

MIDDLETOWN MUNICIPAL WASTEWATER COLLECTION & TREATMENT SYSTEM

East WWTP State Discharge Permit #13-DP-3182, NPDES Permit #MD0067628

West WWTP State Discharge Permit #18-DP-0462, NPDES Permit #MD0024406

Project Title: Middletown Wastewater Enhanced Nutrient Removal Upgrade

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Population: Town of Middletown (5,132)

Purpose: Middletown owns and operates two wastewater treatment plants (WWTP): 1) The West WWTP is a nine-million-gallon aerated lagoon (9MG), built in 1976, located in a 100-year floodplain, and 2) the East WWTP is a Biological Aeration Chain (Biolac) activated sludge facility, built in 2000. To meet the Maryland Department of the Environment's waterway and Chesapeake Bay water quality permitting mandates, the Town's wastewater treatment facilities must be upgraded to achieve "enhanced nutrient removal" (ENR).

Project Cost: Design & Planning: \$2,000,000
Construction: \$38,000,000
Total: \$40,000,000 *\$30M Bay Restoration Fund, \$10M Middletown*

Description: Project entails upgrading to ENR treatment and utilizing approximately \$30M in eligible Bay Restoration Funds, by upgrading and expanding the East WWTP to treat all the Town's wastewater flows and decommissioning the aerated lagoon.

Rationale: MDE Permitting & Compliance informed that the current wastewater treatment lagoon permit (West WWTP), scheduled for reapplication in 2025, will not satisfy the performance requirements of the next 5-year permit, unless significant treatment upgrades are completed. MDE offers a considerable Bay Restoration Fund subsidy to small wastewater treatment facilities that upgrade to enhanced nutrient removal and the program will fund approximately \$30M of the project.

Middletown's expenses are uniquely elevated, because the lagoon is located in a high-risk flood zone (FEMA Flood Zone A), and the obligatory decommissioning will necessitate the relocation of half the town's wastewater flows to the East WWTP, which must subsequently and prematurely undergo an ENR upgrade and significant capacity increase. These circumstances have resulted in complex engineering, operational, and safety upgrades, and have exacerbated the already exorbitant cost of the project, leaving the **Town responsible for an unusually high-cost share of \$10M** (\$1.5 Lagoon Decommissioning, \$2.5M Service Relocation, \$2M Sludge Dewatering, \$1M Disinfection & Post-Aeration, and \$3M Ancillary Infrastructure).

Benefit: Middletown's ENR Upgrade will improve several pieces of critical wastewater infrastructure, remove an openair nine-million-gallon wastewater pond (9MG) from a high-risk floodplain, and provide a growing community of over-5,100 Marylanders with a 50-year utility asset, while contributing to the State's water quality goals.