



Town of Barnstable, Massachusetts
**Comprehensive Wastewater
Management Plan**
FY2024 Annual Report

September 2024

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LIST OF ATTACHMENTS

- ATTACHMENT A: SEWER EXPANSION PHASING PLAN UPDATE
- ATTACHMENT B: PHASE 1 IMPLEMENTATION PLAN UPDATE
- ATTACHMENT C: HOMEOWNER'S SEWER CONNECTION GUIDE
- ATTACHMENT D: SEWER CONNECTION PROCESS
- ATTACHMENT E: SEWER CONNECTION PROCESS (PORTUGUESE – BRAZLIAN)
- ATTACHMENT F: SEWER CONNECTION PROCESS (SPANISH)

LIST OF ELECTRONIC FILES

- 1: ASSESSORS DATA (1 FILE)
- 2: WATER USE DATA (4 FILES)
- 3: EMBAYMENT MONITORING DATABASE (2 FILES)
- 4: FRESHWATER PONDS DATABASE (1 FILE)

1.0 BACKGROUND AND PURPOSE

The Town of Barnstable is pleased to submit this Fiscal Year 2024 Annual Report documenting progress of the Town’s Comprehensive Wastewater Management Plan (CWMP) in accordance with the Cape Cod Commission’s 208 Plan Consistency Determination for the project, dated April 16, 2021. This document is the third Annual Report since the approval of the CWMP in the Spring of 2021. This report summarizes progress for Fiscal Year 2024 (July 1, 2023 - June 30, 2024). The Town will continue to submit annual reports at the end of each fiscal year, which will document the progress and provide data for that fiscal year.

In accordance with the requirements of the annual report as specified in the 208 Plan Consistency Determination, this report is arranged in 7 sections:

- 1.0 Background and Purpose:** This section summarizes the background and purpose of the annual reports.
- 2.0 Implementation Update:** This section documents the progress of implementation over the reporting period. This section also addresses any adaptive management changes made during the reporting period. This section is arranged on the basis of project type as identified in the CWMP’s Special Review Procedures. The five types of projects included in the CWMP are: sewer system expansion projects, treatment plant improvements, effluent disposal improvements, non-traditional solutions, and inter-municipal collaboration.
- 3.0 Water Quality Monitoring:** This section documents the results of the Town’s water quality monitoring programs during the reporting period.
- 4.0 Outreach and Engagement:** This section documents the progress towards public outreach and engagement as it relates to the implementation of the CWMP.
- 5.0 Financing:** This section documents the status of the Town’s financing plan for the funding of the implementation of the CWMP.
- 6.0 Land Use and Management Controls:** This section documents the status of implementation of land use and management controls in order to manage land uses in the community, particularly with the consideration of expanded sewer infrastructure.
- 7.0 Data:** This section provides the updated data requested in the 208 Plan Consistency Determinations.

2.0 IMPLEMENTATION UPDATE

The Town of Barnstable continues to aggressively implement its Comprehensive Wastewater Management Plan (CWMP). The CWMP is a 30-year plan which will be implemented in three, 10-year phases to address the various wastewater needs of the community. This fiscal year saw the substantial completion of our first two sewer projects – the Strawberry Hill Road Sewer Expansion Project and the Route 28 East Sewer Expansion Project – both of which were completed on schedule and on budget. Additionally, we welcomed our first residential sewer connection, completed successfully in late May, which has paved the way for the additional 150+ eligible parcels to begin connection to the newly expanded municipal sewer system.

Since 2018, the Barnstable Town Council has appropriated \$274 Million in support of projects identified in our CWMP. This fiscal year alone Barnstable Town Council has appropriated over \$169 Million for CWMP projects, including a significant \$109 Million capital appropriation for upgrades to the Barnstable Water Pollution Control Division’s treatment plant and a \$59.65 Million capital appropriation to fund construction of the Route 28 West Sewer Expansion Project.

2.1 REGULATORY COMPLIANCE

2.1.1 Title 5 Natural Resource Nitrogen Sensitive Area Regulations and Watershed Permit Regulations

At the beginning of this fiscal year, on July 7, 2023, the Massachusetts Department of Environmental Protection (MassDEP) enacted new regulations including the Title 5 Natural Resource Nitrogen Sensitive Area Regulations (“NSA”) (310 CMR 15.214 and 15.215) and Watershed Permit Regulations (314 CMR 21.00). With the new Watershed Permit Regulations, the Town of Barnstable immediately took action in developing its application for a Watershed Permit. On September 1, 2023, the Town of Barnstable submitted its complete application with a request for a Watershed Permit covering the entire Town of Barnstable (all seven watersheds), and with the request to remain on the previously approved 30-year implementation schedule. As of the date of this report, the Town of Barnstable has been notified by MassDEP that our application has successfully completed administrative review and is now undergoing technical review.

2.1.2 Notice of Project Change

One critical element of sewer expansion in the Centerville River Watershed is the need for a sewer pump station in the vicinity of Mother’s Park. The Department of Public Works (DPW) evaluated multiple alternatives for this pump station site and ultimately recommended the installation of the pump station within the right of way of Mothers Park Road. Doing so will require closing and discontinuing Mothers Park Road, which has long been identified as a safety concern by DPW. However, to close Mothers Park Road it is necessary to improve the intersection of North Main Street and Phinney’s Lane, which due to its poor sight lines and irregular geometry, makes certain turning movements unsafe. This intersection could not be improved without impacting Mother’s Park, which is land protected under Article 97 of the Amendments to the constitution of the Commonwealth (“Article 97”). The closed and discontinued

portion of Mothers Park Road was identified as suitable, contiguous land, to offset the portion of Mother's Park that would be impacted to realign the intersection, ultimately resulting in a net increase of 3,485 square feet of Article 97 land. The CWMP did not anticipate impacts to Article 97 property and as such it was determined that a Notice of Project Change would be necessary to proceed with this project.

In accordance with the Special Review Procedures established under the prior MEPA review, a Notice of Project Change was filed on September 25, 2024, and received approval on October 25, 2023. A copy of the Certificate of the Secretary of Energy and Environmental Affairs on the Notice of Project Change can be found on the Barnstable Water Resources website, here: <https://barnstablewaterresources.com/wp-content/uploads/2024/08/16148-NPC-Barnstable-CWMP-BARNSTABLE-CVSE-Mothers-Park-Road.pdf>

2.1.3 Adaptive Management Plan Update

In accordance with the Cape Cod Commission's 208 Plan Consistency Determination for the CWMP, the Town of Barnstable continues to prepare for the submittal of its Five-Year Adaptive Management Plan Update, which is due at the end of the 2025 calendar year.

2.2 SEWER SYSTEM EXPANSION PROJECTS

As outlined in the CWMP's Special Review Procedures, the Plan includes five different types of projects: sewer system expansion projects, treatment plant improvements, effluent disposal improvements, non-traditional solutions, and inter-municipal collaboration. This section will provide an update on each type of project, including any changes that have occurred since Fiscal Year 2023.

2.2.1 Project Updates

The Town continues to advance the implementation of Phase 1 of the sewer system expansion program as identified in the CWMP. The following sections provide a summary of active project updates since Fiscal Year 2023.

2.2.1.1 Strawberry Hill Road Sewer Expansion Project

The Strawberry Hill Road Sewer Expansion Project was completed on schedule and on budget and included construction of approximately 3.8 miles of gravity sewer, 1.2 miles of sewer force main, replacement of approximately $\frac{3}{4}$ mile of water main and the installation of one new submersible pump station on a Town-controlled easement at 528 Craigville Beach Road. The infrastructure was installed in coordination with the Vineyard Wind Project upland duct bank route. The project includes new sewers in the following roadways: Craigville Beach Road from Covell's Beach to Strawberry Hill Road; Strawberry Hill Road from Craigville Beach Road to Wequaquet Lane; Wequaquet Lane; Phinney's Lane from Wequaquet Lane to Route 132; and West Main Street from Pleasant Park Avenue to Strawberry Hill Road.

The Town closely coordinated with Vineyard Wind through the design, construction, and post-construction restoration process in order to minimize disruption to the community and realize cost savings. Throughout this last fiscal year, the Town returned to install sewer service risers along a targeted portion of the project route, south of Route 28. This work successfully raised the elevation of the service laterals at the right-of-way, thereby making connection to the sewers more convenient for property owners. Construction occurred within the shoulder and right-of-way, avoiding the need for any additional excavation within the road.

On May 6, 2024, the Barnstable DPW distributed its official project closeout notification to property owners identified as eligible to connect into the newly expanded municipal sewer system. This notification prompted additional communications from Town departments and divisions including the Health Division's Notice of Sewer Hookup and the Treasurer/Tax Collector's Sewer Assessment. As of the date of this report, first connections for a portion of the project route have commenced and currently 156 parcels, equating 220 dwelling units, are eligible to connect to municipal sewer. Per the Barnstable Board of Health Sewer Connection Policy, property owners are required to connect to the public sewer within six (6) months of the Board's letter notification (**See POLICY: Deadline to Connect Buildings to Public Sewer, here: https://townofbarnstable.us/Departments/healthdivision/Health_Notices/--Sewer-Connection-Policy.pdf**)

Eligible properties are located along portions of Craigville Beach Road, Strawberry Hill Road, West Main Street, Wequaquet Lane, and Phinney's Lane. On May 29, 2024, the first residential sewer connection was successfully completed, and as of the date of this report, five (5) additional sewer trench permits have been submitted to the Department of Public Works to facilitate the sewer connection process. To assist property owners with navigating the sewer connection process, the Department of Public Works released its Homeowner's Sewer Connection Guide (**See Section 4.0 Outreach and Engagement**). Overall, this project will provide sewer service to approximately 215 total properties and will remove approximately 4.6 kg/day of nitrogen from the Centerville River Watershed.

2.2.1.2 Route 28 East Sewer Expansion Project

The Route 28 East Sewer Expansion Project includes the installation of approximately 2 miles of new sewers within Route 28, Phinney's Lane, and West Main Street. The project also includes the construction of a new sewer pump station located at the Town owned property at 1456 Falmouth Road, and approximately 2.3 miles of sewer force mains from the new pump station to the Water Pollution Control Facility (WPCF). The sewer pump station and force mains have been designed to serve and support western sewer expansion.

Sewer construction began in September 2022 and was substantially completed on schedule and on budget in March 2024. Additionally, construction of the Phinney's Lane sewer pump station is complete, with final onsite utility coordination remaining. Testing and pump station start-up activities will take place throughout the summer. Sewer connections are anticipated to be available by the end of this calendar year.

The Route 28 East project is a critical component of the Town’s sewer expansion plan and will eventually benefit more than 7,500 properties as described in the Town’s CWMP. This project will immediately allow for approximately 100 properties to connect to the municipal sewer system, removing 1.9 kg/day of nitrogen from the Centerville River Watershed upon completion.

2.2.1.3 Centerville Village Sewer Expansion Project (formerly Park City Wind Route Sewer Expansion Project / Vineyard Wind 2 Route Sewer Expansion Project)

Throughout this fiscal year additional adaptations have been implemented to advance the Centerville Village Sewer Expansion Project (See Section 2.1.2 Sewer Expansion Program Adaptive Management Changes). Due to uncertainties with the proposed Park City Wind project schedule, in March 2024, the Barnstable Town Council approved the recommendation to modify the Centerville Village project by creating two phases – a North Phase and South Phase. As a result, the Town is advancing the North Phase, utilizing the approved capital appropriation, totaling \$30.9 Million, to fund construction.

The North Phase of this project will sewer a portion of Route 28, from Phinney’s Lane to Old Stage Road, Old Stage Road, from Route 28 to Shootflying Hill Road, and Shootflying Hill Road, from Old Stage Road to Service Road. Additionally, the project includes, as a bid alternate, sewer expansion on Phinney’s Lane, from Route 28 to Mother’s Park Road, as well as portions of Main Street, from Mother’s Park Road to Old Stage Road. This work also includes the Mother’s Park Pump Station, which requires pending Article 97 legislation (See Section 2.1.2 Article 97 Legislation: Mother’s Park, Centerville). Construction bids were opened in May 2024 and the Town is preparing to award the construction contract this summer. The North Phase of this project is anticipated to connect approximately 220 properties to municipal sewer and construction is anticipated to begin this coming Fall 2024 with completion anticipated in Fiscal Year 2026.

The South Phase of this project will sewer a portion of Old Stage Road, from Old Post Road to Main Street, as well as the bulk of Main Street, and a portion of Cragville Beach Road. Town staff continues to advance the design of the South Phase, while also continuing efforts to site pump station locations and associated easement options. The South Phase of this project is anticipated to connect approximately 150 properties to municipal sewer and construction is tentatively anticipated to start in Fiscal Year 2025.

2.2.1.4 Route 28 West Sewer Expansion Project

The Route 28 West Sewer Expansion Project will extend municipal sewer on Route 28 from Phinney’s Lane to Route 149 in Marstons Mills, including Old East Osterville Road, Oldham Road, portions of Osterville-West Barnstable Road, and Bumps River Road. Ultimately, this project will act as the backbone of the plan’s western expansion, allowing for sewer expansion within the Three Bays and Popponeset Bay Watersheds. Also included in this project will be the decommissioning of the Marstons Mills Wastewater Treatment Plant (MMWWTP) with conveyance of the facility’s service area back to the Barnstable Water Pollution Control Facility (WPCF). The project will include the construction of over 5.2 miles of new sewers, install five new sewer pump stations, connect approximately 230 properties to municipal sewer, collect approximately 50,000 gallons of wastewater per day, and remove approximately 5.0 kg/day of nitrogen.

This project is listed as the number three (#3) ranked project in the Commonwealth of Massachusetts on the 2024 State Revolving Fund Clean Water Intended Use Plan. The Town has retained Weston & Sampson to design the project, and the design continues to advance on schedule. On April 25, 2024, Barnstable Town Council approved a \$59.65 Million capital appropriation to fund project construction. Construction is anticipated to begin in Fiscal Year 2025 and be completed in Fiscal Year 2027.

2.2.1.5 Phinney's Lane Sewer Expansion Project

The Phinney's Lane Sewer Expansion Project will extend sewer into the residential neighborhoods on the east and west side of Phinney's Lane, which will tie into the sewer infrastructure completed within Phinney's Lane as part of the Strawberry Hill Road and Route 28 East projects. The project is anticipated to connect approximately 590 properties to municipal sewer, thereby removing 9.7 kg/day of nitrogen from the Centerville River Watershed. Many of these properties are also in close proximity to Lake Wequaquet. A portion of the sewer expansion area is within zones attributed to water supply wells for Hyannis Water System, COMM Fire District, and Barnstable Fire District. Therefore, the project is also expected to address a number of water quality needs.

Survey of the project area was completed in August of 2022. Town staff have completed the preliminary sewer design for this project and will be retaining a consultant to advance the project to final design. As of the date of this report, a Request for Proposal (RFP) for the final design has been issued. The project will include sewer installation in private roadways (approximately 40 private roadways in the project area). As such, Town staff and leadership have commenced the taking of sewer and water utility easements in identified private roadways, allowing for the Town to secure financing and ultimately construct sewers within these private roads. To date, utility easements have been taken by eminent domain over 17 of the private roads identified in the project area. Construction of the project is currently anticipated to begin in Fiscal Year 2026 and be completed in Fiscal Year 2028.

2.2.1.6 Long Pond Area Expansion Project

The Long Pond Area Expansion Project will extend sewer into the residential areas adjacent to Long Pond, Centerville. The project will connect approximately 520 parcels to municipal sewer, thereby removing approximately 9.5 kg/day of nitrogen from the Centerville River Watershed. Many of these properties are also in close proximity to Long Pond, Centerville, and therefore the project is expected to improve water quality in the pond.

Survey of the project area has been completed and Town staff continues to actively advance the preliminary design. Construction of the project is currently anticipated to begin in Fiscal Year 2027 and be completed in Fiscal Year 2030.

2.2.1.7 Sewer Installation within Route 28 and Yarmouth Road Intersection Improvement Project

This project includes the installation of sewer infrastructure as part of the Massachusetts Department of Transportation's (MassDOT) Route 28 and Yarmouth Road intersection improvements. The sewer

infrastructure to be installed as part of the project includes gravity sewers within Route 28 from Yarmouth Road to Cedar Street and a force main within Yarmouth Road from Camp Street to Old Yarmouth Road. This infrastructure will remain “dry” until completion of the planned Old Yarmouth Road Sewer Expansion Project, scheduled for later in Phase 1 of the CWMP. However, this targeted work is being completed as part of the project in order to avoid MassDOT’s construction moratorium and to reduce costs.

Construction commenced in October 2022 and to date has resulted in the construction of 855 LF of new gravity sewer and the installation of 11 new sewer service laterals, for future connection. Remaining work includes force main installation within Yarmouth Road and water main installation. MassDOT reports an anticipated completion date early 2025.

2.2.1.8 Old Yarmouth Road Sewer Expansion Project

The Old Yarmouth Road Sewer Expansion Project will extend sewer to the north of Route 28 and east of Yarmouth Road providing municipal sewer to businesses and residential properties on Yarmouth Road, Old Yarmouth Road, Joaquim Road, Bodick Road, and Ferndoc Street. Businesses and residences in this area are completely dependent on on-site solutions to address their wastewater, which has restricted economic growth in the area. The Hyannis Water Systems Maher drinking water wells, which have experienced contamination over the years, are located immediately adjacent to the proposed sewer expansion area. As a result, this project was identified in Phase 1 of the CWMP to address economic development and drinking water protection. This project is anticipated to connect approximately 130 properties to municipal sewer and remove approximately 2.2 kg/day of nitrogen from the Lewis Bay Watershed.

Survey of the project area is on-going with 75% of the draft survey base plan complete. In total, Barnstable Town Council has appropriated \$925,000 the design of this project. Town staff continues to advance its preliminary design for the project, which will be refined upon completion of the survey efforts. Construction is anticipated to commence Fiscal Year 2028 and be completed in Fiscal Year 2029.

2.2.1.9 Old Craigville Road Sewer Expansion Project

The Old Craigville Road Sewer Expansion Project will expand sewer to properties located on Old Craigville Road and adjacent neighborhoods. Ultimately, the properties served will connect to the infrastructure installed as part of the Strawberry Hill Road Sewer Expansion Project. The northern portions of the project area have been identified as a needs area for nitrogen removal within the Centerville River Watershed by Massachusetts Estuaries Program (MEP) modeling as well as drinking water well protection (COMM Water supply wells). The southerly portion of the project area has been identified as a needs area for pond protection as residences in this area are located in close proximity to Red Lily Pond and Lake Elizabeth and are completely dependent upon on-site solutions to address their wastewater. This project is anticipated to connect approximately 440 properties to municipal sewer and remove approximately 4.9 kg/day of nitrogen from the Centerville River Watershed.

Survey of the project area is on-going with 75% of the draft survey base plan complete. In total, Barnstable Town Council has appropriated \$2.1 Million for the design of this project. Town staff continues to advance its preliminary design for the project, which will be refined upon completion of the survey efforts. Construction is anticipated to commence Fiscal Year 2030 and be completed in Fiscal Year 2031.

2.2.1.10 Great Marsh Road / Shootflying Hill Road Neighborhood Sewer Expansion Project

The Great Marsh Road and Shootflying Hill Road Neighborhood Sewer Expansion Project will expand sewer to properties located on the residential roadways within the vicinity of both Great Marsh Road and Shootflying Hill Road. This project is ultimately the combination of two previously identified neighborhood projects, in which it makes the most technical sense to execute construction of the area together (**See Section 2.1.2 Sewer Expansion Program Adaptive Management Changes**). The project will connect approximately 240 properties to municipal sewer and remove approximately 3.4 kg/day of nitrogen from the Centerville River Watershed.

Barnstable Town Council has appropriated \$375,000 to fund the survey efforts and preliminary design for this project, which are on-going and anticipated to be completed this fall. Town staff continues to advance its preliminary design for the project, which will be refined upon completion of the survey efforts. Construction is anticipated to commence Fiscal Year 2028 and be completed in Fiscal Year 2029. An updated 30-Year Sewer Expansion Phasing Plan (**Attachment A**) and Phase 1 Implementation Plan (**Attachment B**) have been included to reflect the consolidation of these two neighborhood projects.

2.2.1.11 Hyannis Avenue Sewer Extension

The property owner at 10 Hyannis Avenue approached the Town with interest in extending the municipal sewer system in order to service their property which was undergoing a significant renovation. The property owner and the Town entered into an agreement to allow the property owner to construct an approximately 1,250 feet sewer extension at the sole expense of the property owner. After satisfactory completion of the construction, on April 28, 2022, the Town accepted the infrastructure as part of the municipal sewer system. As a result of the project, 17 properties fronting along the infrastructure, which are identified in Phase 2 of the CWMP, are now eligible to connect to the municipal sewer system at their convenience. This fiscal year, one additional property within the Hyannis Avenue Sewer Extension has connected to sewer, bringing the total number of properties connected to 10, or approximately 60%.

2.2.1.12 Long Beach Sewer Expansion Project

The Long Beach Sewer Expansion Project will expand sewer to properties in the vicinity of Craigville Beach, Long Beach, Short Beach and Lake Elizabeth. This project will install approximately 2.5 miles of sewers, connect approximately 160 properties to municipal sewer, collect approximately 31,000 gallons per day of wastewater and remove approximately 3.1 kg/day of nitrogen. This project is anticipated to include mostly low-pressure sewers and grinder pumps in the service area. Additionally, this project calls for the decommissioning of the shared septic system near Lake Elizabeth.

Residential properties in this area are completely dependent on on-site solutions to address their wastewater. Many of the properties in this area are within flood zones and velocity zones and have high groundwater, making replacing on-site septic systems very expensive. Additionally, the project will eliminate the need to maintain the Lake Elizabeth shared septic system. The project will utilize the sewer infrastructure installed as part of the Strawberry Hill Road Sewer Expansion Project and the sewers associated with the Centerville Village Sewer Expansion Project, further utilizing the investment in those assets. As a result, this project was identified in Phase 1 of the CWMP.

This fiscal year, the Barnstable Town Council approved a \$750,000 capital improvements appropriation to fund the final design, bringing the total appropriations for this project to \$1.1 Million. Construction is anticipated to commence in Fiscal Year 2027 and be completed in Fiscal Year 2028.

2.2.2 Sewer Expansion Program Adaptive Management Changes

The Town of Barnstable continues to utilize the principle of Adaptive Management as it implements the CWMP in order to allow the Town to respond to opportunities to improve construction efficiency, reduce project costs, react to changing environmental conditions, respond to land use updates, improved technologies, future opportunities, and unknowns. Consistent with these principles, the Town has made minor revisions to the 30-Year Sewer Expansion Phasing Plan (**Attachment A**) and the Phase 1 Implementation Plan (**Attachment B**). Table 1 summarizes the updated statistics by Phase and details of each change are described below.

Table 1. Sewer Expansion Plan – Revised CWMP Phasing Statistics

	Phase 1 (0-10 Years)	Phase 2 (10-20 Years)	Phase 3 (20-30 Years)	Stages 1-3 (TBD)	Total
WW Captured (gpd)	800,704	849,616	319,203	144,465	2,113,988
Load N Removed (kg/day)	80	84	32	14	210
Number of Parcels	4,703	4,203	1,991	891	11,788
Sewer Road Miles	71	66	34	15	186
% of Parcels	40%	36%	17%	8%	100%
% of N Removed	38%	40%	15%	7%	100%
% of Road Miles	38%	35%	18%	8%	100%
Notes:					
1. Refer to Tables 5-1 and 5-2 in the CWMP for previous statistics.					
2. During this fiscal year the Strawberry Hill Road Sewer Expansion project was completed and sewer infrastructure accepted. One successful residential sewer connection was also completed in FY2024.					

2.2.2.1 Great Marsh Road / Shootflying Hill Road Neighborhood Sewer Expansion Project

As reported in section 2.1.1 *Project Updates*, the Department of Public Works has identified the opportunity to combine two previously identified neighborhood projects, in which it makes the most technical sense to execute construction of the area together. This project will include sewerage adjacent neighborhoods on the north and south side of Great Marsh Road, in addition to adjacent neighborhoods on the east and west side of Shootflying Hill Road. The project will connect approximately 240 properties to municipal sewer and remove approximately 3.4 kg/day of nitrogen from the Centerville River Watershed.

2.2.2.2 Centerville Village Sewer Expansion Project (formerly Park City Wind Route Sewer Expansion Project / Vineyard Wind 2 Route Sewer Expansion Project)

As reported in section 2.1.1 *Project Updates*, due to uncertainties with the proposed Park City Wind project schedule, in March 2024, the Barnstable Town Council approved the recommendation to modify the Centerville Village project by creating two phases – a North Phase and South Phase. As a result, the Town is advancing the North Phase, utilizing the approved capital improvements appropriation, totaling \$30.9 Million, to fund construction.

The North Phase of this project will sewer a portion of Route 28, Old Stage Road, and Shootflying Hill Road. Additionally, the project includes, as a bid alternate, sewer expansion on Phinney’s Lane, from Route 28 to Mother’s Park Road, as well as portions of Main Street, from Mother’s Park Road to Old Stage Road. This work also includes the Mother’s Park Pump Station, which requires pending Article 97 legislation (**See Section 2.1.2 Notice of Project Change**). Construction bids were opened in May 2024 and the Town is preparing to award the construction contract this summer. The North Phase of this project is anticipated to connect approximately 220 properties to municipal sewer and construction is anticipated to begin this coming Fall 2024 with completion anticipated in Fiscal Year 2026.

The South Phase of this project will sewer a portion of Old Stage Road, from Old Post Road to Main Street, as well as the bulk of Main Street, and a portion of Cragville Beach Road. Town staff continues to advance the design of the South Phase, while also continuing efforts to site pump station locations and associated easement options. The South Phase of this project is anticipated to connect approximately 150 properties to municipal sewer and construction is tentatively anticipated to start in Fiscal Year 2025.

2.2.2.3 Route 28 West Sewer Expansion

Throughout this fiscal year the Town and its consultant, Weston & Sampson, continued to advance the design of the Route 28 West Sewer Expansion Project, which acts as the backbone of the western expansion. In doing so, the technical decision was made to integrate portions of Old Stage Road, Bumps River Road, and Oldham Road, which were previously identified as part of the Osterville Woods Sewer Expansion Project. This technical decision was a result of this route being the most effective way to convey wastewater to the proposed pump station at the Cape Cod Collaborative property, which is needed to serve portions of Route 28 and ultimately support sewer service in Osterville. With the additional areas

of sewer expansion, this project is anticipated to connect approximately 230 properties to municipal sewer and construction is anticipated to start in Fiscal Year 2025.

2.3 TREATMENT PLANT IMPROVEMENTS

2.3.1 Project Updates

The Town continues to advance planning and implementation of necessary treatment plant improvements as identified in the CWMP. Below is a summary of active project updates since FY2023.

2.3.1.1 WPCF Solids Processing Upgrade

The solids handling building, built in 1990, is critical to the wastewater treatment process at the Water Pollution Control Facility (WPCF), acting as the “guts” of the wastewater treatment facility by pumping and processing sludge from a variety of sources. The building handles up to 12,000,000 gallons of septage, 1,000,000 gallons of grease, and 11,000,000 gallons of wastewater sludge per year. The purpose of this project was to rehabilitate the solids handling building as outlined in the 2019 Solids Handling Evaluation report. This project involved the demolition and replacement of septic and sludge processing equipment that is at or past the end of its design life, as was described in previous updates.

The project was bid in the Spring of 2021 and WES Construction Corporation was awarded the contract with a contract value of \$10,052,296. Construction of the project commenced in August of 2022. This fiscal year saw the project reach substantial completion, with only punch list items remaining to wrap the project up completely and achieve final completion.

2.3.1.2 Nitrogen Removal Improvements

As noted in the CWMP, the WPCF is currently permitted to discharge treated effluent at a maximum nitrogen concentration of 10 mg/L. The annual average concentration actually achieved by the facility is currently 6 mg/L. The intent of this project is to reduce this concentration of effluent nitrogen to an annual average concentration of 3 mg/L or less. Reducing the nitrogen concentrations in plant effluent will reduce the total nitrogen load to the Lewis Bay watershed and minimize the number of required sewer projects in the Hyannis area that are needed to offset potential future nitrogen loads. Additionally, reduced nitrogen concentrations may expand the Town’s options for alternative effluent disposal options.

The Town retained Wright Pierce to evaluate the facility which resulted in the recommendation to upgrade the WPCF with a new headworks facility (including coarse and fine screening and grit removal), the installation of a four stage Bardenpho process, and a membrane bioreactor (MBR). With these improvements it is expected that the WPCF will be able to achieve an average effluent total nitrogen concentration of less than 3.0 mg/l. This project is currently in preliminary design.

Additionally, the Town is further considering adding a reverse osmosis (RO) treatment process to this upgrade. Reverse osmosis can remove up to 99%+ of the dissolved salts (ions), particles, colloids, organics and bacteria from the feed water, and recent EPA studies have indicated between 90% and 99% of PFAS. RO would also further improve effluent nitrogen concentrations, likely removing an additional 0.5 to 1.0 mg/l of nitrogen.

During this reporting period, the Town finished preliminary design, and after a review, began the final design process. The project has currently reached the 60% final design milestone and the current plan set is actively under review. Additionally, the Barnstable Town Council approved the \$109 Million funding appropriation for the construction of this project during this reporting period. The Town anticipates completion of final design and bidding for construction of the project within Fiscal Year 2025.

2.4 EFFLUENT DISPOSAL IMPROVEMENTS

As noted in the CWMP, the Town's WPCF is currently permitted to treat up to 4.2 million gallons per day (MGD) maximum daily flow and recharge 2.7 MGD maximum daily flow to the groundwater at rapid infiltration beds (RIBs) adjacent to the site. The difference between the treatment limit and disposal limit is due to concerns about predicted excessive groundwater mounding downstream of the facility as a result of the proposed effluent disposal.

Currently the WPCF is receiving 1.67 MGD average daily flow, which will increase to almost 4.5 MGD average annual flow by the end of the CWMP's 30-year implementation period. The WPCF has adequate room to expand its treatment capacity to address this additional flow. However, capacity for additional effluent disposal has been a concern. As noted in last year's update, the solution required an analysis of alternative disposal options.

The CWMP identified and discussed five categories of alternative disposal methods. These included:

- Impact Mitigation,
- Land Based Treated Effluent Disposal Options,
- Ocean Outfall Effluent Disposal Options,
- Options outside of the Town of Barnstable, and
- Groundwater extraction and disposal.

During the previous reporting period, the Town focused on the groundwater extraction and disposal options. The Town's consultant, CDM Smith, performed extensive modeling to optimize the groundwater withdrawal scenario and located optimal well locations to control the predicted groundwater mounding. That work demonstrated that groundwater levels can be controlled with nine extraction wells installed at specific locations on Town properties around the WPCF. Travel time to these wells was greater than two years for seven of them, and less than a year for the remaining two.

This reporting period's efforts focused on regulatory requirements for various treated effluent disposal options. Monthly meetings were established between the Town, CDM Smith, and Senior Members of the

Massachusetts Department of Environmental Protection (MassDEP). In these meetings the team has been working to identify acceptable (regulatory, environmentally, public health) methods to utilize or dispose of the extracted groundwater from the 9 wells as Indirect Potable Reuse (IPR). Additionally, discussions have begun regarding what the regulatory requirements would be for Direct Potable Reuse (DPR) of treated effluent solutions. It is expected that these conversations will continue for a significant portion of FY2025.

2.5 NON-TRADITIONAL SOLUTIONS

2.5.1 Project Updates

In section 2.3.2 of the [CWMP](#) the Town described multiple non-traditional projects that will be completed as part of the CWMP. Project progress summaries completed during Fiscal Year 2023 are provided in the Fiscal Year 2023 Annual Report. During Fiscal Year 2024, the Town and its partners continued planning efforts for the following projects:

2.5.1.1 Cranberry Bog Restoration

This project is currently being led by the [Barnstable Clean Water Coalition \(BCWC\)](#) and other project partners. BCWC continues to make significant progress on the land acquisition, monitoring, planning, and designing of cranberry bog restoration efforts within the Upper Marstons Mills River cranberry bogs. Significant activities include:

- BCWC anticipates 75% design plans for the cranberry bog restoration project to be completed and under review this summer, with 100% design plans anticipated by the end of 2024. Once 100% design has been completed, BCWC will begin final fundraising efforts.
- BCWB anticipates commencing permitting for the project this year.
- BCWC currently has construction scheduled to commence in late 2025 / early 2026.
- As previously reported, BCWC purchased ~60-acres of wetlands, uplands and bogs was completed with the support of a \$1.3 million grant from the Massachusetts Executive Office of Energy and Environmental Affairs, Conservation Services Division and a \$50,000 grant from The Nature Conservancy (Map/Parcels # 045016004, 045011, 045026, and 045017001)
- Conservation restrictions for the ~60 acres of land have been developed, which will be held by Barnstable Land Trust, Inc.
- BCWC continues a partnership with the Environmental Protection Agency Office of Research and Development (EPA ORD) and United States Geological Survey (USGS) for monitoring of water flows and nitrogen concentrations at the outlet of the Upper Marstons Mills River Bogs

(location lat/long: 41.66708° N, 70.42360° W); Data Access Link:

https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=0110588332

2.5.1.2 Mill Pond Dredging

The Town continues to advance efforts to secure easements from 4 of the 5 abutting homeowners. The Town is currently working to retain a consultant to advance the project through permitting and final design. The BCWC continues weekly flow and nutrient monitoring at multiple stations within the Marstons Mills River.

2.5.1.3 Warrens Cove

The Town appropriated funding in the amount of \$150,000 to complete a Warrens Cove Aquaculture Feasibility Study. The Town completed a preliminary survey of the sediment volume within Warrens Cove and analysis of sediment contaminants within these sediments. The Town retained CR Environmental to perform sediment thickness mapping and preliminary sediment sampling within Warrens Cove. Through this evaluation, there is an estimated 406,850 cubic yards of sediment within Warrens Cove. The surface grab sediments were soft and black as was the sediment in most cores, with some cores having a sandier layer at about 14 inches. Two core samples were collected and processed for volatile, semi volatile, petroleum hydrocarbons, organics, metals, inorganics, and PCBs compounds. At both stations, volatile and semi-volatile organic compounds and PCBs were below the detection limit (PC-B and PC-E). Total metals (As, Cd, Cr, Pb) and total petroleum hydrocarbons and Hg were detected at location PC-E, but values were below the maximum allowable contaminant levels for sediment reuse at lined landfills. The Town anticipates retaining a consultant to perform a thorough feasibility study for this project.

2.5.1.4 Innovative/Alternative Septic Systems

The [Barnstable Clean Water Coalition \(BCWC\)](#) and their project partners have taken the lead on this effort within the community. Over the last fiscal year, KleanTu® NitROE Wastewater Treatment System received a patent for its NitROE system. This system is currently being utilized as part of BCWC's Shubael Pond I/A Septic System Project in Marstons Mills. With funding support from the United States Environmental Protection Agency (US EPA) Office of Research and Development, Region 1, MASSTC performs monthly monitoring of the influent and effluent for these systems. Utilizing current data and field deployments, the US EPA Office of Research and Development is developing a comprehensive report documenting Shubael Pond I/A Septic System Project performance; this report is currently under review and out for publication. Current datasets can be accessed via the US EPA website, here:

https://cfpub.epa.gov/si/si_public_record_Report.cfm?dirEntryId=359008&Lab=CEMM

BCWC reports that preliminary results on enhanced septic system performance, indicates the median nitrogen reduction for all of the NitROE systems ranges between 93 - 97%. In addition, the EPA ORD and U.S. Geological Survey continue to collect groundwater data at several groundwater wells in the area (Data Access Link: <https://maps.waterdata.usgs.gov/mapper/index.html>). This groundwater monitoring data aims to quantify changes in the local groundwater nitrogen concentrations as a result of high-density

installation of enhanced nitrogen reducing I/A septic systems. NitROE is one of only two Enhanced I/A systems that was characterized as “Best Available Nitrogen Reducing Technology” (BANRT) by the Massachusetts Department of Environmental Protection (MassDEP) on June 15th for performing at levels equal to “best in class” municipal wastewater treatment plants. BCWC reports that there are currently 130 NitROE systems installed on the Cape and Islands.

2.5.1.5 Shubael Pond Management Plan

The Department of Public Works (DPW) retained the Coastal Systems Program at UMass Dartmouth School for Marine Science and Technology (SMAST) to conduct a nutrient diagnostic assessment of Shubael Pond and develop a management plan to address water quality issues. Please find the details of this study in the Shubael Pond Nutrient Diagnostic Assessment and Management Plan (provided as Attachment C in the FY2023 Annual Report). This study found that Shubael Pond is being negatively impacted by excess phosphorus loading, the largest source of which is septic systems, and that management of phosphorus inputs is necessary to improve water quality.

Based on the report’s conclusions, DPW is recommending the following actions to help mitigate the impact of phosphorus on Shubael Pond:

- **Sewers**

Advance the timeline for sewerage the homes located in the Shubael Pond contributing watershed from Phase 3 to Phase 2 of the Comprehensive Wastewater Management Plan. In FY24, the Town sponsored a UMass Dartmouth Senior Project that developed 25% level designs for sewers in the areas adjacent to Shubael Pond along Evergreen Drive, Willimantic Drive, and Lakeside Drive. Further design and permitting will be completed in future phases.

- **Alum**

In the interim, prior to installation of the sewers it is recommended alum treatment(s) be used to address the internal phosphorus loading source and improve water quality. Funding in the amount of \$85,000 was appropriated for the purposes of completing an alum treatment in Shubael Pond. The treatment was completed in April 2023 and adaptive management monitoring was completed in 2023 and continues through 2024. Alum treatments will not eliminate all potential for cyanobacteria blooms, but will help reduce the available phosphorus, improve water quality, and reduce the frequency of blooms.

- **Stormwater Improvements**

DPW continues to work to fund and expedite proposals to reduce stormwater inputs around the pond. Efforts in Fiscal Year 2023 included: funding in the amount of \$385,000 was appropriated for the purposes of designing and constructing stormwater improvements for the Shubael Pond Road Outfall Pipe and work with the Association to Preserve Cape Cod and the Massachusetts Department of Fish and Game Office of Fishing and Boating Access to evaluate stormwater contributions from the State Boat Ramp. These inputs make up the smallest portion of the phosphorus load to the pond and stormwater improvements alone will not eliminate the potential for cyanobacteria blooms. In FY24, the Town sponsored a UMass Dartmouth Senior Project that

developed 25% level designs for stormwater improvements along the Shubael Pond Road drainage pipe area. Further design and permitting will be completed in future phases.

2.5.1.6 Long Pond Marstons Mills Management Plan

The DPW retained the Coastal Systems Program at UMass Dartmouth School for Marine Science and Technology (SMAST) to conduct a nutrient diagnostic assessment of Long Pond Marstons Mills (LPMM) and develop a management plan to address water quality issues (provided as Attachment D in the FY2023 Annual Report).

This study found that Long Pond is being negatively impacted by excess phosphorus loading, the largest source of which is coming from approximately 28 septic systems within 300-feet of the pond, which contribute ~89% of the phosphorus load to the pond. The study found that the Long Pond water column is well mixed and oxygenated throughout, therefore the sediments are not a significant contributor of phosphorus and traditional in pond solutions such as alum and aeration will not be effective.

Properties around Long Pond are identified for sewerage in Phase 3 (years 20-30) of the Comprehensive Wastewater Management Plan (CWMP). Accelerating sewers in this area of Long Pond to earlier phases of the CWMP is not practical due to proximity to existing and planned sewer infrastructure. Sewers are recommended as the long-term solution for improving water quality in Long Pond and the Town intends to proceed on a long-term schedule.

For the near term, the DPW is reviewing potential phosphorus reducing management options to discuss with the Friends of Long Pond Marstons Mills (FoLPMM). These options include:

- **Floating Treatment Wetlands (FTWs)**

Funding in the amount of \$90,000 was appropriated for the purposes of permitting, deploying, and monitoring a Floating Treatment Wetland Pilot Study in Long Pond Marstons Mills to understand the effectiveness of Floating Treatment Wetlands on phosphorus and nitrogen removal in Long Pond. This fiscal year, the Town completed permitting and deployment of approximately 500-sq ft of Floating Treatment Wetlands (FTWs) in Long Pond. The FTWs will be monitored over two growing seasons for phosphorus content and weight of the plant biomass to determine the phosphorus removal of the floating treatment wetlands and determine if they could be a feasible solution to improving water quality in Long Pond in the interim of sewers being available. To view photos from the FTWs installation and recognition of the various partners who made this pilot study possible, please visit:

<https://bit.ly/FloatingTreatmentWetlandsPhotos>

- **Innovative/Alternative (I/A) Enhanced Phosphorus Reducing Septic Systems**

The SMAST report indicated that implementation of approximately 23 I/A septic systems that achieve phosphorus concentrations of less than 1 mg/L may provide an opportunity to improve water quality in Long Pond. Residences within identified contributing watershed of the pond may choose, at their option, to convert their septic systems to enhanced phosphorus reducing systems. It is important to note that none of the I/A systems that treat for phosphorus are as yet approved

for general use by the Massachusetts Department of Environmental Protection. However, there are four systems that are approved for “pilot use”. The FoLPMM Board is actively pursuing grant opportunities to install these systems and have coordinated educational events for the homeowners around the pond to learn more about systems that can reduce the phosphorus load inputs from their septic systems. However, in FY24 no septic systems in this area have been updated to phosphorus removing systems.

2.5.1.7 Lovells Pond Management Plan

The DPW retained the Coastal Systems Program at UMass Dartmouth School for Marine Science and Technology (SMAST) to conduct a nutrient diagnostic assessment of Lovells Pond and develop a management plan to address water quality issues.

This study found that Lovells Pond is being negatively impacted by excess phosphorus loading, the largest source of which is coming from the internal sediments, which is 58% of the phosphorus load to the pond with septic systems contributing 35%. Addressing the phosphorus load from the sediments is expected to reduce the phosphorus levels to the recommended threshold of 10 ug/L in most years, except low groundwater years that are similar to 2022, which has occurred in approximately 25% of the summers from 1976 – 2021. The sediment load can be reduced by implementing an alum treatment, aeration, or dredging. Of these methods, an alum treatment is recommended as the most efficient and cost-effective treatment.

In years of low groundwater, similar to 2022, it will be necessary to address the phosphorus load from the septic systems in the contributing watershed to Lovells Pond through sewers or enhanced phosphorus reducing septic systems. Properties around Lovells Pond are identified for sewerage in Stage 3 of the CWMP. The DPW recommends sewers be addressed as currently planned for improving water quality in Lovells Pond. However, homeowners may elect to convert their septic systems to enhanced phosphorus reducing systems achieving less than 1 mg P/L in the effluent at their option to improve Lovells Pond water quality. It is important to note that none of the I/A systems that treat phosphorus are as yet approved for general use by the Massachusetts Department of Environmental Protection. A current list of approved technologies is available at <https://www.mass.gov/info-details/approved-title-5-innovativealternative-technologies>.

2.6 INTER-MUNICIPAL COLLABORATION

As noted in the CWMP, the Town of Barnstable shares watersheds with the Towns of Mashpee, Sandwich, and Yarmouth. Additionally, the Town had previously worked with other entities, such as the Joint Base Cape Cod (JBCC), on wastewater solutions.

2.6.1 Sandwich

The Town continues to have conversations with the Town of Sandwich regarding shared watersheds. Current discussions have focused on potential opportunities for Sandwich to accomplish nitrogen removal projects in Barnstable, to more efficiently meet their Nitrogen removal requirements in the Three Bays Watershed. However, there have been no decisions made during this reporting period.

2.6.2 Mashpee

The Town continues to have conversations with the Town of Mashpee regarding the Popponesset Bay Watershed, and particularly Shoestring Bay. Discussions have focused on potential for joint efforts in this area, and examining if there are opportunities for Barnstable and Mashpee to jointly collect and treat some of the wastewater in this area. However, there have been no decisions made during this reporting period.

2.6.3 Yarmouth

The Town continues to have conversations with the Town of Yarmouth regarding the Lewis Bay Watershed, and joint opportunities to collect and treat wastewater at our border. However, there have been no decisions made during this reporting period.

2.6.4 Joint Base Cape Cod

During this reporting period, the Town has been focused on wastewater collection, treatment, and disposal options that did not include utilizing Joint Base Cape Cod. As a result, there are no updates on this item.

3.0 WATER QUALITY MONITORING

The Town continues to perform robust water quality monitoring programs for embayments, ponds, and lakes. Each program is described below. Water quality monitoring data is provided under separate cover.

3.1 EMBAYMENT MONITORING

The Town of Barnstable, along with the Barnstable Clean Water Coalition (BCWC) and citizen volunteers, completed the 21st year of annual monitoring in 2023. Water quality samples were collected at a total of 85 stations in Barnstable Harbor, Lewis Bay, Halls Creek, Centerville River, and Three Bays. In addition, the Towns of Barnstable and Yarmouth share Lewis Bay; therefore, the Town's coordinate each season to collect samples on the same schedule. Barnstable and Mashpee share the Popponesset Bay estuary; however, Mashpee coordinates and conducts the sampling for this shared estuary independently. Each spring the Town schedules water quality training with the Coastal Systems Program at UMass Dartmouth School for Marine Science and Technology (SMAST) to review the sampling protocols with the current season's volunteers. Sample collection occurs four times annually July through September on a mid-ebbing tide between 6am-9am. Water quality samples are collected for nitrogen (DON, PON, NO_x, NH₄, TN), ortho-phosphate, dissolved oxygen, temperature, salinity, and chlorophyll-a pigments. Water samples are analyzed by the Coastal Systems Analytical Facility at SMAST. The tabulated data is provided from SMAST and has been incorporated into a database which will be provided electronically under separate cover.

3.2 PONDS AND LAKES MONITORING

The Town of Barnstable has approximately 180 ponds and lakes, 25 of which are Great Ponds. The Town has two significant programs for monitoring water quality in several ponds and lakes throughout the Town, the Ponds and Lakes Stewardship (PALS) Program and Cyanobacteria Monitoring. In addition, the Town has undertaken a program to develop management plans for impaired ponds, with two plans completed and two plans underway.

3.2.1 Ponds and Lakes Stewardship (PALS) Program

The Ponds and Lakes Stewardship (PALS) Program has been ongoing since 2001 and continued through 2023. This program provides an annual snapshot of pond and lake water quality during the late summer (mid-August to mid-September), capturing the worst-case scenario for pond and lake water quality. In April 2021, the Town also initiated an effort to perform a PALS snapshot in April to assess pond and lake water quality when the ponds are cold, well oxygenated, and mixed throughout the water column. The spring snapshots will provide a baseline for comparison to the fall water quality conditions to understand the extent of water quality changes that occur from April to late summer.

In 2023, the Town of Barnstable partnered with several organizations to complete the 2023 PALS spring and fall sampling events. These organizations included:

- Barnstable Clean Water Coalition
- Indian Ponds Association
- Wequaquet Lake Protective Association
- Concerned Citizens of Long Pond Centerville
- Friends of Long Pond Marstons Mills
- Red Lily Pond Protective Association

Samples were collected in the spring and fall at all 25 Barnstable Great Ponds, plus an additional 12 ponds in the Fall of 2023. Samples were collected at the deepest location of each pond following the PALS protocol. Water quality samples are sent to the Coastal Systems Program Analytical Facility at the University of Massachusetts Dartmouth School for Marine Science and Technology for analysis. Data is shared with the Cape Cod Commission and Association to Preserve Cape Cod to be compiled into the annual State of the Waters update.

3.2.2 Cyanobacteria Monitoring Program

The Town of Barnstable Division of Health initiated routine cyanobacteria monitoring for ponds and lakes beginning in 2008. The Town of Barnstable has continued its partnership with the Association to Preserve Cape Cod (APCC) which administers this program and provides weekly reports to the Town regarding the status of cyanobacteria and more importantly harmful cyanobacteria blooms in Barnstable Ponds. Routine sampling and reporting were completed on a weekly to monthly basis at a total of 28 ponds (40 sites in total). Through this monitoring program, the Town of Barnstable Health Division administered Warnings and Pet Advisories following the criteria at the ponds listed in Table 2 and Table 3. Table 2 provides a summary of warnings which were posted during the 2023 season. These warnings were based on visible significant scum or estimated microcystin toxin over 8-ppb based on the University of New Hampshire cyanocasting methodology. Table 3 provides a summary of pet advisories which were posted during the 2023 season. These postings were based on estimated microcystin toxin between 4-8-ppb based on the University of New Hampshire cyanocasting methodology.

Table 2. Summary of Warnings

Pond Name	Duration of Warning (weeks)
Parker Pond	12.0
Long Pond Marstons Mills	5.7
Lovells Pond	1.7
Mystic Lake	1.3

Table 3. Summary of Pet Advisories

Pond Name	Duration of Pet Advisory (weeks)
Lovells Pond	11.1
Schoolhouse Pond	5.9
Parker Pond	5.7
Long Pond Marstons Mills	5
Long Pond Centerville	4.9
Shubael Pond	1.1
Lake Wequaquet	1.0
Bearses Pond	0

3.2.3 Ponds and Lakes Management Plan Program

The Town of Barnstable has initiated a Ponds and Lakes Monitoring and Management Plan program in an effort to fully identify and remedy issues such as excessive nutrients, low dissolved oxygen, cyanobacteria, and invasive species, which inhibit the use of our freshwater resources. The Monitoring Phase includes monitoring for water quality, dissolved oxygen conditions, phytoplankton composition (including cyanobacteria), rooted vegetation survey, mussel survey, stormwater and stream inputs and output monitoring (when applicable), and sediment core collection to determine nutrient regeneration from the sediments. The information is analyzed in junction with a watershed assessment, which provides the groundwater related inputs to the pond. Together, this information is compiled and presented to the Town in a Management Plan Report. Key components of this report include identification of the nutrient causing impairment, identification and quantification of nutrient sources, and an assessment of management solutions that could be implemented to reduce nutrient inputs and improve water quality conditions. Solution options often include options that can be taken within the watershed (sewers, advanced IA systems, stormwater reduction, etc.) and within the pond (aeration, alum treatment, dredging, etc.) solutions to reduce nutrient inputs and improve water quality.

Once the Management Plan is received, it will be shared on the Town’s website and presented to Town stakeholders to decide which solution(s) will be implemented to improve pond water quality. In addition, the Town will share the final management plan reports with the Cape Cod Commission.

The mechanism for deciding which ponds will be selected for management plans and solution implementation has been developed by staff in the Town’s Public Works, Conservation, Health, and Natural Resources departments. Inputs from these departments, developed a set of criteria based on water quality history, cyanobacteria history, level of recreational opportunities (how much our public interacts with a particular pond), etc. to prioritize which ponds should be prioritized for a monitoring and management plan. This list will be updated annually based on the most recent information for water quality conditions, determined through the active water quality monitoring programs (PALS, cyanobacteria monitoring, etc.).

The Town has selected one pond per year for development of a Management Plan starting in 2020. The first four ponds which have been selected for the development of a Management Plan are: Shubael Pond, Long Pond Marstons Mills, Lovell's Pond, and Lake Wequaquet, Bearses Pond and Gooseberry Pond. As of the writing of this report, the Shubael Pond and Long Pond Marstons Mills Plans have been completed with on-going management strategies underway (**See Section 2.4.1.5 and 2.4.1.6**). Additionally, the Lovells Pond Nutrient Diagnostic Assessment and Management Plan has recently been completed (**See section 2.4.1.7**). Lake Wequaquet, Bearses Pond, and Gooseberry Pond monitoring is complete, and the resulting Management Plan Report is anticipated to be complete and available to the public in 2025. Long Pond Centerville monitoring commenced in 2024 and is currently in progress, with a Management Plan Report anticipated in early 2026.

4.0 OUTREACH AND ENGAGEMENT

The Town of Barnstable continues to execute robust outreach initiatives, aimed at educating residents, visitors, and business owners about the critical need for the Comprehensive Wastewater Management Plan (CWMP). Throughout Year 3 of our 30-year implementation schedule, CWMP communications efforts were dedicated to improving the knowledge and comprehension our community has in regard to the role each property owner will play in protecting Barnstable’s water resources.

Over the last fiscal year, the Town continued to expand on its solid communications foundation by executing both broad-based communications tactics (media releases, website updates, social media, mobile app, e-Newsletter, etc.) as well as individualized property-owner communications (mailers, in-person, door-to-door outreach, etc.) to keep the community informed of construction progress, anticipated sewer connections, and the overall need for the CWMP. This fiscal year, in step with the first wave of eligible sewer connections, the Town also published its Homeowner’s Sewer Connection Guide (**See Section 4.2.7 and Attachment C**). With a full-time Communications Manager for the Department of Public Works, the Town continued to advance its strategic communications plan that meets the following goals:

- Make a compelling case for the need to implement the CWMP and outline the implications of inaction.
- Develop information to clearly explain the CWMP and how it will be implemented.
- Develop educational resources to assist property owners throughout the sewer connection process, including information in regard to financing and financial support resources.
- Ensure that this information is available through a variety of formats and platforms, including those accessible to traditionally harder to reach segments of the community.
- Build broad based support and engage community networks to help convey timely and accurate information about the CWMP.
- Identify and proactively address questions and concerns about implementation measures.
- Create an effective feedback loop to evaluate and adjust communications as needed.

All of the above outreach actions recommended have been initiated and continue to be evaluated and improved upon consistently. A summary of progress to date and recommended continued actions is provided within the following narrative.

4.1 PUBLIC ENGAGEMENT

General education efforts are aimed at informing and engaging all segments of the community about the need to take action to protect our water resources and quality of life. This fiscal year, we had four primary aims that guided public engagement efforts:

- **Aim 1:** Re-enforce the connection between implementing the CWMP and protecting the health of coastal and freshwater ecosystems that are central to quality of life and economic well-being in

the Town of Barnstable; in conjunction with combating misinformation about the role (or lack thereof) septic systems play in nitrogen pollution.

- **Aim 2:** Foster collaborative communication efforts with community leaders, associations and non-profits to address misinformation regarding nitrogen pollution and implementation of the CWMP, while providing ombudsman services to all residents of the Town of Barnstable.
- **Aim 3:** Implement and codify a standard, sustainable, and repeatable outreach and communications protocol for all construction projects, ranging from the preliminary planning and design phase to active construction.
- **Aim 4:** Develop and disseminate transparent, fact-based information regarding CWMP implementation, sewer connection, and associated costs via multiple communications methods, platforms, and mediums. Simplify technical jargon, and ensure information is accessible to traditionally harder to reach demographics, while striving to reduce the information burden and increase community trust.
- **Aim 5:** Develop, publish, and distribute a sewer connection guide to assist residential and commercial property owners in mandated sewer connection. Incorporate inter-departmental and County-wide information in regard to process and expectations, regulations, and financial resources. Simplify technical jargon, and ensure information is accessible to traditionally harder to reach demographics, while striving to reduce the information burden and increase community trust. Ultimately create a universal document that addresses all top concerns and questions regarding the sewer connection process, while providing proper instruction on which departments and entities to contact for related matters.

4.1.1 CWMP Outreach in Numbers

Throughout this fiscal year the Town and Department of Public Works has continued to actively engage the public to learn more about their questions and concerns related to nitrogen pollution, CWMP implementation, the sewer connection process, and financial implications. Closely listening to the community has allowed us to develop messaging and content that addresses their concerns more directly.

Public engagement sessions were conducted in-person and virtually for a variety of CWMP-related topics, including sewer construction, pump station design and post-construction restoration efforts. These sessions were publicized in the local media, via social media channels, by email and e-newsletters, via advertisements on Barnstable Government Access (formerly Channel 18), and through the *MyBarnstable* mobile app. Additionally, all Town-hosted information sessions and public discussions were recorded, published, and archived on the Town of Barnstable YouTube Channel and streamed for further on-demand viewing via Barnstable Government Access.

Additionally, in partnership with the Barnstable Town Council, the Department of Public Works participated in a suite of Special Town Council meetings, formulated into a Water Resources Protection workshop series. Topics ranged from groundwater and drinking water supply protection to embayment monitoring and a deep-dive session on the CWMP past, present, and future. Each workshop included

presentations from Town and/or third-party community experts, was recorded for future viewing, and was also made available live via virtual viewing options. Members of the community were encouraged to submit questions prior to each meeting to help guide presentation content and overall conversation. Recordings can be access via the Barnstable Government Access YouTube channel Town Council 2024 Playlist, with immediate access to the CWMP Workshop available here:

<https://youtu.be/DLaqYgXpWmw?si=Hgjf1VM6Wcl0oKM5>

Seeking public input throughout all stages of the CWMP and its progression has enabled us to create a feedback loop in which community members can positively impact future planning, implementation, and communications.

Table 4. FY24 Outreach in Numbers

50 Community Meetings	275 One-on-One CWMP-Specific Resident Calls Tracked	1,150 Community Currents Email Subscribers
5,100 MyBarnstable App Downloads	10.4K Average Post Reach for CWMP-related social media content on Town Facebook Page	1,000 YouTube Views of FY24 CWMP Recorded Meetings and Presentations

Additionally, at the end of Fiscal Year 2023, following the Barnstable Water Resources website redesign (discussed previously in Section 4.2 *Various Communications Methods* in the FY2023 Annual Report), the Town has commenced Google Analytics website tracking to provide critical data regarding website usage, search engine optimization, and to provide benchmark statistics to assist in the measurement of the performance of future proposed communications and advertising campaigns (See **Table 5: Barnstable Water Resources - FY24 Key Performance Indicators**).

4.2 VARIOUS COMMUNICATIONS METHODS

A summary of various communications methods being utilized are summarized below.

4.2.1 Barnstable Water Resources Website

Analytics are essential to understanding the health and effectiveness of the *Barnstable Water Resources* website (<https://barnstablewaterresources.com/>). The following key performance indicators (KPIs) will be tracked and compared on a fiscal year by fiscal year basis to determine overall website performance and to gain insights into which messages resonate most with our audience(s). Additionally, data specific to

time on page, link clicks, downloads, and most visited pages will be utilized to refine our content to increase site engagement and continuously evolve the educational content provided.

Table 5. Barnstable Water Resources - FY24 Key Performance Indicators

Overview of User Behavior	
Total Active Site Visitors (Users)	10,085
Total Page Views	21,300
Total Events (Page Views, Link Clicks, Downloads)	64,370
Average Time on Page	1m 44s
Top 10 Most Visited Pages: Total Views per Page	
Homepage	4,741
Phase 1 Projects	2,980
News & Updates (Includes Traffic/Closures Map)	1,651
Sewer Connection	1,490
Wastewater Plan (CWMP Overview)	1,431
Water Quality Monitoring (Includes Water Quality Alerts)	968
Anticipated Costs	947
FAQ Item – <i>‘What is the purpose of the Sewer Assessment Ordinance?’</i>	941
Beach Water Quality Updates (Includes Specific Alerts by Date)	692
FAQ Portal	652
User Demographics	
Users by City	Boston 1,902 Barnstable 1,851 New York 420 Yarmouth 193 Falmouth 123
Users by Language	English 9,943 Portuguese 47 Chinese 44 Spanish 25 French 9
Technology Overview	
Users by Device	51.5% Desktop 45.7% Mobile 2.8% Tablet
Traffic Acquisition	
Sessions by Channel	6,999 Organic Search 3,657 Direct 2,670 Referral 233 Social Media

In Fiscal Year 2023 the Department of Public Works undertook an extensive website redesign for the *Barnstable Water Resources* website. Major website renovations were described in detail in the FY2023 Annual Report and included a complete rebranding of the site theme and layout, development of quick links menu box highlighting the most sought-after content and questions, a redesigned homepage placing emphasis on quality of life messaging, reorganization of the main menu for better more user-friendly site navigation, content updates to all major internal pages conveying information about the CWMP, sewer connection process, financial responsibility, FAQs, and more. Like any effective website, constant evaluation and adaptation is needed. Throughout this fiscal year, as a result of public outreach presentations, one-on-one conversations with property owners, and review of current website performance, the following content additions have been identified. Below you will find a list of newly created pages, pages in development, and overall content development status:

- **Reports & Documents:** Providing a central location with one-click access to key CWMP documentation and resources was a critical update needed to foster a better user experience. This newly developed page houses all CWMP Annual Reports, the full CWMP, associated Single Environmental Impact Report (SEIR) documentation, and regulatory certificates, and most recently the Homeowner’s Sewer Connection Guide. All documents are available for digital viewing or can be downloaded in PDF form. View the Reports & Documents page here: <https://barnstablewaterresources.com/reports-documents/>
- **Innovative/Alternative Onsite Wastewater Treatment Systems:** In collaboration with the New England Water Environment Association (NEWEA) this fiscal year included the creation of a new webpage dedicated to educating property owners about the ever-evolving technology driving Innovative/Alternative Onsite Wastewater Treatment Systems (I/A). For property owners who aren’t anticipated to receive sewer as part of the CWMP, or who will not be eligible to connect to sewer until the 20 or 30-year mark of the sewer expansion plan, providing education and access to I/A resources is a critical component to informing our community about tools that can assist in making an impact right now. The page provides a closer look at the new generation of enhanced I/A septic systems and how Barnstable foresees I/A technology being utilized as part of the CWMP. View the Innovative/Alternative Onsite Wastewater Treatment Systems page here: <https://barnstablewaterresources.com/innovative-alternative-onsite-wastewater-treatment-systems/>
- **Urine Diversion:** Like the aforementioned I/A webpage, in collaboration with Massachusetts Alternative Septic System Test Center (MASSTC), the Department of Public Works is in the process of developing a Urine Diversion webpage. With increased interest in alternative solutions, and potential urine diversion use-cases being discussed, providing this educational content displays the Town of Barnstable’s continued commitment to arm property owners with transparent, comprehensive information. The page is anticipated to include an overview of the urine diversion process, how the technology is utilized, case studies, and information regarding how to participate in MASSTC’s urine diversion pilot study. Work on this page is on-going and is anticipated to reach completion and publication this Summer.

- **For Contractors:** As the Town of Barnstable progresses with its first round of sewer connection mandates, on-going conversations with both property owners and licensed sewer installers have resulted in the development of a contractor-specific webpage. This page is anticipated to provide a blueprint for licensed sewer installers preparing to complete sewer connections in Town, with an overview of the necessary permits needed, Town of Barnstable Sewer Connection Specifications, and key Department of Public Works contact information. Overall, the goal of this page is to proactively answer contractor questions and set expectations prior to a contractor commencing sewer connection construction. Work on this page is on-going and is anticipated to reach completion and publication this Summer.
- **Commercial Properties:** As the Town of Barnstable progresses with its first round of sewer connection mandates, on-going conversations specifically with condominium owners and local business owners have resulted in the development of a commercial properties webpage. While much of the information provided on the Sewer Connection webpage, and within the Homeowner’s Sewer Connection Guide, is relevant to commercial properties, ultimately there are distinctions in the sewer connection and Sewer Assessment process that warrant a dedicated webpage. This page is anticipated to provide an overview of the differences in sewer connection for commercial parcels (i.e. requirement to have an engineered plan), the differences in how the Sewer Assessment is calculated (i.e. A commercial sewer unit is defined by the amount of sewer flow on the property based on Title 5 of the State Environmental Code (310 CMR 15.203) system sewage flow design criteria), and more. Work on this page is on-going and is anticipated to reach completion and publication this Summer.

4.2.2 Barnstable Water Resources e-Newsletter

The *Barnstable Water Resources* (previously referred to as *Community Currents*) e-newsletter is distributed electronically approximately once per month, or as needed to communicate major plan and project updates. Content includes updates on the CWMP, construction schedules, Town Council meetings and hearings, and other pertinent news. Website visitors and others are encouraged to sign up for the e-newsletter.

FY2024 email metrics are shared below:

- **Average open rate for *Community Currents*: 58.75%**
 - Industry open rate benchmark for Government e-newsletters: 28.77%
 - Our high open rate speaks to the value of our content and the interest our community has in learning more about Barnstable’s plan to protect water resources.
- **Average click rate for *Community Currents*: 5.1%**
 - Industry open rate benchmark for Government e-newsletters: 3.99%
 - Once again, our high click rate speaks to the value of our content and the educational resources being provided to our community.

4.2.3 CWMP Overview Brochure

A CWMP brochure was developed to provide a concise and accessible overview of Phase 1 implementation, supported with project-specific information. As reported in the FY23 Annual Report, the brochure continued to prove effective in mailings, at town events, and through door-to-door outreach, however as a result of current adaptive management changes made to the CWMP implementation plan, the brochure requires extensive revisions. Work on this brochure will continue through the next several months. It is anticipated that the brochure will be translated into Spanish and Portuguese and all three versions will be available in print and posted electronically to the *Barnstable Water Resources* website.

4.2.4 Media Releases

Media releases are distributed for all public meetings, major project milestones and substantial CWMP-related roadway/traffic impacts. The Town's media distribution list includes all civic and village associations, chambers, regional environmental groups, elected officials and other interested stakeholders so that current information is sent directly to groups that can distribute through their established networks. Coverage continues to primarily include local news outlets including the Cape Cod Times, CapeCod.com, Patch, Cape-wide radio stations, NPR, etc. Additionally, this fiscal year, the Town has intentionally continued to foster relationships with local and regional reporters to develop larger storytelling opportunities that will raise awareness for the connection between implementing the CWMP and protecting the health of freshwater and coastal ecosystems that are central to quality of life and economic well-being here in Barnstable. This fiscal year the Town of Barnstable was represented in larger water quality and wastewater stories published by Scientific American and Boston's WHDH Channel 7, both of which highlighted the Town's aggressive implementation plan and current construction projects.

4.2.5 Social Media

With direction from the Department of Public Works Communications Manager, the Town Communications Division regularly posts content about the CWMP to the Town's official social media accounts (Facebook, Twitter, Instagram). Collectively, across all approved social media channels, the Town of Barnstable has a sustained audience of over 20,000 followers, providing a vast community network for 'bite sized', easily consumable, engagement-driven communications.

Additionally, the Town of Barnstable YouTube channel archives and allows for on-demand viewing of recorded CWMP-related public meetings, presentations and water quality content. Specifically, this fiscal year, DPW worked alongside the Town Communications Division to develop a new CWMP-specific educational video series, titled *WaterWorks*. *WaterWorks* provides a closer look at key projects and processes that make up the CWMP, in a conversational setting, allowing listeners/viewers to more easily digest complex topics. Discussions are led by the DPW Communications Manager and include participation from various experts ranging from DPW leadership and the WPCF Division Supervisor, to the newly appointed Sewer Connection Program Manager. The first three videos in this series include:

- An updated tour of the Barnstable Water Pollution Control Facility (WPCF) with an accompanying breakdown of proposed technology advancements:
<https://youtu.be/s6zQwOyJo8o?si=Jg2G1bF-Pi5yqOdf>
- A conversation about the future of wastewater treatment with a deeper look at the recently approved Nitrogen Improvements and New Headworks Facility project:
<https://youtu.be/ccmeCNGRGBs?si=apw1Y9smY-ATDNf>
- A conversation about sewer connections, with a step-by-step review of what property owners can expect once mandated to connect to the newly expanded municipal sewer system:
https://youtu.be/c_ib81kX2LY?si=uO1TNMHHj6pvT4hs

4.2.6 Water Resources Management Briefings

Collaboratively, the Department of Public Works Director and Department of Public Works Communications Manager provide monthly briefings during regularly scheduled Town Council meetings. The briefings incorporate relevant information related to overall CWMP implementation, water quality monitoring and the status of individual sewer expansion projects. The presentations are recorded and aired via Barnstable Government Access. Content from the presentations is also used in the *Barnstable Water Resources* e-newsletter and on social media. Content is presented in an easily digestible format, including the use of infographics, to help break down technical, complex topics for a more diverse audience. Briefings generally consist of Phase 1 project status (i.e. construction, design, and survey progress), Water Pollution Control Facility updates and water quality monitoring and management updates. Briefings have often also included updates in regard to outreach and communication initiatives as well as the status of the Town’s Watershed Permit application.

4.2.7 Homeowners Sewer Connection Guide

The Homeowner’s Sewer Connection Guide (**Attachment C**) was developed by the Department of Public Works to help homeowners prepare for connection to the Town’s municipal sewer system. This nearly 30-page detailed overview walks readers through the step-by-step process for connecting to sewer, including important considerations and financial responsibility. Inside the guide readers will find information in regard to the communications cadence to be expected from various Town departments, how to proceed with sewer connection on private property, how the Sewer Assessment is calculated, as well as information specific to utilizing Barnstable County’s Cape Cod Aquifund and the Massachusetts State Tax Credit to support sewer connection costs. Additional tips for property owners and realtors are also included along with copies of the Board of Health’s Sewer Connection Policy and a database of licensed sewer installers. The guide is currently available for download via the *Barnstable Water Resources* website, with print hard copies soon to be available at Town Hall and various other identified Town locations.

Additionally, as part of DPW’s project closeout communications, a modified Sewer Connection Process document (**Attachment D**) was developed. This one-sheet is provided to all property owners eligible to

connect to the newly expanded sewer service as part of DPW mailings as well as an accompaniment to the Health Division’s official Notice of Sewer Hookup communication. In an effort to make this critical information available in various languages, this document has been translated into both Spanish and Portuguese (**Attachments E & F**). Translated documents are available for download on Barnstable Water Resources, via the Reports & Documents page, and will be used throughout public outreach initiatives.

4.2.8 Collaboration with Barnstable Adult Community Center (BACC)

With an increased effort placed on demographic-specific communications and outreach, the Department of Public Works partnered with the Barnstable Adult Community Center (BACC) to develop an educational workshop series geared towards the Town’s senior citizens and retirees. Hosted every two months, DPW hosts CWMP specific workshops aimed at providing a closer look at the need for the CWMP, updates to the sewer expansion plan, and residential sewer connection. Hosted in a more intimate setting, the workshop format allows for ample question and answer opportunities where attendees can inquire about a range of topics from financial resources to property-specific connection timelines. This fiscal year four workshops were held, and widely attended, with a maximum attendee count of 70+ interested individuals at a single session.

4.2.9 Collaboration with Local Realtors

As with the aforementioned collaboration with the Barnstable Adult Community Center, the Department of Public Works has also continued to partner with local realtors to educate agents about the need for the CWMP, implementation plans and current sewer construction. Workshops have taken on two formats – (1) sessions specifically for agents and (2) sessions hosted by agents, specifically for buyers and sellers. Both workshop styles include a high-level overview of the nitrogen problem on Cape Cod and the resulting development of the CWMP, before deep diving on current sewer expansion projects, and the sewer connection process. Specifically, when educating realtors, each session also includes a comprehensive review of the current Title 5 and Watershed Permit regulations and what this means for respective property owners and respective homebuyers. In meetings hosted by realtors for buyers and sellers, there is additional focus placed on financial resources for sewer connection (i.e. Cape Cod Aquifund and MA State Tax Credit). Overall, collaboration with local realtors has proven to be an extremely successful avenue for educating varying demographics and building confidence within our greater community.

4.3 CONSTRUCTION OUTREACH

With 18 individual Phase 1 sewer expansion projects to be implemented over the course of this first 10 years – many of which will be in various stages of survey, design and construction at any given time – the need for a sustainable, repeatable outreach and communications protocol was identified. This fiscal year, we focused on further developing and continuing to implement:

- An anticipatory outreach schedule that identified key touch points for individual property owner communications, beginning with the introduction of a new project, construction sequencing

expectations and a high-level overview of the sewer connection process. The protocol goes on to establish communications touch points for key project milestones such as survey efforts, anticipated roadwork impacts, traffic management and more, as conditions dictate.

- Templates that maintain consistency across recurring communications including but not limited to survey access notifications, private road utility easement notifications, restricted access and roadwork impact notifications.
- Templates that maintain consistency across social media and mobile app communications regarding construction impacts such as lane closures, full road closures and detours. This includes a ‘checklist’ for communicating roadway impacts that includes updates to real-time traffic reporting via the Town’s Waze for Cities Partnership, *MyBarnstable* mobile app push notifications, traffic alerts distributed to the Town’s media list, in addition to individual resident and business calls and door-to-door canvassing efforts as needed.
- Codified, trended call and email tracking to document construction and overall CWMP-related questions, concerns, or issues that required remedial action. This data has been utilized to create lessons learned and process documentation to improve operations during future construction seasons.

4.3.1 Project Specific Outreach

4.3.1.1 Strawberry Hill Road Sewer Expansion Project

- DPW personnel continued to share project updates at multiple public meetings including regular Town Council sessions, and briefings with community associations such as the Centerville Civic Association, Strawberry Hill Condo Association, Bayberry Association, and Quisset Village Association. Presentations included updates to construction schedules, final restoration plans and proactive messaging to help set expectations in regard to the sewer connection process and related property owner costs.
- DPW personnel hosted a number of customized workshops for local realtors including collaboration with Kinlin Grover Compass, where all realtors within the group were briefed on the CWMP implementation to-date in addition to property owner and homebuyer responsibilities associated with connecting to the new municipal sewer. Realtors were also provided with an overview of anticipated property owner costs, financial resources, loan programs, and given the opportunity to review properties of interest to determine the parcel’s anticipated sewer construction timeline. Additionally, DPW personnel were invited to present the keynote address at this year’s Cape Cod Retirement Living Senior Real Estate Seminar, which provided an opportunity to directly engage with retirees living on Cape Cod.
- Door-to-door outreach to the approximately 300 property owners along the Strawberry Hill Road sewer expansion service continued in targeted waves, as conditions dictated, allowing for advanced notification ahead of significant construction milestones and roadway/access impacts. In addition to providing current construction updates, this provided property owners with the

opportunity to ask further questions and ultimately connect with DPW personnel at a more intimate level.

- DPW personnel continued to take an active role in communicating to affected businesses the coming impact to their customers ahead of new traffic management patterns. This continues to be especially important for medical offices and anywhere that schedules by appointment. The timing of this personal outreach has helped with the accuracy of the information being provided and serves as a refresher from the ongoing outreach conducted in both FY2022 and FY2023. Continued implementation of the Business Outreach Tool-Kit was utilized and offered templates for easily customizable social media graphics and printable flyers to help area retailers, restaurants, offices, and more communicate changes in traffic management that may include the need for alternate access routes to their respective facilities.
- In May of this fiscal year, the DPW issued its letter of project completion letter to the first wave of property owners eligible to connect to the newly expanded municipal sewer system. Letters included an overview of the expected communications cadence in regard to sewer hookup and the Sewer Assessment charge, including which Town divisions/departments will be responsible for those notifications. Enclosed within the mailing was the modified Sewer Connection Process document (**Attachment D**), providing a high-level review of property owner next steps and links to financial resources.

4.3.1.2 Route 28 East Sewer Expansion

- Door-to-door outreach to both residences and businesses along the Route 28 East Sewer Expansion Project continued throughout FY2024 both during the active construction season to communicate construction plans, traffic impacts and any access limitations as well as in between construction seasons in an effort to engage property owners who did not previously return completed Sewer Connection forms.
- Periodic field meetings and in-office briefings with property owners took place throughout construction to ensure property-specific questions regarding construction, placement of sewer laterals and the connection process were answered to the extent possible.
- As construction continued in the state highway, on-going outreach remained a key priority to ensure communication remained timely and accessible to residents and businesses along Route 28. Efforts included dissemination of media releases, PSAs via local radio, door-to-door outreach and notification flyers, news articles published to *Barnstable Water Resources*, social media postings and updates via the Town's Waze for Cities Partnership. Leveraging the previously mentioned Business Outreach Tool-Kit proved effective as we were able to quickly create and update custom communications materials for Route 28 businesses to distribute to customers ahead of major changes to traffic management. The same outreach efforts were employed when construction transitioned to the overnight hours at the start of the paving restoration process.

4.3.1.3 Centerville Village Sewer Expansion (formerly Park City Wind / Vineyard Wind 2 Route)

- DPW personnel continued to actively participate in one-on-one property owner briefings and presented at various residential and environmental associations annual meetings regarding CWMP implementation progress and anticipated project scheduling.
- In March of this fiscal year, DOW made the recommendation to Town Council, due to uncertainties with the proposed Park City Wind schedule, to adapt the Centerville Village project creating two phases – a North and South. The North Phase of this project, set to break ground this Fall of 2024, will sewer a portion of Route 28, Old Stage Road and Shootflying Hill Road, with the Mother’s Park Pump Station and surrounding properties included as an alternate, pending Article 97 legislative approval. In order to effectively communicate the need and logic behind the recommendation, presentations were made publicly to Town Council as well as communicated through a series of news/blog updates on *Barnstable Water Resources* and via local media interviews.

4.3.2 Traffic Management

Throughout this fiscal year the Town has continued to leverage its Waze for Cities Partnership to assist with the distribution of traffic management information. With the Waze for Cities Partnership, the Town now has the capability to adjust lane closures, full road closures and detours in real-time, providing the most accurate and current information about dynamic traffic management conditions in order to minimize disruption and inconvenience to local residents and businesses, as well as schools, emergency services and regional travelers. Waze traffic data is also shared between Google and Apple Maps, allowing for further reach and visibility regardless of a user’s preferred operating system or software.

Updates regarding traffic information continue to be distributed to the media and community via formal media releases, email alerts, posted on social media, and posted to the *Barnstable Water Resources* website. Additionally, traffic advisories are now also accessible as real-time push-notifications via the *MyBarnstable* mobile app.

4.4 SUMMARY OF PRIORITY ACTION ITEMS

Engagement activities in the year ahead will build on the solid foundation achieved over these last several years, while seeking to further evolve the Barnstable Water Resources ‘brand’ and credibility across our community, establishing the site as a single source of truth for CWMP education. Additionally, increased focus on promoting the newly published Homeowner’s Sewer Connection Guide will drive efforts as more and more property owners are notified of their eligibility to connect to municipal sewer.

Continuing engagement activities will focus on (1) consistent messaging to link the CWMP to quality of life in the community while developing supportive messaging that addresses impending sewer connections and property owner responsibilities, (2) direct outreach to village and civic associations, other community groups, and property owners on the sewer expansion routes, (3) use of traditional media and social media, particularly efforts to leverage existing community networks, and (4) publication of

high quality printed, digital, video and audio materials to support outreach and engagement. Priorities are summarized below.

4.4.1 Messaging

- Continue to rely on foundational messaging that (1) identifies the specific watersheds and water bodies that individual projects will protect, (2) raises the profile of the non-traditional nitrogen reduction measures the town may be undertaking, (3) informs the public about complex issues such as effluent disposal and the next steps with the fiscal plan, and (4) relates the CWMP to the community’s vision for a clean environment and sustainable economy.
- Develop supportive messaging that (1) provides clear direction regarding property owner responsibilities, (2) transparently and accurately conveys anticipated property owner costs, and (3) provides current understanding of how the Town is moving forward to comply with new Watershed Permit Regulations and Title 5 Natural Resource Nitrogen Sensitive Area Regulations

4.4.2 General Outreach

- Continue evolution of the *Barnstable Water Resources* website, relying on direct feedback from the Town’s residents and visitors
- On-going efforts to establish the *Barnstable Water Resources* website as a single source of truth for credible, real-time information regarding CWMP implementation, the sewer connection process, anticipated property owner costs, and local water quality monitoring. Implement a robust print and digital advertising campaign to drive qualified website visits, increase time on site, and further increase email subscriptions.
- Continue distribution of the newly published Homeowner’s Sewer Connection Guide; translate into Spanish and Portuguese.
- Continue distribution of the newly published Sewer Connection process document, as a compliment to the Homeowner’s Sewer Connection Guide; translate into Spanish and Portuguese.
- Continue development the *WaterWorks* educational video series, including video “explainers” that break down complex topics such as how the Sewer Assessment is calculated, how your sewer service bill is calculated, how to apply for the Cape Cod Aquifund, what is a Watershed Permit, etc.
- Continue efforts to consistently engage our harder-to-reach segments of the community, including youth, young families, and non-English speaking members of the community.
- Publish and distribute the updated overview brochure, including translations into Portuguese and Spanish.
- Continue use of non-traditional media and social media to explain the connection between CWMP implementation and protecting water resources that are key to quality of life, and to share project-related news.
- Continue regular publication of the *Community Currents* e-newsletter.
- Continue to leverage the new *MyBarnstable* mobile app to send push-notifications regarding CWMP-related construction, traffic advisories, and water quality alerts.
- Continue outreach and briefings to village associations and community groups, with a focus on areas where sewer expansion construction activity is underway or soon will begin.

- Continue to develop and host Sewer Connection Workshops in collaboration with other Town departments/divisions and Barnstable County to expand on topics/content covered. Leverage local libraries, Hyannis Youth and Community Center, Barnstable Adult Community Center, etc. to meet diverse residents where they are and provide an in-person avenue to walk property owners through the sewer connection process.
- Develop public display materials to create an engaging presence at street fairs and in public venues.
- Enhance engagement with varying demographics including but not limited to seniors and retirees, youth, and non-English speaking/ESL audiences. Develop education content customized for each demographic and make available in both digital and print formats.
- Develop a strategic advertising and sponsored content marketing plan via print, radio, and digital channels; partner with trusted local media to increase overall awareness and present consistent messaging about the ‘why’ behind the CWMP. Test effectiveness of brand journalism to educate on core issues while increasing media exposure.

4.4.3 Construction Communication

- Continue to identify the likely timing of upcoming construction milestones and related public meetings, over the next 12 months. Continue to build out a robust communications calendar to assist in proactive outreach and communications.
- Continue to evolve current standard outreach/communications protocol for all construction projects by building upon lessons learned from previous construction projects.
- Commence pre-construction outreach for all property owners identified within the Centerville Village Sewer Expansion Project – North Phase. Host public information meeting(s), brief identified businesses, residential associations, and civic groups. Prepare and commence door-to-door outreach needs included revised Sewer Connection Form.

4.4.4 Maintenance of Current Tracking Protocols

- Continue to code, track and analyze incoming calls and emails from property owners; utilize trended data to further develop website content and print/digital communications.
- Continue to provide ombudsman-level services to residents and visitors of the Town of Barnstable, aiming to always enhance the efficiency of established feedback loops to improve outreach and communications methodologies.
- Continue to develop infographic and video storytelling to track CWMP implementation progress and improvement to Barnstable’s water resources via nitrogen load removed.

5.0 FINANCIAL PLAN UPDATE

5.1 FUNDING SOURCES

The Town of Barnstable continues to explore various avenues of funding for the CWMP. The initial funding sources are listed below including information on the revenue generated:

5.1.1 Meals Tax and Rooms Tax on Traditional Lodging

A dedicated fund was created through special legislation that directs one hundred percent (100%) of the Town's local meals tax and one-third (33.33%) of the town's local rooms tax on traditional lodging to funding the CWMP. These revenue sources performed well in fiscal year 2024 as post-pandemic activity in the hospitality and tourism industry have remained strong. Total revenue collected in fiscal year 2024 was \$3,196,304; slightly below the fiscal year 2023 amount of \$3,200,600. Additionally, this fund earned \$715,174 in investment income in fiscal year 2024. The fund balance at the close of fiscal year 2024 is \$21,691,685 with \$3,539,508 committed to projects and \$18,152,117 available for appropriation.

5.1.2 Short-Term Rental Tax

The Barnstable Town Council approved the creation of a Stabilization Fund which dedicates one hundred percent (100%) of the Town's local rooms tax on short-term rentals for the purpose of Comprehensive Water Management. This can include water and wastewater expenditures. The total amount collected in fiscal year 2024 was \$2,461,605 or \$608,055 more than the amount collected in fiscal year 2023 which was \$1,853,550. No funds were used for water or sewer related projects in fiscal year 2024 and the fund earned \$229,036 in investment income. The fund has an available balance of \$7,612,165.

5.1.3 Cape Cod & Islands Water Protection Fund (CCIWPF)

Final commitments totaling \$9,558,324 have been awarded to the town from this fund for 7 projects listed on the 2018 through 2022 Department of Environmental Protection's (DEP) Intended Use Plans (IUP). In addition, \$1,210,575 was awarded for pre-existing debt on clean water projects. More recently, the town was notified that it has been awarded contingent commitments for subsidies from the CCIWPF totaling \$22,865,450 for seven projects listed on DEP's 2023 and 2024 IUP's.

5.1.4 Sewer Assessments

The Barnstable Town Council has adopted a sewer assessment ordinance that went into effect July 1, 2021. The sewer assessment is capped at \$10,000 per dwelling unit and the amount can be changed annually by the Town Council to recognize a factor for inflation if deemed necessary. The town recently issued its first sewer assessments in August 2024 for the Strawberry Hill Rd. project.

The key components of the ordinance are as follows:

- Assessments are initially capped at \$10,000 per dwelling unit and can be adjusted annually for inflation by a construction cost index
- A dwelling unit is defined as one or more rooms providing complete living facilities for one family. Living facilities that contain one bedroom or fewer shall be a half dwelling unit.

- A commercial sewer unit shall be the equivalent to 330 gallons of actual or reasonably anticipated daily sewage volume.
- The Uniform Unit Method will be the basis for determining sewer assessments.
- The construction costs of general and special benefit facilities will be considered when determining the sewer assessment per dwelling unit.
- Assessments can be apportioned for up to 30 years and added to the annual property tax bills.
- The interest rate on a sewer assessment if apportioned to future tax bills will be 2% above the Town's borrowing rate to construct the project.
- Assessments will not apply to properties that already had the ability to connect to the public sewer system prior to the passage of this ordinance.
- A compensatory Sewer Privilege Fee can be assessed when a change in use or intensity of use occurs on a property.
- Assessments can be deferred for certain qualified property owners in accordance with MGL Chapter 83, Section 16G.
- An abatement process is provided if a property owner believes they were assessed incorrectly.

5.1.5 System Development Charges

No action has been taken to date on implementing such a charge. The most recent conclusion was that this type of charge created too much confusion and was considered unnecessary when revenue to be generated from assessments and property tax contributions can replace any revenue this charge would generate.

5.1.6 Debt Issues

The town continues to seek financing its CWMP capital costs through the MA Clean Water Trust. Several projects listed on the 2020 through 2024 IUP's have been or will be financed through the Trust. Projects that did not make the IUP list will be lumped together with other borrowing authorizations and financed through the traditional municipal bond market.

5.1.7 Federal and State Grants

The Town of Barnstable was awarded a grant of \$1,965,219 from Barnstable County as its share of the County's ARPA grant funds. The grant funds were received in full in fiscal year 2024 and was used to offset a portion of its \$11 million pump station project at 725 Main St. Hyannis.

5.1.8 Property Taxes

As part of the Town's Fiscal Year 2025 operating budget plan, \$4.25 million of General Fund resources were identified and dedicated for the build out of the public sewer system. This is expected to be repeated annually as it has been included in the base budget going forward. In addition, new property tax growth of \$750,000 per year is being directed to this effort. This is the third year of such dedication. The plan is to continue dedicating this amount annually for five years until we reach \$5,750,000. At the end of the five-year period a total of \$5,750,000 in property taxes on an annual basis will be dedicated to the program. Together with the other funding sources identified previously, this should provide the Town with sufficient revenue to cover all of the anticipated capital expenditures through Fiscal Year 2029.

5.2 FINANCIAL ASSISTANCE FOR LOW INCOME RESIDENTS

The sewer assessment ordinance adopted by the town allows for the apportionment of the assessment to be added to future tax bills for up to 30 years. This minimizes the financial impact on an annual basis for a property owner. In addition, the town adopted the provisions of section 16G of chapter 83 of the General Laws that allow certain eligible property owners to defer payments of sewer assessments.

5.3 OPERATING BUDGET

As part of the town's annual operating budget process, it has established staffing with corresponding operating expense budget support for the implementation of its CWMP. The fiscal year 2025 operating budget includes funding for 21.3 full-time equivalent (FTE) employees which include Project and Construction Inspectors, Construction and Design Engineers, Project and Design Managers, a Communications Manager and a Sewer Assessment Coordinator and Procurement staffing. Operating expenses include funding for legal assistance, hardware and uniforms for professional staff, training, advertising, safety equipment and vehicles.

The approved operating budget for fiscal year 2025 is \$5,512,037. This includes over \$1.6 million for personnel costs, \$3009,000 for operating expenses, \$2.9 million for debt service on sewer construction related debt and \$70,000 for vehicle purchases.

Ultimately 25 FTEs are projected to be needed when the program nears the end of Phase I (first ten years). The operating budget is expected to incrementally increase on an annual basis to reflect the growth in staffing as well as the loan repayments on bonds issued to fund the expansion of the public sewer system.

5.4 FINANCIAL PROGRAM SUMMARY FOR FY25 TO FY29

- Estimated project costs are \$432 million.
- Existing resources dedicated to the program can provide for all of this cost assuming subsidies received continue at the same percentage rate as in the past (28.3% of project costs), tax revenue continues to modestly grow, new users are connected to the system in a timely manner and General Fund commitments continue their growth.
- Additional resources will be required to fund the next 5-year phase occurring in FY30 – FY34.
- The town will continue to pursue direct grant funding opportunities to offset a portion of these costs.

6.0 LAND USE AND MANAGEMENT CONTROLS

The Town of Barnstable is currently in the process of updating its Local Comprehensive Plan. Last updated in 2010, the Town's current plan establishes strong direction and associated controls to concentrated new growth to areas with existing infrastructure and away from sensitive natural resource areas. An update to the Local Comprehensive Plan will establish a vision, goals, and an action plan to identify appropriate regulatory tools, as well as their advantages, disadvantages, and feasibility. The current plan does not account for the extensive sewer expansion currently underway and planned. It is imperative the Town anticipate and establish controls to prevent sewer induced growth in areas where growth could conflict with natural resources or community character priorities.

The Town's Local Comprehensive Planning Committee has completed the first phase of the plan, which included a community visioning process and an existing conditions report. Reflecting upon community visioning, the Committee has drafted goals and strategies associated with Land Use. As a strategy, the Committee has recommended conducting a study of residential areas within walkable distance of mixed-use and commercial zoning districts in relation to the Town's CWMP in order to consider expanding allowed housing opportunities where future sewer capacity exists, and nitrogen sensitive embayments will not be negatively impacted. Work to update the plan is ongoing. As a next step, the LCP Committee will collaborate with the community to develop an Action Plan with targeted topic-specific and location-specific actions.

The Town continues to pursue financing through the State Revolving Fund (SRF) for wastewater infrastructure projects. As regulations and requirements change, continued planning and analysis will be required to comply. For example, flow neutral regulations will need to limit wastewater flows in compliance with the allowable rates.

7.0 DATA

7.1 GIS-BASED DATA TOOL

The Department of Public Works continues to update its GIS based planning tool to be utilized for both planning and tracking of implementation of the CWMP. The updated tool, referred to as the “CWMP Implementation” tool is an internal web-based, GIS lite application. A screenshot from the Implementation Tool is provided below in Figure 2. Staff continues to utilize and refine the tool as implementation progresses. Relevant functions of the tool include, but are not limited to:

- Identification of proposed Phase 1 project extents:
 - This function identifies each parcel to be connected to municipal sewer as part of each particular Phase 1 project. Each parcel has dozens of embedded data fields which can be utilized to track project status/effectiveness.
 - Uses of this function include:
 - Graphical representation of the project areas
 - Simplify output of properties within the project area for mailing of notifications to property owners within the project areas.
 - Calculations of sewer assessments.
 - Tracking of connections, nitrogen removal, etc.
 - Overlay of schematic sewer design, anticipated flow volume and direction, anticipated pump station locations:
 - This function graphically represents the schematic design of the proposed sewer expansion. This function is utilized by staff for planning purposes.
 - Sewer connection permits, tie cards and as-built drawings.
 - Centralized records of all connections and as-built information.
 - Environmental conditions, topography, regulatory overlays, flood zones, etc.
 - Utilized by staff for planning purposes.

As sewer connections are completed, parcel status will be updated to allow on demand calculation of estimated wastewater flow captured and nitrogen load removed.

While this tool is currently only utilized by staff for the management and design of projects, the ultimate goal is for certain functions to be made available to the public.

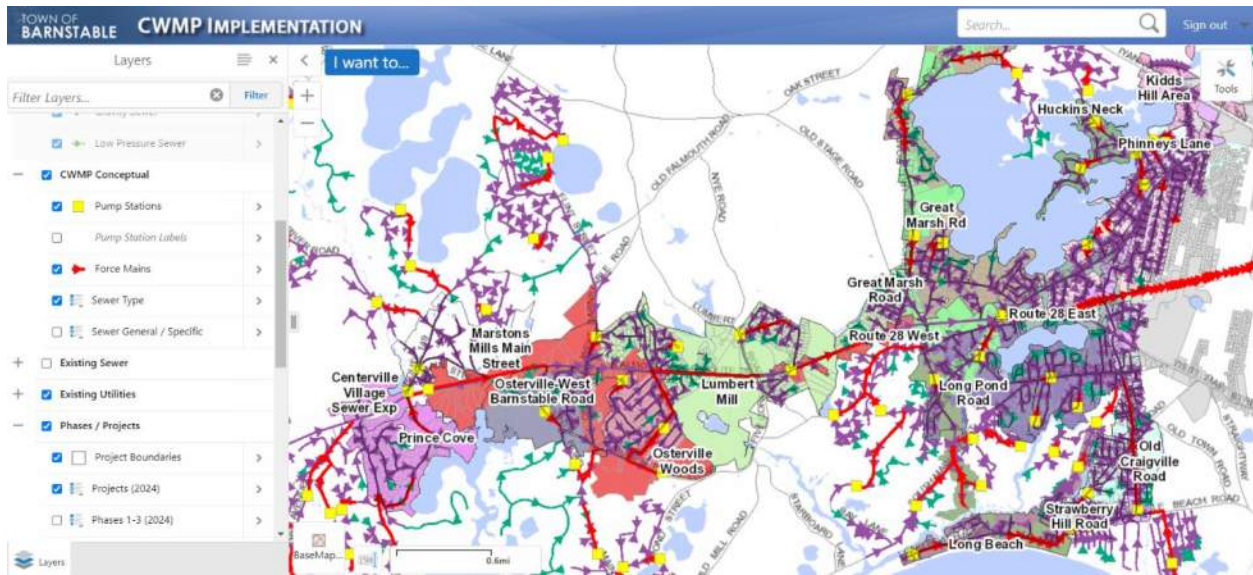


Figure 1. Screenshot from Town’s CWMP Implementation GIS Tool

7.2 SEWER CONNECTION DATA

Below, Table 6 provides a list of new sewer connections and Table 7 provides a list of sewer disconnections that were completed from July 1, 2023, to June 30, 2024. All but one of these connections/disconnections are located within areas where municipal sewer exists prior to the approval of the CWMP. The first residential sewer connection into the newly expanded municipal sewer system was successfully completed on May 29, 2024. The first wave of sewer connection notifications for a portion of the Strawberry Hill Road Sewer Expansion Project have commenced; currently there are 151 parcels, equaling 220 individual residents, eligible to connect to municipal sewer. Additionally, this coming Fall 2024, we anticipate the remaining properties from the Strawberry Hill Road Sewer Expansion Project, and all properties associated with the Route 28 East Sewer Expansion Project will be eligible for sewer connection. Related connections will be identified in the next reporting cycle.

Table 6. Sewer Connections

Parcel ID	Street Address	Village	Watershed	Use	Date	Type
311/092	Route 132 Hyannis	Hyannis	Lewis Bay	Commercial	7/18/2023	Connection
310/143	310 Barnstable Road	Hyannis	Lewis Bay	Commercial	8/2/2023	Modification/Repair
325/132	11 Harbor Bluff Road	Hyannis	Lewis Bay	Residential	8/29/2023	Modification/Repair
269/006	25 Lincoln Road	Hyannis	Halls Creek	Tax Exempt	8/29/2023	Modification/Repair

287/124	70 Hyannis Avenue	Hyannis	Lewis Bay	Residential	9/18/2023	Connection
324/065	132 Estey Ave	Hyannis	Lewis Bay	Residential	9/18/2023	Modification/Repair
287/112	35 Hyannis Avenue	Hyannis	Lewis Bay	Residential	10/3/2023	Connection
324/020	16 Walley Court	Hyannis	Lewis Bay	Residential	10/5/2023	Connection
209/088	61 Bettys Pond Road	Hyannis	Lewis Bay	Residential	11/9/2023	Connection
308/143	725 Main Street	Hyannis	Lewis Bay	Tax Exempt	11/14/2023	Modification/Repair
326/001	120 High School Road	Hyannis	Lewis Bay	Tax Exempt	11/15/2023	Grease Trap
310/347	108 Walnut Street	Hyannis	Lewis Bay	Residential	11/15/2023	Modification/Repair
306/077/001	26 Stetson Street	Hyannis	Lewis Bay	Residential	11/27/2023	Connection
287/156	Maywood Avenue	Hyannis	Lewis Bay	Residential	1/5/2024	Connection
332/012	959 Mary Dunn Road	Barnstable	Lewis Bay	Tax Exempt	1/19/2024	Connection
309/225/001	460 Main Street	Hyannis		Commercial	2/1/2024	Grease Trap
289/102	121 Greenwood Avenue	Hyannis	Lewis Bay	Residential	2/26/2024	Connection
309/008	165 Bearses Way	Hyannis	Lewis Bay	Tax Exempt	2/26/2024	Connection
308/141	488 South Street	Hyannis	Lewis Bay	Commercial	2/26/2024	Grease Trap
246/038	45 Strawberry Hill Road	Centerville	Centerville River	Residential	5/29/2024	Connection

Table 7. Sewer Disconnections

Parcel ID	Street Address	Village	Watershed	Use	Date	Type
308/245	94 Pine Avenue	Hyannis	Lewis Bay	Tax Exempt	12/1/2023	Disconnect
325/102	120 Harbor Bluffs Road	Hyannis	Lewis Bay	Residential	2/9/2024	Disconnect
279/014	14 Beale Way	Barnstable	Barnstable Harbor	Residential	2/26/2024	Disconnect

7.3 TECHNOLOGY PERFORMANCE DATA

There is no technology performance data to report in this annual update.

7.4 BUILDING PERMIT DATA

The Town of Barnstable compiles the building permit data on an annual (calendar year) basis. Building permit data for calendar year 2023 has been provided in Table 8, below.

Table 8. Building Permit Data

Parcel ID	Street Address	Village	Square Footage Added	Bedrooms Added	Date
007/012	568 Santuit Road	Cotuit	330	0	7/17/2023
299/035	3280 Main Street/Rte. 6A	Barnstable	373	0	8/1/2023
147/081	650 Lumbert Mill Road	Centerville	594	0	8/10/2023
325/014	361 Ocean Street	Hyannis	730	0	8/14/2023
325/132	11 Harbor Bluffs Road	Hyannis	1704	2	8/15/2023
033/008	200 Ocean View Avenue	Cotuit	1000	0	8/16/2023
207/020	69 Bacon Lane	Centerville	448	1	8/23/2023
101/038	119 J.B. Drive	Marstons Mills	192	0	8/24/2023
317/009	90 Cindy Lane	Barnstable	700	1	8/29/2023
046/029	259 Jones Road	Marstons Mills	72	0	9/20/2023
172/072	69 Sheaffer Road	Centerville	528	0	9/28/2023
064/029	457 Regency Drive	Marstons Mills	576	1	10/13/2023
109/004	718 Cedar Street	West Barnstable	252	0	10/26/2023
247/109	255 Old Craigville Road	Centerville	660	2	10/30/2023
072/019	85 Oakdale Path	Osterville	256	0	11/1/2023
298/033	1435 Hyannis-Barnstable Road	Barnstable	400	0	11/1/2023
289/066	26 Pitcher's Way	Hyannis	288	0	11/9/2023
192/176	118 Cap'n Lijah's Road	Centerville	468	0	11/18/2023
189/012	27 Stoney Cliff Road	Centerville	350	1	11/30/2023
306/270	141 Southgate Drive	Hyannis	30	1	12/11/2023
169/011/012	645 Skunknet Road	Centerville	8	0	1/2/2024

7.5 GROUNDWATER DISCHARGE PERMITS

The Town of Barnstable currently operates two facilities with groundwater discharge permits. The Marstons Mills Middle School located at 730 West Barnstable Road, Marstons Mills, is filed under Permit Number 576-3, with an expiration date of May 26, 2025, as extended via COVID-19 per Order No. 42. The Barnstable Water Pollution Control Facility (WPCF), located at 617 Bearses Way, Hyannis, is filed under Permit Number 21-1, with an expiration date of February 9, 2025, as extended via COVID-19 per Order No. 24. The Town will continue to report any future groundwater discharge permits to the Cape Cod Commission upon issuance, as outlined in the 208 Plan Consistency Determination and Analysis.

7.6 WATERSHED PERMIT

The Town of Barnstable submitted its complete application for a WP95 Watershed Permit on September 1, 2023. As of the date of this report, Barnstable's application has completed administrative review and is currently undergoing technical review with MassDEP.

7.7 ASSESSORS DATA

The Town of Barnstable updates the data annually. The updated shape file will be provided electronically under separate cover. (1 File)

7.8 WATER USE DATA

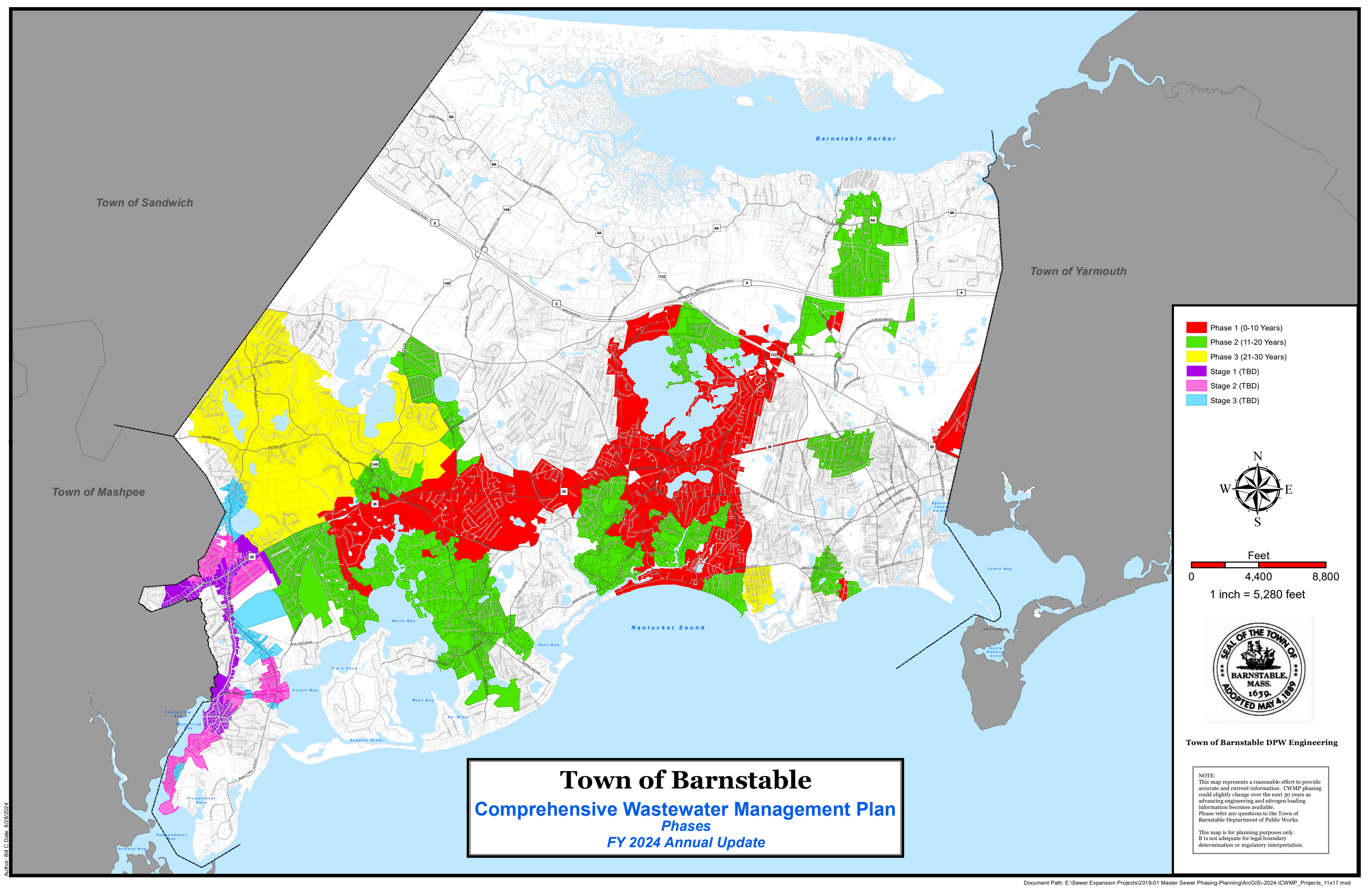
Water use data has been compiled through 2023. The data sets are provided electronically under separate cover. (4 Files Total)

7.9 WATER QUALITY DATA

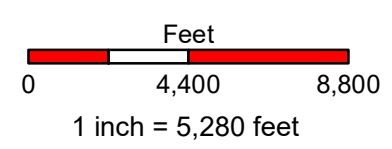
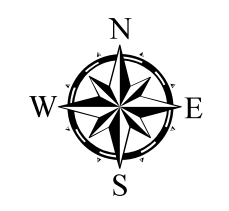
The Town's updated embayment water quality monitoring data and ponds and lakes water quality monitoring data is provided electronically under separate cover. (3 Files Total)

ATTACHMENT A

SEWER EXPANSION PHASING PLAN UPDATE



- Phase 1 (0-10 Years)
- Phase 2 (11-20 Years)
- Phase 3 (21-30 Years)
- Stage 1 (TBD)
- Stage 2 (TBD)
- Stage 3 (TBD)



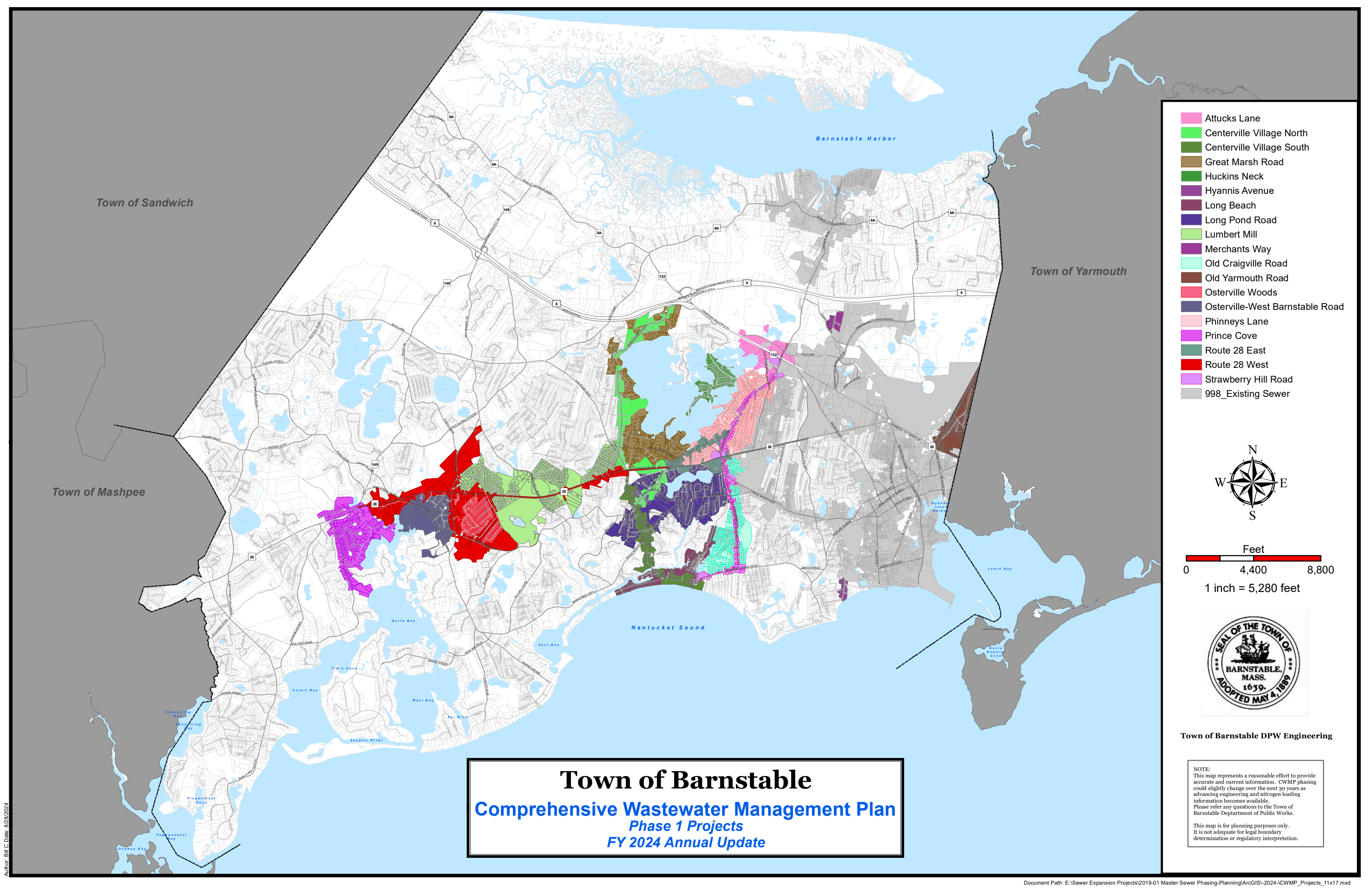
Town of Barnstable DPW Engineering

Town of Barnstable
Comprehensive Wastewater Management Plan
Phases
FY 2024 Annual Update

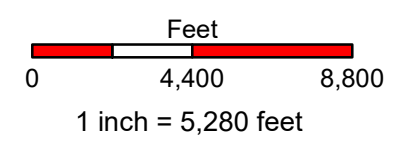
NOTE:
This map represents a reasonable effort to provide accurate and current information. CWMP phasing could slightly change over the next 30 years as advancing engineering and nitrogen loading information becomes available.
Please refer any questions to the Town of Barnstable Department of Public Works.
This map is for planning purposes only. It is not adequate for legal boundary determination or regulatory interpretation.

ATTACHMENT B

PHASE 1 IMPLEMENTATION PLAN UPDATE



- Attucks Lane
- Centerville Village North
- Centerville Village South
- Great Marsh Road
- Huckins Neck
- Hyannis Avenue
- Long Beach
- Long Pond Road
- Lumbert Mill
- Merchants Way
- Old Craigville Road
- Old Yarmouth Road
- Osterville Woods
- Osterville-West Barnstable Road
- Phinneys Lane
- Prince Cove
- Route 28 East
- Route 28 West
- Strawberry Hill Road
- 998_Existing Sewer



Town of Barnstable DPW Engineering

Town of Barnstable
Comprehensive Wastewater Management Plan
Phase 1 Projects
FY 2024 Annual Update

NOTE:
This map represents a reasonable effort to provide accurate and current information. CWMP phasing could slightly change over the next 30 years as advancing engineering and nitrogen loading information becomes available. Please refer any questions to the Town of Barnstable Department of Public Works.
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ATTACHMENT C

HOMEOWNER'S SEWER CONNECTION GUIDE

Barnstable Water Resources



HOMEOWNER'S SEWER CONNECTION GUIDE

What you need to know about connecting to the municipal sewer system.

V1 / SUMMER 2024





The Homeowner's Sewer Connection Guide was developed by the Barnstable Department of Public Works to help homeowners prepare for connection to the Town's municipal sewer system.

The following pages will walk you through the step by step process for connecting to sewer, including important considerations and financial responsibility.

Why convert to sewer? Nearly 80% of the controllable nitrogen load on Cape Cod is a result of septic systems. Building more dynamic wastewater infrastructure is necessary to reduce the amount of nitrogen entering our estuaries, meet regulations, and to restore our water quality. If you'd like to learn more about the data and planning that resulted in Barnstable's Comprehensive Wastewater Management Plan, please visit:

BarnstableWaterResources.com



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DESIGN AND INSTALLATION OF SEWER

The Town of Barnstable is responsible for the design, construction, and operation of sewer mains, sewer pump stations, and sewer service stub pipes installed at identified properties within the public right-of-way. However, property owners have responsibilities in this process too.

Identify septic location and complete informational Sewer Connection Form

As a property owner, be sure you understand the utilities on your property. To start, identify the location of your existing septic system. This can be done by following the septic pipes exiting your home or by locating the septic tank lid(s) located beneath the surface. In most cases a record of the septic permit and septic drawings can also be accessed using the Assessing Division's Property Look-Up Tool and reviewing the 'Sketches' section of your property information card. The Property Look-Up Tool is located at townofbarnstable.us/Departments/Assessing/Property_Values/Property-Look-Up.asp. Septic records can also be accessed by contacting the **Barnstable Health Division at 508-862-4644** or health@town.barnstable.ma.us.

Prior to construction beginning in the roadway, DPW will contact you by mail and provide you with a Sewer Connection Form. You will be asked to fill out this form and to provide information about the plumbing in your home, a sketch plan identifying your building's layout in relation to the street, any critical property features you would like to avoid impacting (i.e. deck, patio, landscaping, driveway, etc.), as well as the preferred location of a sewer service stub connection on your property.

The sketch provided should be a bird’s eye view of your building, including the approximate locations of existing underground utilities such as gas, water, and communications services (**FIGURE 1**). Further instructions are provided to assist you in filling out the form. Your plumber or local contractor can also assist you, or if you elect to hire an engineer to help design your sewer connection, you may wish to consult them. Ultimately, the information you provide about your property will inform where your sewer service stub will be located.

If you do not have a preference, or do not return a completed Sewer Connection Form, the sewer design team will designate a location for your sewer service.

A. Property Sketch Instructions: Please provide a sketch of your property in the “Property Sketch” area below and indicate the position of your building in relation to the surrounding street(s), including street name, building additions, garages, driveways, walkways, landscape features, location of existing septic system and where the existing sewer pipe leaves the house (if known), existing underground utilities, and the desired location of your new sewer service connection.

B. Basement Section View Instructions: Please circle the “Basement Section View” option that best represents where the sewer pipe exits your basement and provide the height measurement in the box provided.

A. Property Sketch

B. Basement Section View

FIGURE 1: PROPERTY SKETCH INSTRUCTIONS FOR SEWER CONNECTION FORM

Town installs sewer service stub at your property line

As the Town sewer construction progresses within the roadway, a sewer service stub will be installed within the Town right-of-way (**FIGURE 2**), and left at your property line based on the information you provided in your Sewer Connection Form.

Please be aware that the Town's right-of-way generally extends beyond the paved surface of the road. During sewer construction, the Town will not be responsible for any damage to private property located within the public right-of-way such as plantings, bulbs, flowers, shrubbery, irrigation systems, fences, light poles, etc. Items such as these should be relocated out of the right-of-way prior to construction.

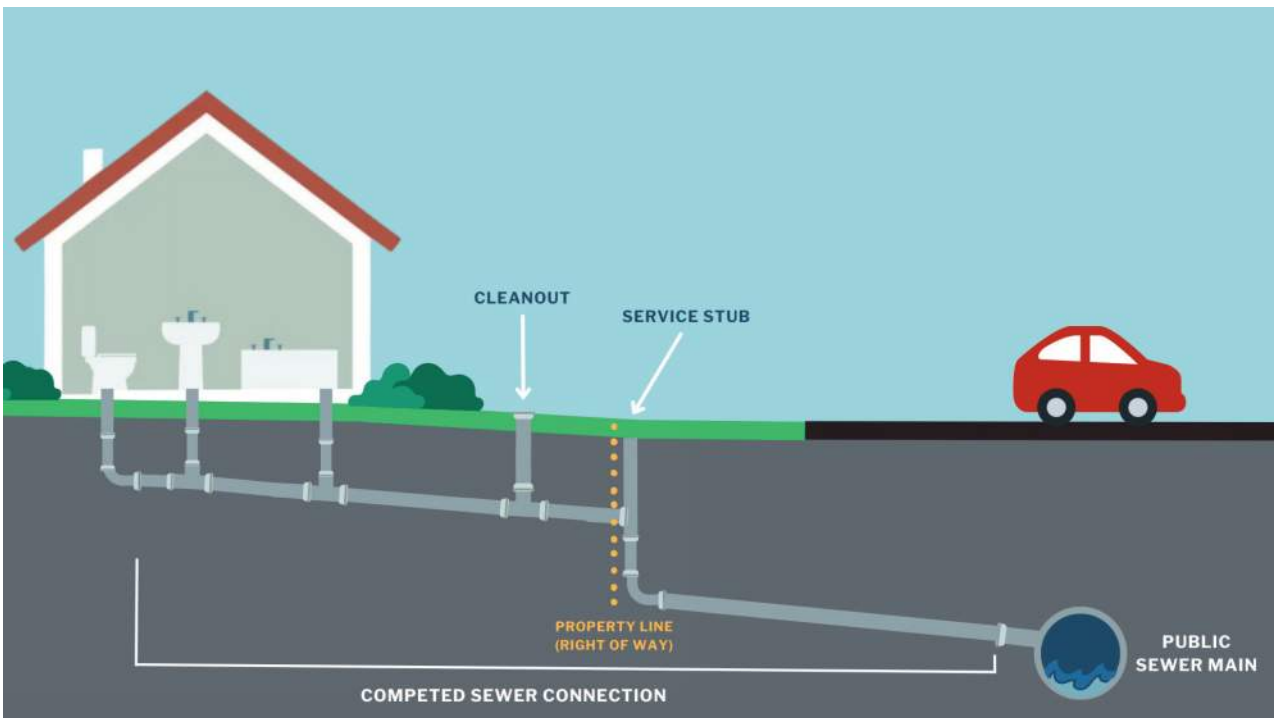


FIGURE 2: SAMPLE COMPLETED SEWER CONNECTION

CONNECTING TO SEWER

1 Project Completion Letter

Upon completion of sewer construction, the Barnstable Department of Public Works will mail all eligible property owners a letter of project completion. This letter will include an overview of anticipated communications from Town departments such as the Barnstable Health Division and Barnstable Treasurer/Tax Collector's Office.

2 Notice of Sewer Connection Hookup

Once the newly expanded sewer system is deemed active, the Barnstable Health Division will issue a Notice of Sewer Connection Hookup for all properties eligible to connect to municipal sewer. In accordance with the Board of Health Sewer Connection Policy, property owners will be required to connect to the municipal sewer system within six (6) months of receiving notification (**See below excerpt or Appendix A**).

On December 19, 2023, the Board of Health approved its **POLICY: Deadline to Connect Buildings to Public Sewer (Appendix A)**, which states:

"Section 360-13 of the Town of Barnstable Code requires that the owner of a building on a parcel of land which abuts a public or private way in which there is a public sewer shall connect the building to the public sewer. The Board of Health (Board) requires the owner of a building to comply with the Code and connect to the public sewer within six (6) months of the Board's letter notification if the owner has not yet complied with the Code."

3 Hire a Licensed Sewer Installer

Once you have received your Notice of Sewer Connection Hookup, you will need to hire a **licensed sewer installer (Appendix B)**. Your licensed sewer installer will do the actual construction on your property and will be responsible for applying for the necessary permits.

In most cases, a qualified sewer installer is sufficient for both design and implementation; however, in a limited number of cases it may be necessary to also secure the services of a licensed professional civil engineer to assist with your sewer connection. The connection must comply with the Town of Barnstable's sewer connection specifications. Your contractor will assist you in determining the most effective way to arrange pipes on your property.

4 Sewer Connection

Your licensed sewer installer will apply for necessary permits prior to commencing work on your property. Contractors are required to contact DPW 48 hours prior to construction so that DPW can schedule an inspection. Ultimately, construction on your private property will consist of connecting the septic pipe that exits your building(s) to the sewer service stub installed at your property line. This will require excavation and installing pipe between those two points.

Depending on the connection, your contractor may be responsible for obtaining one or more of the following permits:

- **A Sewer Connection/Trench Permit from the DPW:** needed in all cases
- **A Septic System Abandonment Permit from the Board of Health:** needed in all cases where a septic system is being abandoned or removed
- **A Plumbing Permit from the Building Department:** needed when work as part of the connection is happening within the home, or within 10 feet of the property's foundation

5 Inspection Process

A DPW inspector will inspect the connection to Town sewer to ensure it complies with Town specifications. A sewer connection tie card will be generated, documenting the location and details of the connection and underground components, which will be maintained in Town records. DPW will then notify the Barnstable Water Pollution Control Division that your property is ready for sewer service billing.

6 On-Site Septic System Abandonment

In accordance with the Board of Health your septic system must be either removed or filled in. This process requires a permit issued by the Barnstable Health Division. This may be done by the same contractor who connects you to municipal sewer. All septic system related questions should be directed to the **Barnstable Health Division at 508-862-4644** or via email at health@town.barnstable.ma.us

7 Sewer Service Billing

Property owners will be charged a sewer fee, based on their water usage. This will be billed at the same frequency in which you receive your water bill. Current sewer service rates and billing resources are located at town.barnstable.ma.us/Departments/waterpollution. For questions regarding your sewer bill, please contact the **Barnstable Water Pollution Control Division at 508-790-6335**.

A note about commercial properties

While much of the information shared about the sewer connection process will be applicable to commercial properties, commercial property owners, including apartment and condominium communities, are encouraged to reach out to the **Barnstable Department of Public Works at 508-790-6400** to learn more.

FINANCIAL COMMITMENT

The Town of Barnstable is continuously exploring available options to help reduce sewer connection costs for residents. A summary of financing alternatives, loan programs, and situational deferment options are explained on the following pages.

Property owners connecting to new sewer service are responsible for the following costs:

- A one-time Sewer Assessment, currently capped at a maximum of \$10,000 per sewer unit
- Costs associated with connecting the sewer service to your property and abandoning your on-site septic system, as determined via a construction quote from your licensed sewer installer
- Fees for using sewer service, once activated

Understanding the Sewer Assessment

The Sewer Assessment Ordinance was adopted by Town Council on July 1, 2021, and establishes a Sewer Assessment to be charged to property owners identified to be connected to municipal sewer service under the sewer expansion plan. The Sewer Assessment represents the allocated cost of the sewer infrastructure that will be serving a property.

- A **residential sewer unit** is defined as the number of dwelling units on a residential lot. For example, a two (2) family dwelling unit on a residential lot will be assessed two (2) sewer assessments.

- A **commercial sewer unit** is defined by the amount of sewer flow on the property based on Title 5 of the State Environmental Code (310 CMR 15.203) system sewage flow design criteria; whereby every 330 gallons per day of flow equals one (1) sewer unit. A property owner will be charged the same number of sewer assessments as there are residential or commercial sewer units on the property.

The Sewer Assessment **does not apply** to existing sewer customers in Town, or to any properties that are already eligible to connect to existing live sewer service.

The Sewer Assessment is calculated as the lesser of (a) \$10,000 or (b) the allocated cost of the general benefits infrastructure and special benefits infrastructure. This is determined by taking the sum of the infrastructure cost and dividing by the number of properties served by those facilities. The Sewer Assessment **does not include** the cost of connecting a property to the sewer service located in the street. It also **does not include** the cost of decommissioning the current on-site septic system.

Should a property not be able to connect to the sewer system via gravity, and a grinder pump is required, the Town will provide the first pump to your contractor. In this scenario, the Town would purchase the first grinder pump, your licensed sewer installer would pick it up and install the pump as part of your sewer connection, and from that point forward, you would retain ownership of the pump assuming any costs associated with maintenance and/or future replacement.

When is the Sewer Assessment charged?

A property can expect to receive notification regarding their Sewer Assessment once the sewer system serving their respective property is deemed active.

- First, an **Estimated Assessment** will be issued from the Barnstable Treasurer/Collector's Office notifying eligible property owners of the anticipated maximum cost.
- This notification will then be followed by a **final Sewer Assessment**, which will reflect the actual cost to be charged. The Final Assessment is determined by calculating the total project infrastructure costs divided by the number of dwelling units served, and should always be less than or equal to the Estimated Assessment. At that time, you will be charged your Sewer Assessment, whether the property is immediately connected to the sewer system or not.

Property owners can also anticipate receiving communications from the Town Treasurer/Collector's Office regarding available financing options. For questions regarding your Sewer Assessment, please contact the **Barnstable Treasurer/Collector's Office at 508-862-4054** or via email at taxcollector@town.barnstable.ma.us.

Sewer connection costs

In addition to the Sewer Assessment, a property owner is responsible for the cost to install the necessary connection from the pipes exiting the building(s) on your property to the public sewer system located in the street. Connection costs will vary based on property characteristics. You will be responsible for hiring a **licensed sewer installer (Appendix B)** to complete the actual construction necessary on your property.

Sewer Connection and Trench Permit fees

The following fee structure outlines potential sewer connection and trench permit fees, separate from the Sewer Assessment. In most circumstances, your licensed sewer installer will manage the permit application process and associated fees as part of your quoted connection construction costs.

As of 2024, the permit fee structure is as follows.

- Single Family Residence: \$420
- Commercial Building Fee (also applies to multi-family residential): \$875
- Additional fee for each additional building on the same service (i.e. town houses, multi-building development, etc.): \$200 per each additional building
- Additional fee for Pump Station (i.e. grinder pump or custom private pump station): \$300
- Minor repair or disconnection of existing service: \$50

For current fees please visit the Town of Barnstable Sewer Connection Specifications located here

town.barnstable.ma.us/Departments/PublicWorks/Sewers/Sewer-Connection-Specs.pdf

Sewer assessment financing options

A property owner can opt to pay the Sewer Assessment all at once when due or may opt to finance the Sewer Assessment and pay quarterly installments via their property tax bill for up to thirty (30) years. For questions regarding your Sewer Assessment or financing options, please contact the **Barnstable Treasurer/Collector's Office at 508-862-4054** or via email at taxcollector@town.barnstable.ma.us.

In accordance with current policy, the Sewer Assessment under the thirty-year payback option would be amortized at an interest rate equivalent to 2% above the Town's rate of borrowing, unless otherwise determined by the Town Council. If the sewer assessment is added to future tax bills, a lien will be recorded on the property at the Registry of Deeds.

What happens to the lien on a property upon transfer of ownership?

The lien for the sewer assessment may either be transferred to the new owner of the property or paid off at the time of transfer. If financing is involved with the property transfer, this will depend upon the financial institution.

SEWER CONNECTION LOANS & FINANCING SUPPORT

Cape Cod Aquifund

Barnstable County provides low-interest loans to Cape Cod homeowners faced with the cost of upgrading or replacing their septic systems through the Cape Cod Aquifund. The program is well capitalized and provides the most cost-effective, flexible solution for Town of Barnstable property owners seeking financial assistance for sewer connection related costs.

The Cape Cod Aquifund provides financial assistance for septic system replacement, installation of advanced onsite wastewater treatment systems, and new sewer connections. The Cape Cod Aquifund also offers an income-based interest rate for homeowners being mandated to connect to town sewers. **At this time, ONLY new sewer connections are eligible for 0% and 2% interest loans.**

To be eligible for 0% and 2% loans, applicants must meet the following additional criteria:

- New program applications only
- Property must be a single-family, owner-occupied, year-round, primary residence
- Property is not used as a place of business other than a home office

Please note: Rental and/or seasonal properties do NOT qualify for 0% or 2% interest loans at this time, even if the property is being mandated to connect to municipal sewer. Rental and/or seasonal properties qualify for 4% betterment loans.

Condominium eligibility

The Cape Cod Aquifund program also provides financing for condominiums that are being mandated to connect to municipal sewer. Condominiums currently qualify for 4% interest loans. The Cape Cod Aquifund strongly prefers that the condominium applies for the loan program as an entire homeowner's association, and not as individual unit owners, especially when the condominium consists of 5+ units.

When a condominium applies as an association, the program will ultimately bill the association once the project has been completed and it will be the association's responsibility to obtain the monthly payments from the individual unit owners.

If an association decides to apply for the Cape Cod Aquifund loan program, the following documentation will be required:

- The official Notice of Sewer Hookup provided by the Barnstable Health Division
- The community/associations' most recent federal tax return
- A letter signed/notarized by all Trustees of the condominium appointing an individual to serve as the point person of the association. This individual would be responsible for executing all Aquifund loan documents (i.e. betterment agreement)
- A copy of all sewer connection construction proposals received (including the chosen construction bid)

To learn more about condominium eligibility, please contact **Cape Cod Aquifund Loan Manager, Angela Do Carmo, at 508-375-6877** or via email at adocarmo@capecod.gov.

For additional program information and to apply for financial support through the Cape Cod Aquifund, please visit: www.barnstablecountysepticloan.org.

MA State Tax Credit for sewer connection costs

On October 4, 2023, Governor Maura T. Healey signed into law a tax bill that includes Homeowner Credits, such as the Title 5 (Septic) Tax Credit, which triples the maximum credit to \$18,000, increases the percentage of eligible expenses from 40% to 60%; and allows taxpayers to claim up to \$4,000 in any year, versus \$1,500.

Property owners are eligible if:

- You are not a dependent of another taxpayer
- Own residential property in Massachusetts
- Occupy the residential property as your principal residence

You're allowed a credit for expenses you paid to:

- Repair or replace a failed cesspool or septic system to comply with state sewer system requirements
- Connect to a municipal sewer system to follow a mandate

Non-residents do not qualify for this credit since the property must be an owner-occupied principal residence in Massachusetts. However, former Massachusetts residents who have to file Massachusetts nonresident tax returns may claim their unused prior year credit carryovers.

Part-year residents qualify for the full credit if the property is an owner-occupied principal residence in Massachusetts.

To obtain a tax credit, qualified expenses include:

- An upgraded system
- An alternative system
- A shared system
- A connection to a sewer system

To qualify for the credit:

- The credit is 60% (.60) of the costs (not to exceed \$30,000). The total amount of the credit cannot exceed \$18,000
- When calculating the credit, subtract any interest subsidies you received from Massachusetts
- You can claim the credit for the year the repair or replacement work is completed

If the credit is greater than the tax you owe, you can carry forward the excess credit for up to the next five (5) tax years.

To learn more about the State Tax Credit, please visit Mass.gov at www.mass.gov/info-details/massachusetts-residential-property-tax-credits. We recommend you consult with your tax professional to see if you will qualify for this tax credit and to ensure you complete the required documentation.

Additional financial resources

As the Town of Barnstable becomes aware of sewer connection loan programs, grants, and additional financial resources we will make this information publicly available on the Barnstable Water Resources website, within the Anticipated Costs page, located at barnstablewaterresources.com/comprehensive-waste-water-management-plan/finance-funding.

GRINDER PUMPS

Why do I need a grinder pump?

Most homes will not need a grinder pump. A grinder pump is most commonly needed in scenarios where the building's plumbing is at a lower grade than the sewer main or when there is not enough slope to allow sewage to gravity flow to the municipal sewer system.

In some specific cases, the sewer system may be designed as a "low pressure sewer system", which requires grinder pumps at each property served by the system.

Should a property not be able to connect to the sewer system via gravity, and a grinder pump be required, the Town will provide the first pump to your contractor. In this scenario, the Town would purchase the first grinder pump, your licensed sewer installer would pick it up and install the pump as part of your sewer connection, and from that point forward, you would retain ownership of the pump assuming any costs associated with maintenance and/or future replacement.

More information on the Town's currently utilized E/One grinder pump, including frequently asked questions, can be found on the Department of Public Works page of the Town website located at townofbarnstable.us/Departments/PublicWorks

THINGS TO CONSIDER

The Comprehensive Wastewater Management Plan is a 30-year project that will deliver sewer infrastructure to more than 12,000 parcels. We understand that with a project of this scope there will be design, implementation, and financial questions. Below are some common considerations to support homeowners in their transition from septic to sewer.

Suggestions to minimize costs

- Get multiple contractor bids as you would for any home project.
- Consider collaborating with your neighbors. While there are no options for a joint or shared pipe, there may be ways to reduce your costs by working with your neighborhood community to contract the same engineer or licensed sewer installer.
- If the property has irrigation, a property owner may be able to install a deduct meter through your local water district. A deduct meter will enable the property owner to realize a savings by not being charged a sewer fee for water that does not enter the sewer system. For questions about deduct meters, please contact your local water district.

Internal plumbing

- Relocating or rerouting your internal plumbing, specifically where the septic pipe exits your home, may reduce the costs associated with installing your sewer service or minimize the impacts of excavation on your property.
- If you feel this may be of benefit to your property, we encourage you to consult with a licensed plumber, or a professional civil engineer, to assist in the design of your sewer connection.

Decks and landscaping

- Be prepared to identify if your deck is over the septic pipes that connect in your basement.
- If you plan to build or renovate a deck, it may be best to hold off until your connection piping is designed and installed to avoid interference.
- Consider valued plantings that are between your septic entry to the basement and where you will place your sewer pipe connection to the street. You may want to move some plants or choose a connection point that preserves landscaping.
- Also keep in mind that the Town will not be responsible for any damage to private property, within the public right-of-way such as plantings, bulbs, flowers, shrubbery, irrigation systems, fences, light poles, etc.

REAL ESTATE

Realtors have a fiduciary responsibility to advise potential buyers of properties which will be required to connect to the municipal sewer system. Before completing a property purchase, take a few minutes to learn about the Town of Barnstable's Comprehensive Wastewater Management Plan (CWMP).

The 30-year plan will transition residential properties currently on septic systems to the Town's sewer system, creating additional opportunities for homeowners, while protecting our fragile environment and water quality.

The following questions will help buyers plan ahead:

- Is the property currently connected to the Town's wastewater system?
- If not, is the house identified for connection as part of the planned sewer expansion?
- If so, which phase or stage of implementation? When is construction estimated to begin?
- What kind of fees should a homebuyer expect when the property is connected to the municipal sewer system?
- Can the future connection fees be incorporated into a mortgage? If not, how will a homebuyer's budget be impacted when the connection occurs?
- Is there a lien on the property from a prior Sewer Assessment?

Relators, homebuyers, and sellers are encouraged to visit the Barnstable Water Resources website to learn more about the CWMP, the sewer connection process, anticipated costs, and financial support resources: [barnstablewaterresources.com](https://www.barnstablewaterresources.com)

NEED ADDITIONAL ASSISTANCE?

The Town of Barnstable Department of Public Works is here to educate property owners throughout construction and the sewer connection process. A project of this magnitude generates many questions. To assist in communication of the Comprehensive Wastewater Management Plan (CWMP) and related sewer expansion, we've developed an all-inclusive website to educate Barnstable citizens about the necessity to expand the Town's wastewater infrastructure. For a deeper understanding of the CWMP and your responsibilities as a property owner, please visit: barnstablewaterresources.com

Additionally, we've curated some of the most frequently asked questions, across a wide range of topics including construction sequencing, connection costs, and state regulations in an easy-to-navigate Frequently Asked Questions portal. To view all FAQs, please visit: barnstablewaterresources.com/faqs.

Request a Presentation

Department of Public Works personnel are available to provide public presentations regarding the technical and regulatory aspects of the CWMP. We routinely tailor these presentations to the interests of the audience and have briefed a variety of citizen groups including local realtors, homeowners associations, and civic organizations.

To learn more about presentation opportunities, or to simply request a one-on-one discussion, please contact the **Department of Public Works at 508-790-6400** or visit the Request a Presentation page on Barnstable Water Resources, located here: barnstablewaterresources.com/education-outreach.



APPENDIX



Town of Barnstable

Board of Health

200 Main Street, Hyannis MA 02601

Office: 508-862-4644
FAX: 508-790-6304

John Norman, Chairman
Donald A. Guadagnoli, M.D.
F.P. (Thomas) Lee, P.E.
Paul Canniff, DMD
Daniel Luczkow, M.D.
Stephen Waller, M.D. alternate

September 16, 2022
Amended December 19, 2023

POLICY: Deadline to Connect Buildings to Public Sewer

A. Six (6) Month Sewer Connection Deadline:

Section 360-13 of the Town of Barnstable Code requires that the owner of a building on a parcel of land which abuts a public or private way in which there is a public sewer shall connect the building to the public sewer. The Board of Health ("Board") requires the owner of a building to comply with the Code and connect to the public sewer within six (6) months of the Board's letter notification if the owner has not yet complied with the Code.

B. Hydraulically Failed Septic Systems/ (60) Day Sewer Connection Deadline:

The owner of a building on a parcel of land which abuts a public or private way in which there is a public sewer shall connect the building to the public sewer within sixty (60) days if the septic system associated with the building is in hydraulic failure or has otherwise failed within the meaning of section 360-44 of the Town Code.

C. Extension Requests:

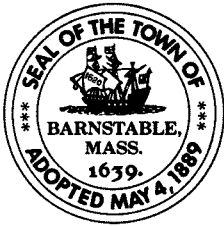
- (1) The Board authorizes its Director of Public Health or his designee to grant a one-time extension, not to exceed six (6) months to a property owner to connect its building to public sewer provided the owner satisfactorily demonstrates to the Director of Public Health or his designee diligent efforts to comply with the Code. The property owner shall provide supporting documentation (for example, a copy of a signed sewer connection contract with connection schedule, and/or the verification of loan application) prior to obtaining approval for an extension.
- (2) A property owner who wishes to request an extension for a longer period shall submit its request in writing to the Board. The property owner shall include the reasonable period of time being requested and provide supporting documentation (for example, copy of a signed sewer connection contract with connection schedule, verification of loan application, the test results for the last two years of the existing Innovative/Alternative (I/A) system effluent monitoring, and/or financial hardship (see Note 1 below for financial support information)) and shall satisfactorily demonstrate to the Board continuing diligent efforts to comply with the Code. The property owner shall be required to appear before the Board at a public meeting to present its request in person.

D. Property Owner's Responsibility/Public Health and Environmental Protection:

Each property owner shall be responsible for ensuring he/she takes proper preventative action steps necessary to prevent a backup of sewage into the building and/or to prevent an overflow of sewage onto the ground surface (for example, by pumping the cesspool/septic system often, daily if necessary).

[NOTE 1: *Financial Support: Homeowners should review the financial support information in the Barnstable Water Resources page in the Town of Barnstable Public Works website, <https://barnstablewaterresources.com>). This website provides additional information on sewer assessment, sewer connection and utility Billing. A Homeowner's Sewer Connection Guide will be available soon from The Town of Barnstable Public Works.*]

[NOTE 2: *Per 310 CMR 15.301(4b): Inspection of a system is not required at the time of transfer of title of the facility served by the system if the owner of the facility or the person acquiring title has signed an enforceable agreement with the Board of Health to connect the facility to public sewer within two years following the transfer of title, unless a shorter period is required due to the existence of a failed system, due to the age of the system, or due to an environmental variance granted (see bulleted items contained herein) and provided that such agreement has been disclosed to and is binding on the subsequent owner(s).*]



The Town of Barnstable

Department of Public Works

382 Falmouth Road, Hyannis, MA 02601
508.790.6400



Daniel W. Santos, P.E.
Director

Robert R. Steen, P.E.
Assistant Director

LICENSED SEWER INSTALLERS AS OF JUNE 10, 2024

A & K Septic Systems

565 Carriage Shop Road
East Falmouth MA 02536
Phone 508-540-6706
Email
aksiteseptic@yahoo.com

A. Joia, Inc.

49 Somerset Road
Mashpee MA 02649
Phone 508-477-4329
Email ajoia@aol.com

Apcon, Inc.

4830 Route 28
Cotuit MA 02635
Phone 508-420-9200
Email mike@apconinc.com

B&B Excavation

374 Rt 130, Sandwich
Phone 508-477-0653
Email
office@bandbexcavation.net

B Ranger Construction

46 Crowell Road
East Falmouth
Phone 508-274-9753
Email Brey98@aol.com

Bay State Piping Co., Inc.

467 Wareham Street
Middleboro MA 02346
Phone 508-923-6022
Email bsp@baystatepiping.com

Bortolotti Construction

P.O. Box 704
45 Industry Road
Marstons Mills MA 02648
Phone 508771-9399
Email
bortolotticonstruction@verizon.net

Burke's Excavating

P.O. Box 685
845 Sandwich Rd
Sagamore, MA 02561
Phone 508-927-2502

****C.C. Construction**

C.C. Construction Inc.
11 Cantor Court
Plymouth, MA 02360
Phone-508-398-1811
Email office@ccconstruction.net

Cape Cod Septic Services

350 Main St
West Yarmouth, MA 02673
Phone 508-775-2825
Email
info@capecodsepticsservices.com

Capen Enterprises

P.O. Box 763
Centerville MA 02632
Phone 508-367-1802
Email Capenscod@gmail.com

Celco Construction Corporation

38 Mountain Ash Lane
North Pembroke, MA, 02359
Phone 781-331-6521
Email contact@celcocorp.com

D.A. Brown, Inc.

P.O. Box 145
Centerville MA 02632
Phone 508-420-4534
Email dabrown5@comcast.net

DA Speakman Construction

15 Speak Way
North Harwich MA 02645
Phone 508-432-5565
Email
danaspkman@hotmail.com

DBA Coastal Carriers

173 Webbers Path
West Yarmouth, MA 02673
Phone 508-3601866
Email
mmanchuk@live.com

Diaz Construction Co., Inc.

190 Bodwell Street
Avon, MA 02322
Phone 508-427-0540
Email ldiaz@diaz-construction.com

Dig It Construction

22 Diamonds Path
South Dennis, MA 02660
Phone 508-432-1635
Email admin@digitcon.net

GFM Enterprises Inc.

P.O. Box 1439
15 Diamonds Path
South Dennis, MA 02660
Phone 508-694-5600
Email
office@gfmexcavating.com

Clifford Excavation LLC

15 Evergreen Way
Harwich MA 02645
Phone:508-509-7374
Email
cliffordexcavation@comcast.net

J. W. Dubis & Sons, Inc.

79 Stony Hill Road
Chatham MA 02632
Phone 508-945-0283
Email pam@jwdubis.com

Jim Leboeuf Septic Service

71 Beth Lane
Hyannis MA 02601
Phone 508-775-0707
Email jtleboeuf@comcast.net

Joyce Landscaping

68 Flint St
Marstons Mills MA, 02648
Phone 508-428-4772

J.R. Vinagro Corporation

2208 Plainfield Pike
Johnston RI, 02919
Phone 401-943-7100
Email info@jrvinagrocorp.com

**McDougall Bros Enterprises,
LLC**

Post Office Box 671
Marshfield MA 02050
Phone 781-733-2641
Email
info@mcdougallbrosllc.com

**M.J. Scully & CO., INC.
Contractors**

314 Main Street
Wilmington, MA 01887
Phone 978-657-5655
Email
kmscully@mjscullyco.com

Moran Excavation & Title V

Middleboro, MA
Phone 508-728-3629
Email
markmoran150@gmail.com

PKM Contractors

P.O. Box 775
313 Hokum Rock Road
East Dennis MA 02641
Phone 508-385-5993
Email tara@pkminc.net

**Quinn's Excavation & Septic
Inc.**

P.O Box 599
Forestdale, MA 02644
Phone 774-392-0098
Email
cristen@quinnsexcavation.com

Ready Rooter

PO Box 371
Sandwich MA 02563
Phone 508-888-6055
Email pts@readyrooter.com

Robert B. Our, Inc

P.O. Box 1539
Harwich MA 02645
Phone 508-432-0530
Email
pagoodwin@robertbour.com

Roderick Construction Co

PO Box 370
516 River Road
Marstons Mills MA 02648
Phone 508-428-6003
Email

Rodney Fisher Septic Service

440 Main Street
Harwich MA 02645
Phone 508-246-2800
Email

Scott Frank Septic

113 Old Yarmouth Road
Hyannis, MA 02601-2013
Phone: 508-775-1056

SLT Construction Corp.

3 Marion Drive
Carver, MA 02330
Phone 508-866-9061
Email mikeo@sltconstruction.net

Stocchetti LLC

18 Black Flats Road
Dennis MA 02638
Phone 508-385-8877
Email bulldog@comcast.net

The Pipe Doctor

Charles Markarian
Phone 508-775-6670

ATTACHMENT D
SEWER CONNECTION PROCESS



SEWER CONNECTION

What you need to know about connecting to the municipal sewer system.

1 NOTICE OF SEWER CONNECTION HOOKUP

Per the Board of Health Sewer Connection Policy, property owners will be responsible for connecting to the municipal sewer system within 6 months of receiving notification from the Barnstable Health Division.

2 HIRE A LICENSED SEWER INSTALLER

You will need to hire a licensed sewer installer. This installer will do the actual construction necessary to connect your property to the sewer service stub installed at the property line. To view a list of licensed sewer installers, please visit: bit.ly/sewer-installers

3 SEWER CONNECTION

Your licensed sewer installer will apply for necessary permits prior to commencing work on your property. With permits in hand, your contractor is authorized to begin work.

4 INSPECTION PROCESS

A Department of Public Works inspector will inspect the installation to ensure it complies with Town specifications. A tie card will be generated, which will be maintained in Town records. DPW will notify the Barnstable Water Pollution Control Division that your property is ready for sewer service billing.

5 SEPTIC SYSTEM ABANDONMENT

Your septic system must be either removed or filled in due to future safety concerns. This may be done by the same contractor who connects you to municipal sewer. Questions should be directed to the Barnstable Health Division at 508-862-4644 or via email at health@town.barnstable.ma.us

6 SEWER SERVICE BILLING

Property owners will be charged a sewer service user fee, based on their water usage. Your sewer service bill will occur at the same frequency as your water bill. The typical residential sewer usage bill averages \$490 annually.



Learn more about anticipated costs and financial support resources at:
www.barnstablewaterresources.com

A Town of Barnstable website



Scan me!

ATTACHMENT E
SEWER CONNECTION PROCESS
(PORTUGUESE – BRAZILIAN)



CONEXÃO DE ESGOTO

Tudo o que você precisa saber sobre como se conectar ao sistema municipal de esgoto.

1 NOTIFICAÇÃO DE CONEXÃO DE ESGOTO

De acordo com a Política de Conexão do Conselho de Esgoto Sanitário, os proprietários serão responsáveis por se conectar ao sistema municipal de esgoto dentro de 6 meses após receberem uma notificação de ligação da Divisão de Saúde de Barnstable.

2 CONTRATAÇÃO DE UM BOMBEIRO HIDRÁULICO LICENCIADO

Você precisará contratar um bombeiro hidráulico de esgoto que seja licenciado. Este bombeiro construirá toda a infraestrutura necessária para conectar sua propriedade à tubulação de esgoto que foi instalada no limite de sua propriedade. Para visualizar a lista de bombeiros hidráulicos licenciados, visite: bit.ly/sewer-installers

3 CONEXÃO DE ESGOTO

Seu bombeiro hidráulico de esgoto solicitará as permissões necessárias antes de iniciar a obra em sua propriedade. Com as permissões em mãos, seu empreiteiro está autorizado a começar a obra.

4 PROCESSO DE INSPEÇÃO

Um inspetor do Departamento de Obras Públicas irá inspecionar a instalação para garantir que ela atenda às especificações municipais. Um cartão de ligação será gerado, o qual será mantido nos registros municipais. DPW (Departamento de Obras Públicas) irá notificar a Divisão de Controle de Poluição de Água de Barnstable que sua propriedade está pronta para faturamento do serviço de esgoto.

5 ABANDONO DO SISTEMA SÉPTICO

Seu sistema séptico deverá ser removido ou preenchido devido a questões de segurança futuras. Isso poderá ser feito pelo mesmo empreiteiro que conectar sua propriedade ao sistema de esgoto municipal. Perguntas deverão ser direcionadas à Divisão de Saúde de Barnstable no telefone 508-862-4644 or pelo email health@town.barnstable.ma.us

6 FATURAMENTO DO SERVIÇO DE ESGOTO

Proprietários deverão pagar uma taxa de utilização do serviço de esgoto, baseado em seu consumo de água. Sua conta de serviço de esgoto será gerada na mesma frequência que sua conta de água. Uma conta de serviço de esgoto residencial custa em média US\$ 490 por ano.



Saiba mais sobre custos e suporte financeiro:
www.barnstablewaterresources.com

Um site da cidade de Barnstable



Escaneie aqui!

ATTACHMENT F
SEWER CONNECTION PROCESS
(SPANISH)



CONEXIÓN AL SISTEMA DE ALCANTARILLADO

Lo que necesitas saber sobre conectar al sistema de alcantarillado municipal.

1 AVISO DE CONEXIÓN AL SISTEMA DE ALCANTARILLADO

Según la Política de Conexión al Alcantarillado de la Junta de Salud, los propietarios serán responsables de conectarse al sistema de alcantarillado municipal dentro de los 6 meses posteriores a recibir la notificación de la División de Salud de Barnstable.

2 CONTRATE A UN FONTANERO LICENCIADO

Necesitará contratar a un fontanero de alcantarillado con licencia. Este fontanero realizará la construcción necesaria para conectar su propiedad al tapón de servicio de alcantarillado instalado en el límite de la propiedad. Para ver una lista de fontaneros con licencia, visite: bit.ly/sewer-installers

3 CONEXIÓN AL ALCANTARILLADO

Su fontanero con licencia solicitará los permisos necesarios antes de comenzar el trabajo en su propiedad. Con los permisos en mano, su contratista está autorizado para comenzar el trabajo.

4 PROCESO DE INSPECCIÓN

Un inspector del Departamento de Obras Públicas inspeccionará la instalación para asegurarse de que cumpla con las especificaciones del municipio. Se generará una tarjeta de conexión que se mantendrá en los registros del municipio. El DPW notificará a la División de Control de Contaminación del Agua de Barnstable que su propiedad está lista para la facturación del servicio de alcantarillado.

5 ABANDONO DEL SISTEMA SÉPTICO

Su sistema séptico debe ser removido o rellenado debido a preocupaciones futuras de seguridad. Esto puede ser realizado por el mismo contratista que lo conecta al alcantarillado municipal. Las preguntas deben dirigirse a la División de Salud de Barnstable al 508-862-4644 o por correo electrónico a health@town.barnstable.ma.us

6 FACTURACIÓN DEL SERVICIO DE ALCANTARILLADO

A los propietarios se les cobrará una tarifa de usuario por el servicio de alcantarillado, basada en su consumo de agua. Su factura de servicio de alcantarillado se emitirá con la misma frecuencia que su factura de agua. La factura típica de uso residencial de alcantarillado promedia \$490 anualmente.

Un sitio web de la ciudad de Barnstable



Obtenga más información sobre los costos anticipados y los recursos de apoyo financiero en:
www.barnstablewaterresources.com



Escanear aquí!