



October 19, 2015

Mr. Guy Campinha
Director, Water Pollution Control Facility
Town of Wareham
6 Tonys Lane
Wareham, MA 02571

RE: Wareham, MA – Capital Improvement Plan
GHD File No.: 8618489

Dear Mr. Campinha,

Enclosed is the 20-year Capital Improvement Plan (CIP), which has been prepared for the Town of Wareham's wastewater infrastructure. The report provides a criticality analysis of the Town's existing infrastructure, recommendations on renewal and replacement priorities, and projected future financial needs for the Town. The CIP identifies the capital costs anticipated to maintain the current level of service for the Town of Wareham's sewer infrastructure.

It is recommended that the Town develop a financing plan to incorporate the anticipated capital costs into user rates. Appropriate inflation factors should be applied to all costs presented in the report when the financing and rate plan is developed.

A summary of the results of the report are presented in the table below.

Infrastructure Component	Criticality	Cost (2015 \$)	Project	Proposed Schedule
Narrows Pump Station	(4) Very high	\$2,620,000	Pump Station Rehabilitation*	Years 0-3
Depot Street Pump Station	(4) Very high	\$2,120,000	Pump Station Rehabilitation*	Years 0-3
Dick's Pond Pump Station	(4) Very high	\$2,120,000	Pump Station Rehabilitation*	Years 0-3
Cohasset Narrows Pump Station	(4) Very high	\$2,120,000	Pump Station Rehabilitation*	Years 0-3
East Blvd Pump Station	(4) Very high	\$1,620,000	Pump Station Rehabilitation*	Years 0-3
Minot Pump Station	(4) Very high	\$1,620,000	Pump Station Rehabilitation*	Years 0-3
Oneset Heights Pump Station	(4) Very high	\$2,120,000	Pump Station Rehabilitation*	Years 0-3
Springborne Pump Station	(4) Very high	\$2,120,000	Pump Station Rehabilitation*	Years 0-3

Infrastructure Component	Criticality	Cost (2015 \$)	Project	Proposed Schedule
Aeration Tanks Nos. 1 and 2 Structures	(4) Very high	\$420,000	WPCF staff have observed concrete pitting in tanks.	Years 0-3
Operations Building Roof	(4) Very high	\$60,000	WPCF staff noted that roof needs replacement	Years 0-3
Operations Building - Generator Replacement	(4) Very high	\$190,000	Equipment past its useful life	Years 0-3
Secondary Clarifiers Nos. 1 & 2 - Clarifier Equipment Replacement	(4) Very high	\$430,000	Equipment past its useful life	Years 0-3
Secondary Clarifiers Nos. 1 & 2 - Clarifier resurfacing	(4) Very high	\$150,000	WPCF staff noted concrete pitting	Years 0-3
Collection System - Investigation and Rehabilitation	(4) Very high	\$1,000,000	Year 1 budget for investigation and rehabilitation	Years 0-3
Collection System - Investigation and Rehabilitation	(4) Very high	\$1,000,000	Year 2 budget for investigation and rehabilitation	Years 0-3
Collection System - Investigation and Rehabilitation	(4) Very high	\$1,000,000	Year 3 budget for investigation and rehabilitation	Years 0-3
Replace Aeration Tank Valves	(3) High	\$500,000	WPCF staff noted uneven flow distribution between aeration tanks impacting treatment	Years 4-5
Kennedy Lane Pump Station	(3) High	\$2,100,000	Pump Station Rehabilitation*	Years 4-5
Hynes Field Pump Station	(3) High	\$2,100,000	Pump Station Rehabilitation*	Years 4-5
Onset Pier Pump Station	(3) High	\$2,100,000	Pump Station Rehabilitation*	Years 4-5
South Water Street Pump Station	(3) High	\$2,100,000	Pump Station Rehabilitation*	Years 4-5
Pine Tree Estates Pump Station	(3) High	\$2,100,000	Pump Station Rehabilitation*	Years 4-5

Infrastructure Component	Criticality	Cost (2015 \$)	Project	Proposed Schedule
Smith Pump Station	(3) High	\$2,600,000	Pump Station Rehabilitation*	Years 4-5
North Blvd Pump Station	(3) High	\$2,100,000	Pump Station Rehabilitation*	Years 4-5
South Blvd Pump Station	(3) High	\$1,600,000	Pump Station Rehabilitation*	Years 4-5
Pinehurst Pump Station	(3) High	\$2,100,000	Pump Station Rehabilitation*	Years 4-5
Bay Street Pump Station	(3) High	\$1,600,000	Pump Station Rehabilitation*	Years 4-5
Green Street Pump Station	(3) High	\$1,600,000	Pump Station Rehabilitation*	Years 4-5
Peter Cooper Pump Station	(3) High	\$1,600,000	Pump Station Rehabilitation*	Years 4-5
Woodbury Pump Station	(3) High	\$1,600,000	Pump Station Rehabilitation*	Years 4-5
Hill Street Jefferson Shores Pump Station	(3) High	\$1,600,000	Pump Station Rehabilitation*	Years 4-5
Saltworks Road Pump Station	(3) High	\$2,100,000	Pump Station Rehabilitation*	Years 4-5
Riverside Pump Station	(3) High	\$1,600,000	Pump Station Rehabilitation*	Years 4-5
Linwood Pump Station	(3) High	\$1,600,000	Pump Station Rehabilitation*	Years 4-5
Briarwood Pump Station	(3) High	\$2,100,000	Pump Station Rehabilitation*	Years 4-5
Pump Station Evaluations	(3) High	\$50,000	Pump Station Evaluation to prioritize projects for years 6 to 10	Years 4-5
Aeration Tanks - Valves and Gates	(3) High	\$100,000	Downsizing valves will provide improved process control & energy efficiency	Years 4-5
Sludge Holding Tank Equipment	(3) High	\$1,000	Rust observed during site walkthrough	Years 4-5

Infrastructure Component	Criticality	Cost (2015 \$)	Project	Proposed Schedule
Filter Building HVAC	(3) High	\$40,000	WPCF staff noted that roof unit needs to be replaced and roof needs to be repaired	Years 4-5
Denitrification Filters	(3) High	\$200,000	WPCF staff noted filters plug constantly and overflow	Years 4-5
Plant Water System Replacement	(3) High	\$110,000	Plant water system undersized	Years 4-5
Soda Ash Tower - replace heating system	(3) High	\$40,000	WPCF staff noted chemical caking occurring due to inadequate heat in the tower	Years 4-5
Operations Building - replace scum pumps	(3) High	\$45,000	Equipment past its useful life and failing	Years 4-5
Collection System - Investigation and Rehabilitation	(3) High	\$1,000,000	Year 4 budget for investigation and rehabilitation	Years 4-5
Collection System - Investigation and Rehabilitation	(3) High	\$1,000,000	Year 5 budget for investigation and rehabilitation	Years 4-5
Pump Station Evaluations	(2) Medium	\$50,000	Pump Station Evaluation to prioritize projects for years 10+	Years 6 to 10
Hathaway Pump Station	(2) Medium	\$1,600,000	Pump Station Rehabilitation*	Years 6 to 10
Arnold Pump Station	(2) Medium	\$2,100,000	Pump Station Rehabilitation*	Years 6 to 10
Crosses Road Pump Station	(2) Medium	\$1,600,000	Pump Station Rehabilitation*	Years 6 to 10
Thatcher Pump Station	(2) Medium	\$1,600,000	Pump Station Rehabilitation*	Years 6 to 10
Kendrick Pump Station	(2) Medium	\$2,100,000	Pump Station Rehabilitation*	Years 6 to 10
French Street Pump Station	(2) Medium	\$2,100,000	Pump Station Rehabilitation*	Years 6 to 10

Infrastructure Component	Criticality	Cost (2015 \$)	Project	Proposed Schedule
Leonard Street Pump Station	(2) Medium	\$2,100,000	Pump Station Rehabilitation*	Years 6 to 10
Thirteenth Street Pump Station	(2) Medium	\$1,600,000	Pump Station Rehabilitation*	Years 6 to 10
WPCF Paint	(2) Medium	\$1,000	Rust and peeling paint observed during site walkthroughs	Years 6 to 10
Aeration Tanks Process Equipment	(2) Medium	\$1,000	Broken nozzles observed during site walkthroughs	Years 6 to 10
UV Disinfection System	(2) Medium	\$1,000	Rust observed during site walkthrough	Years 6 to 10
Aeration Blowers	(2) Medium	\$200,000	WPCF staff noted project required for process control at plant	Years 6 to 10
WPCF - rehabilitate equipment approaching the end of its useful life	(2) Medium	\$2,600,000	Equipment approaching end of its useful life	Years 6 to 10
WPCF - Replace outdated controls equipment	(2) Medium	\$650,000	Equipment approaching end of its useful life	Years 6 to 10
Collection System - Investigation and Rehabilitation	(2) Medium	\$1,000,000	Year 6 budget for investigation and rehabilitation	Years 6 to 10
Collection System - Investigation and Rehabilitation	(2) Medium	\$1,000,000	Year 7 budget for investigation and rehabilitation	Years 6 to 10
Collection System - Investigation and Rehabilitation	(2) Medium	\$1,000,000	Year 8 budget for investigation and rehabilitation	Years 6 to 10
Collection System - Investigation and Rehabilitation	(2) Medium	\$1,000,000	Year 9 budget for investigation and rehabilitation	Years 6 to 10
Collection System - Investigation and Rehabilitation	(2) Medium	\$1,000,000	Year 10 budget for investigation and rehabilitation	Years 6 to 10
Indian Neck Pump Station	(1) Low	\$2,600,000	Pump Station Rehabilitation*	Years 10+

Infrastructure Component	Criticality	Cost (2015 \$)	Project	Proposed Schedule
Oak Street Pump Station	(1) Low	\$2,100,000	Pump Station Rehabilitation*	Years 10+
Apple Street Pump Station	(1) Low	\$2,100,000	Pump Station Rehabilitation*	Years 10+
Avenue A Pump Station	(1) Low	\$1,600,000	Pump Station Rehabilitation*	Years 10+
Parkwood Pump Station	(1) Low	\$1,600,000	Pump Station Rehabilitation*	Years 10+
Mattapoisett Road Pump station	(1) Low	\$2,100,000	Pump Station Rehabilitation*	Years 10+
Ruggles Pump Station	(1) Low	\$2,600,000	Pump Station Rehabilitation*	Years 10+
Collection System - Investigation and Rehabilitation	(1) Low	\$3,000,000	Year 11 budget for investigation and rehabilitation	Years 10+
Collection System - Investigation and Rehabilitation	(1) Low	\$3,000,000	Year 12 budget for investigation and rehabilitation	Years 10+
Collection System - Investigation and Rehabilitation	(1) Low	\$3,000,000	Year 13 budget for investigation and rehabilitation	Years 10+
Collection System - Investigation and Rehabilitation	(1) Low	\$3,000,000	Year 14 budget for investigation and rehabilitation	Years 10+
Collection System - Investigation and Rehabilitation	(1) Low	\$3,000,000	Year 15 budget for investigation and rehabilitation	Years 10+
Collection System - Investigation and Rehabilitation	(1) Low	\$3,000,000	Year 16 budget for investigation and rehabilitation	Years 10+
Collection System - Investigation and Rehabilitation	(1) Low	\$3,000,000	Year 17 budget for investigation and rehabilitation	Years 10+

Infrastructure Component	Criticality	Cost (2015 \$)	Project	Proposed Schedule
Collection System - Investigation and Rehabilitation	(1) Low	\$3,000,000	Year 18 budget for investigation and rehabilitation	Years 10+
Collection System - Investigation and Rehabilitation	(1) Low	\$3,000,000	Year 19 budget for investigation and rehabilitation	Years 10+
Collection System - Investigation and Rehabilitation	(1) Low	\$3,000,000	Year 20 budget for investigation and rehabilitation	Years 10+

Notes:

* Replacement of components past their useful life - including but not limited to process mechanical, HVAC, electrical and building components

Should you have any questions, please contact me at (774) 470-1634.

Sincerely,

GHD Inc.



Marc Drainville, P.E., BCEE, LEED AP
Associate

MRD/AR/lm

Attachment