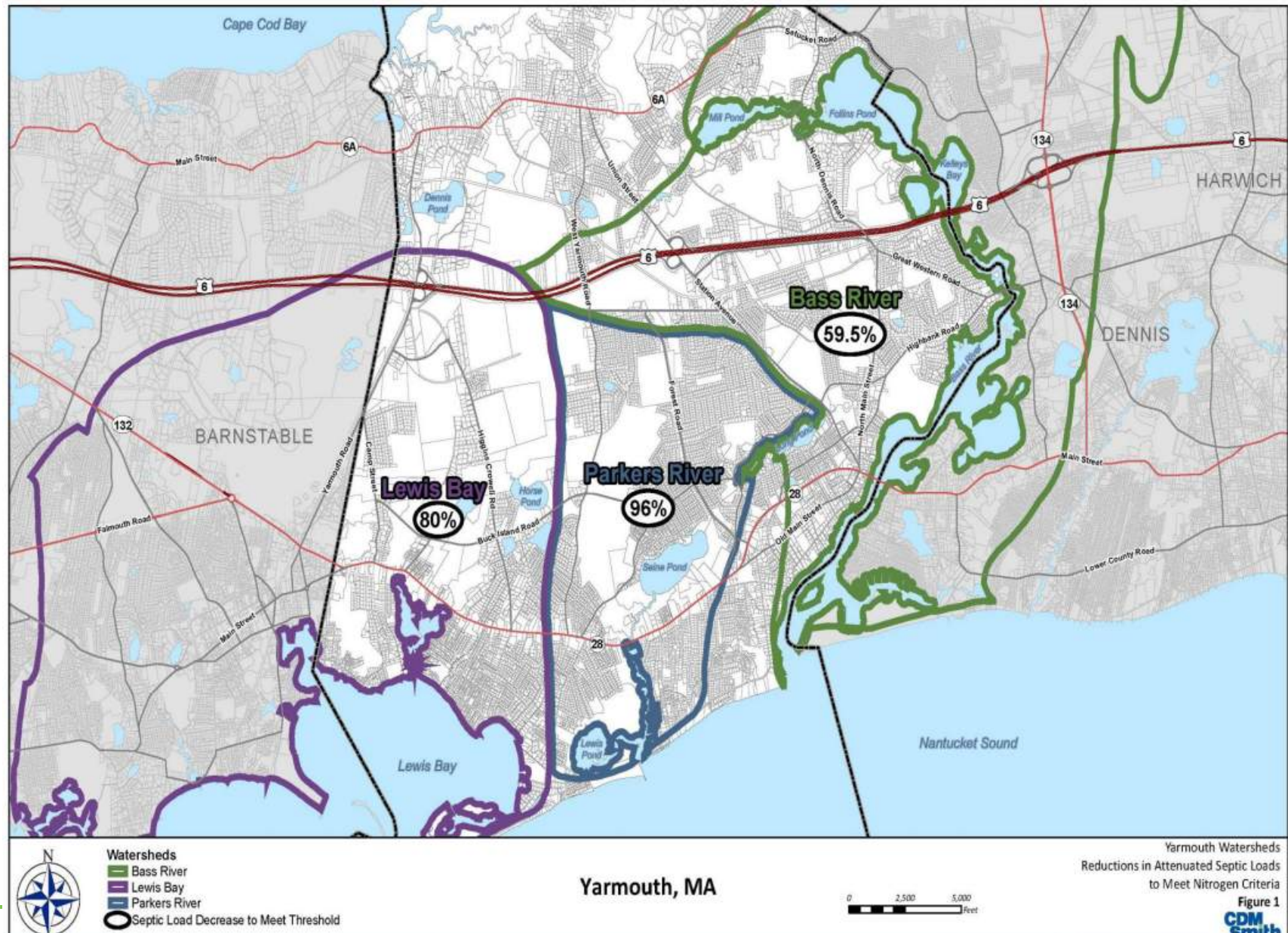
Sub – Embayment	Present Septic Load (kg/day)	Threshold Septic Load (kg/day)	Threshold Septic Load Decrease (% change)
Barnstable Great Marshes – West	26.364	50.737	+92.4%
Barnstable Great Marshes – Mid	19.488	48.719	+150.0%
Barnstable Great Marshes – East	32.397	32.397	0.0%
Millway	7.205	2.522	-65.0%
Bass Hole - West	23.107	30.385	+31.5%
Bass Hole – East	20.822	36.438	+75.0%
Bass Hole	5.847	5.847	0.0%
Total	135.230	207.045	+53.1%

Table ES-2 Decrease in Present Bass River System Attenuated Septic Loading to Meet Nitrogen Thresholds

MEP Watershed	Present Septic Load (kg/day)	Threshold Septic Load (kg/day)	Septic Load Decrease to Meet Threshold (% change)
Run Pond	7.014	7.014	0.0%
Bass River - Lower	29.858	29.858	0.0%
School Street Marsh	9.496	9.496	0.0%
Bass River – Middle	54.512	16.671	-69.4%
Grand Cove	6.159	6.159	0.0%
Dinah’s Pond	3.559	0.000	-100.0%
Kelleys Bay	16.408	0.142	-99.1%
Follins Pond	27.085	0.822	-97.0%
Mill Pond and Stream	19.416	0.025	-99.9%
Total	173.507	70.187	-59.5%

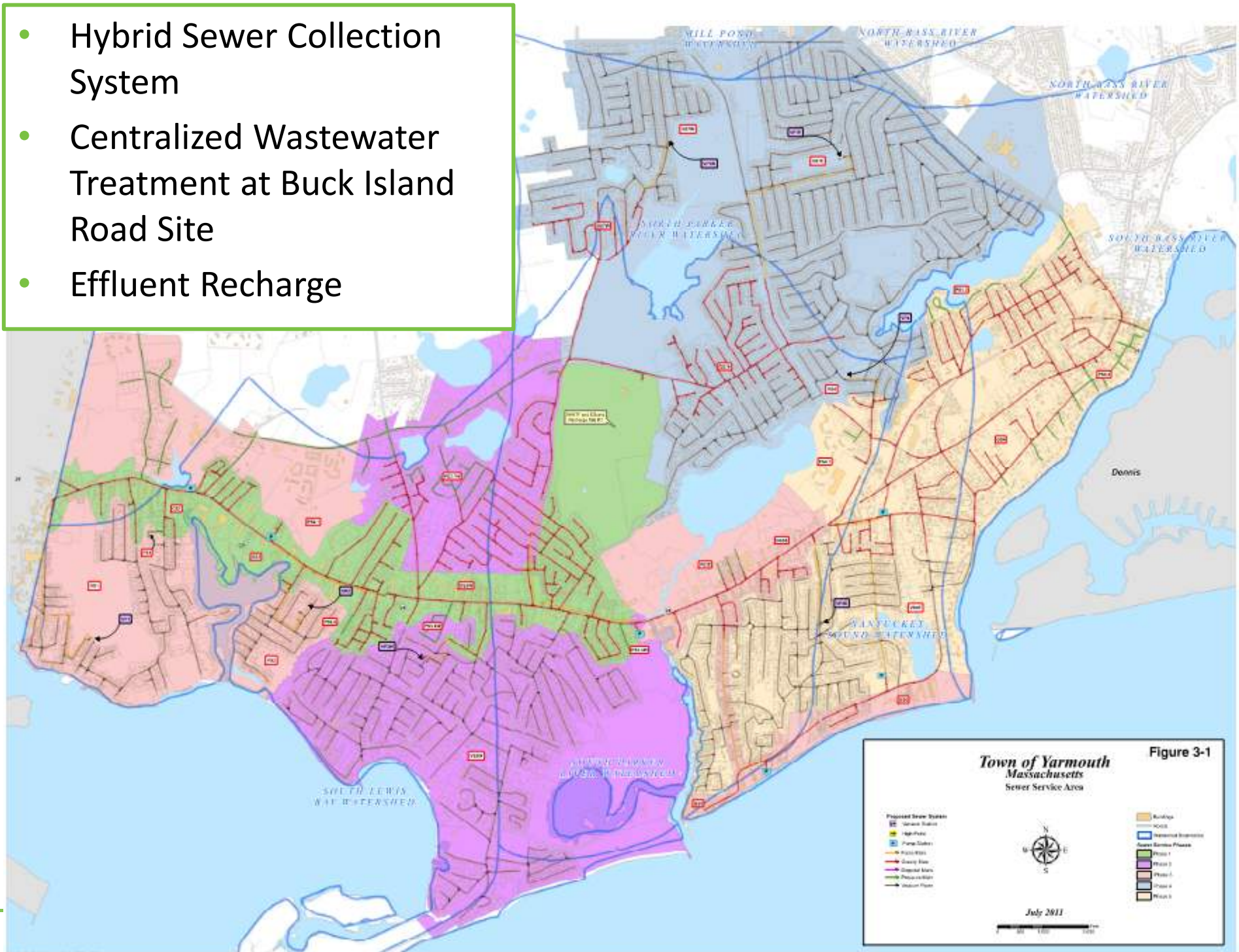
Source: Table VIII-2 page 177 of Bass River MEP Report

Septic Removal Requirements by Watershed per Massachusetts Estuaries Project (MEP)



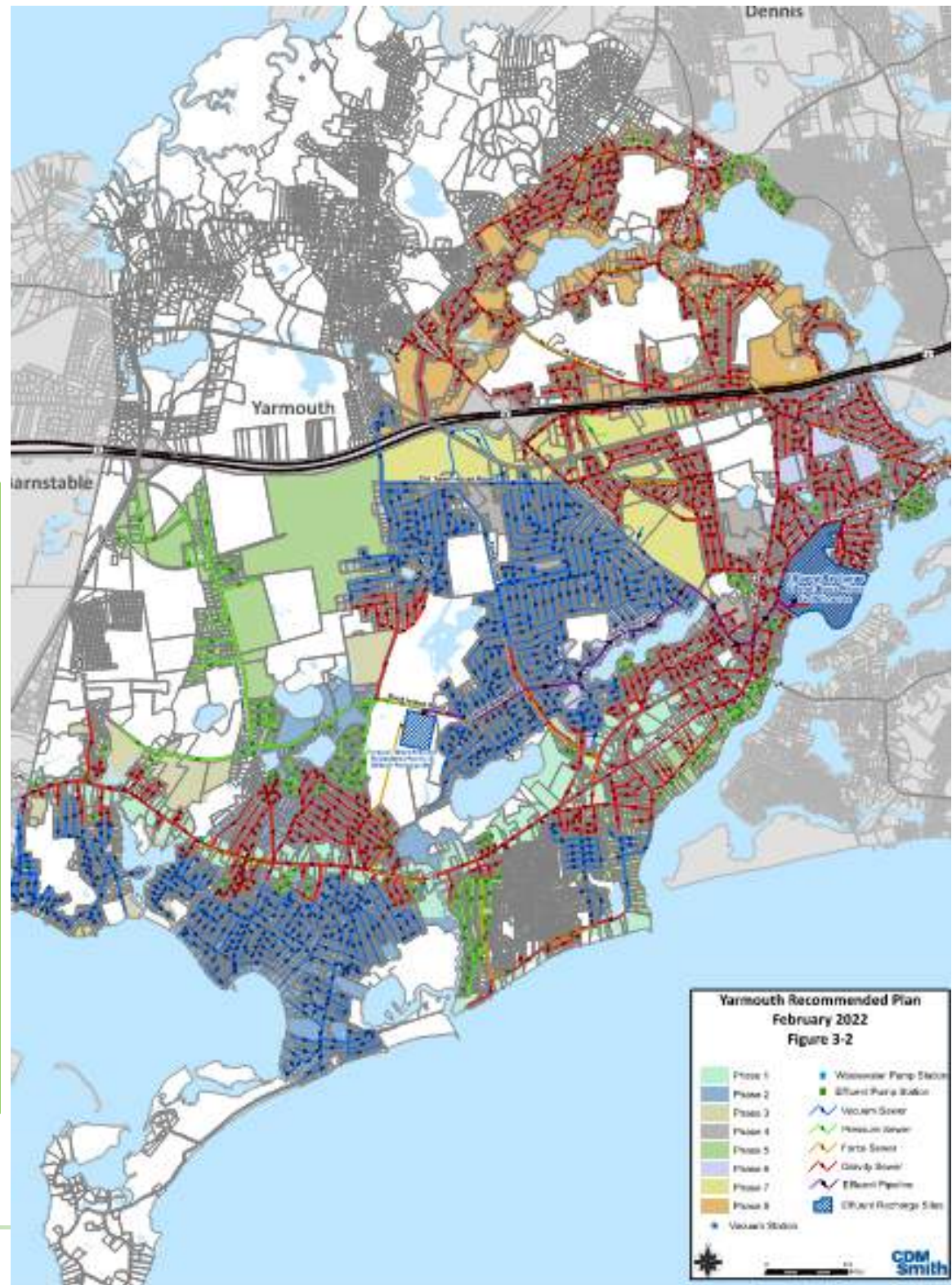
2011 Recommended Plan

- Hybrid Sewer Collection System
- Centralized Wastewater Treatment at Buck Island Road Site
- Effluent Recharge

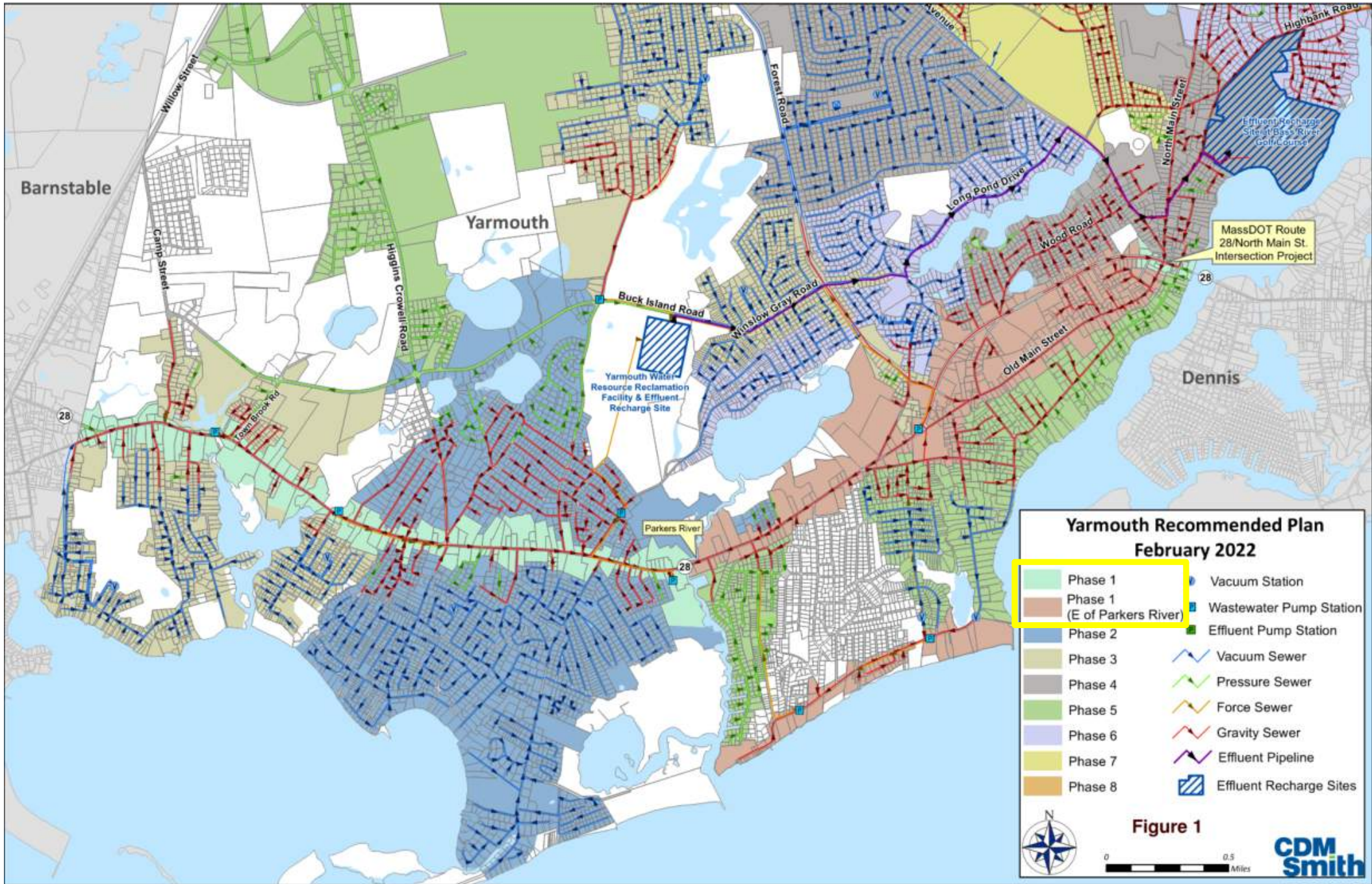


2022 Recommended Plan

- Hybrid Sewer Collection System
- Centralized Wastewater Treatment at Buck Island Road Site
- Effluent Recharge at Buck Island Road and Bass River Golf Course Sites



Phase 1



Summary of Project Change Parameters

- Water/Wastewater*

	Previously Reviewed (2011)	Net Change	Currently Proposed (2022)
Gallons per day (GPD) of wastewater generation/treatment	2,750,000	790,000	3,540,000
Length of sewer mains (miles)	125	45	180

*Over 40-year program implementation period

Permits Required for each Phase

- Mass. Department of Environmental Protection (MassDEP) State Revolving Fund (SRF) Technical Review
- MassDEP Groundwater Discharge Permit
- Mass. Department of Transportation (MassDOT) Highway Access Permit
- Massachusetts Natural Heritage and Endangered Species Program (NHESP) – review under the Massachusetts Endangered Species Act (MESA)
- MassDEP/Yarmouth Conservation Commission Order of Conditions
- Massachusetts Historical Commission & Archaeological Review

Resiliency and Adaptive Management Plan

- Municipal Vulnerability Preparedness (MVP) Program Participation
- Future Flood Mapping due to Climate Change
- Wastewater Infrastructure with Flexibility in Location
- Emergency Power and Contingency Planning
- Resilient Design Planning and Considerations
- Future Inflow and Infiltration Program
- Environmental Justice Stakeholders and Public Outreach

Cost Recovery Options

- Municipal Water Infrastructure Investment Fund
 - Passed 0.78% (\$0.5 million) property tax surcharge
- Cape & Islands water protection fund
- Betterment program
- 25% capital surcharge on operating rate
- Dedicate Short-term rental bill revenues
- Other local revenues – i.e. solar pv receipts or savings
- Septage Host Fee and water operation cost sharing
- BOS Financial management policies regarding new growth
- Free Cash when possible
- Infrastructure Funding and possibly other grants

Table ES-5 Opinion of Probable Project Costs (OPPC) by Phase

Phase	Town Only Collection and Conveyance System ⁵	Treatment Facility	OPM	Effluent Recharge with Conveyance and PRB	Non-Infrastructure Components	Total
1	\$65.4 Mil	\$79.9 Mil	\$1.4 Mil	\$15.6 Mil	\$.03 Mil	\$162.4 Mil
2	\$59.1 Mil				\$.03 Mil	\$59.1 Mil
3	\$52.3 Mil				\$.03 Mil	\$52.3 Mil
4	\$43.6 Mil	\$26.9 Mil	\$.5 Mil	\$27.8 Mil	\$.03 Mil	\$98.8 Mil
5	\$36.8 Mil				\$.03 Mil	\$36.8 Mil
6	\$49.0 Mil				\$.03 Mil	\$49.0 Mil
7	\$21.2 Mil				\$.03 Mil	\$21.2 Mil
8	\$61.5 Mil				\$.03 Mil	\$61.5 Mil
Total (Rounded)	\$389 Mil	\$107 Mil	\$1.9 Mil	\$43.4 Mil	\$.24 Mil	\$541 Mil

Schedule and Proposed Next Steps

- NPC Comment period through 3/25/2022
- MEPA issues Certificate 4/1/2022
- Cape Cod Commission 208 Plan Consistency Review
- Spring 2022 – Begin design of Phase 1 collection system and treatment facility
- Winter 2023 – Start Construction

Public Outreach

<http://www.yarmouth.ma.us/1754/Water-Resources>

Get updates about water
resource initiatives!

Send your email address by
text message:

Text

YARMOUTHWATER
to **22828** to get started.



Message and data rates may apply.



Discussion