



WASTEWATER TREATMENT FACILITY PRELIMINARY ENGINEERING REPORT CHESTER, VT

PRE-DESIGN PRESENTATION

August 5, 2026

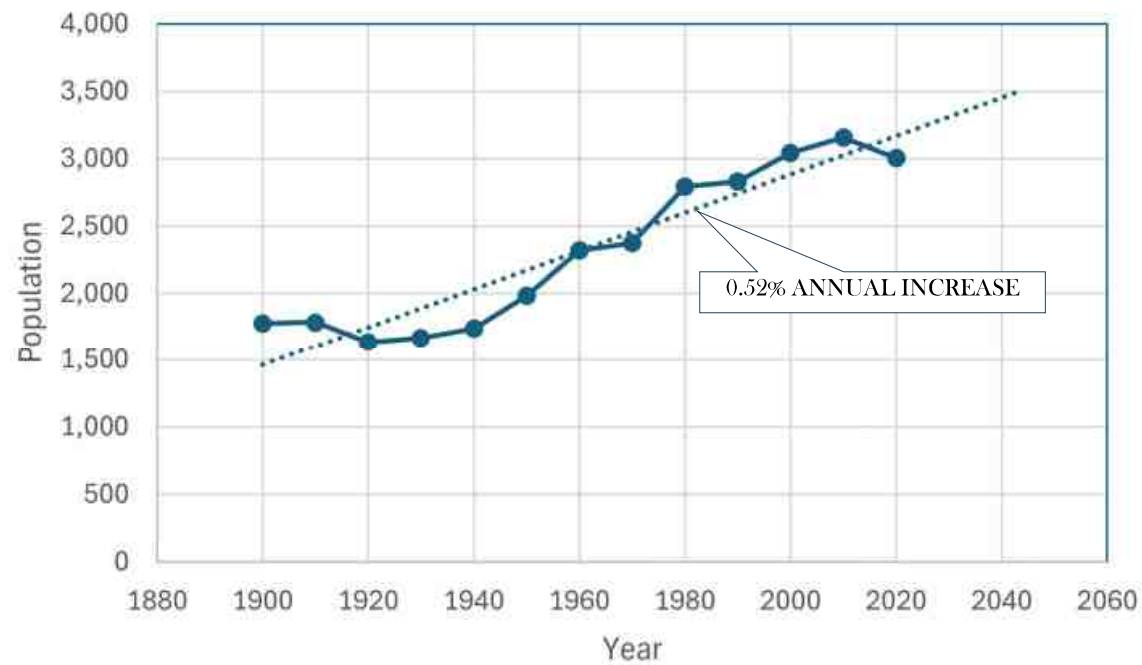




Project Status

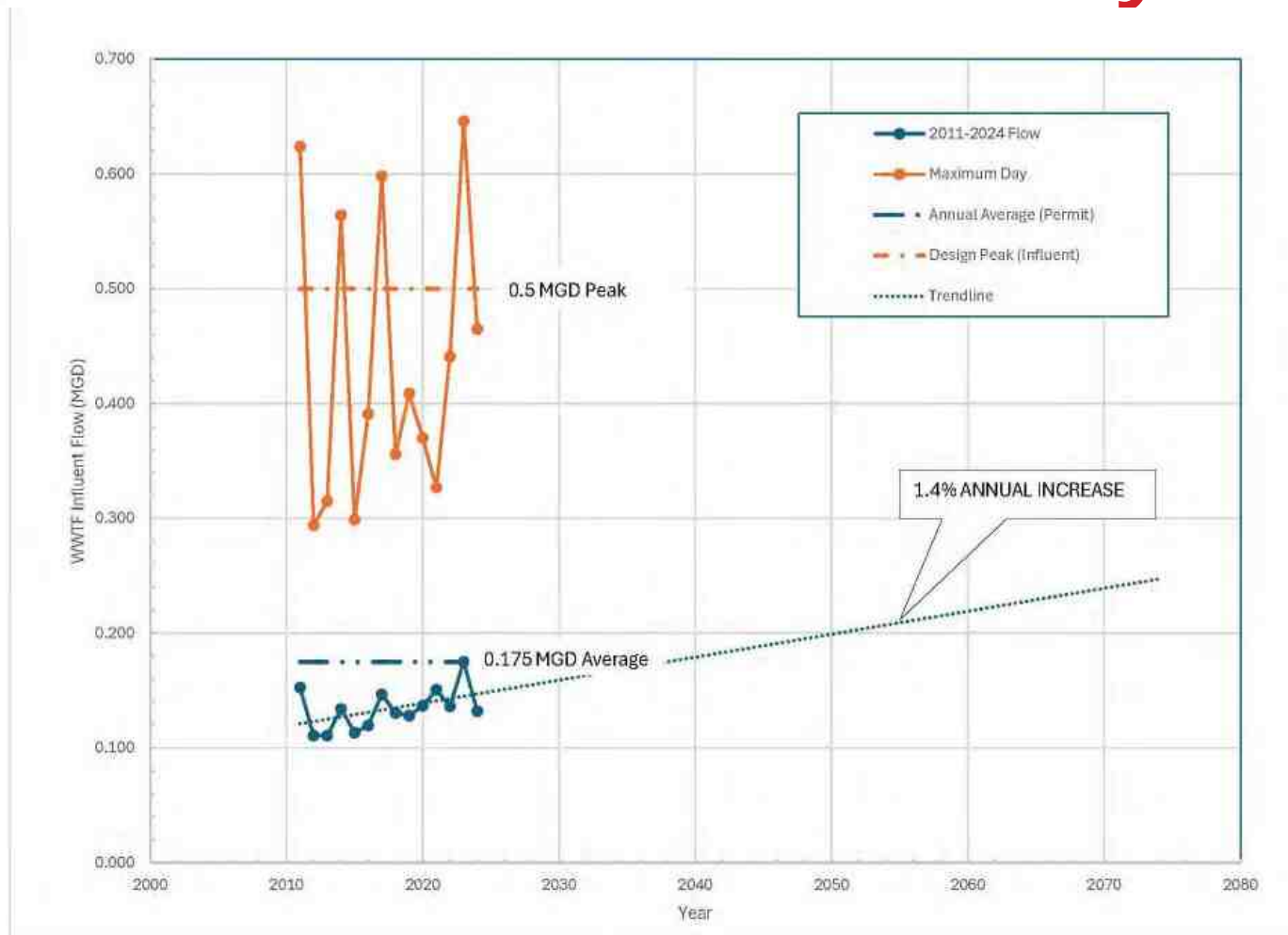
- Preliminary Engineering/planning is complete
- The presentation summarizes the Preliminary Engineering Report
- Final Design and Construction may occur 2027-2030

Population



The Chester CDP, which is generally the area that corresponds with the wastewater system service area, increased in population from 1,005 in 2010 to 1,132 in 2020. This population increase is about 1.2% annually.

Facility Flows



Existing and Proposed Design Flows

	Existing design flows	Proposed Design Flows (20 year)
Average	0.175 mgd	0.25 mgd
Peak	0.5 mgd	1.0 mgd

- 75,000 gpd increased capacity:
 - Residential housing: 21,000 gpd for 100 units
 - Commercial/Industrial uses: 2,000-5000 gpd each is typical

Deficiencies and Issues:

- Age
 - Influent pump station, operating software, blowers
- Capacity
 - Screen, Sequencing Batch Reactors, effluent pumps, UV disinfection units

Concept Site Plan



Project Costs

Item	Cost
Facility Upgrade Items except EQ Basin	
Architectural: Control Building doors flood mitigation	\$5,000
Civil	
Valve vault	\$50,000
8" diameter DI outfall pipe	\$33,000
Process	
Influent pump station	\$300,000
Influent screen	\$145,000
(2) 20 hp blowers	\$58,500
(1) 15 hp blower	\$33,280
New SBR controls and PLC, and flowmeter signal	\$280,000
Installation for controls and PLC	\$56,000
Effluent pumps, duplex 18 hp	\$90,000
UV unit	\$224,000
Thickener renovation	\$37,500
Mechanical	
Replacement control bld circulator pumps	\$4,000
Replacement process bld circulator pumps	\$5,000
Control bld energy recovery unit	\$5,500
Gas detection sensors for exhaust fan operation	\$15,000
ADA water closet	\$3,000
ADA showerhead	\$3,000
ADA lavatory	\$3,000
Electrical/Instrumentation	
Ground fault protection, 1 location	\$200
Boiler room burner switch, install at door	\$1,000
Process building luminaires	\$7,000
Automatic lighting controls	\$8,000
Monitoring and alarm system	\$6,000
Electrical for replacement equipment	\$250,000

Item	Cost
EQ Tank and appurtenant items	
Pump Station	\$300,000
Storage tank and piping	\$1,680,000
Mixing System	\$50,000
RTU	\$5,000
Conduit and signal wiring	\$10,000
Misc electrical	\$10,000
Miscellaneous Work and Cleanup	\$730,000
Total Construction	\$4,408,000
Inflation to 2028	\$409,000
Construction Cost in 2028	\$4,817,000
BABA cost effect	\$241,000
Contingencies	\$723,000
Engineering	
Planning Phase	\$85,000
Design Phase	\$340,000
Construction Phase	\$630,000
Legal, Fiscal and Administrative	\$96,000
Total Project Cost	\$6,932,000

Funding Comparison

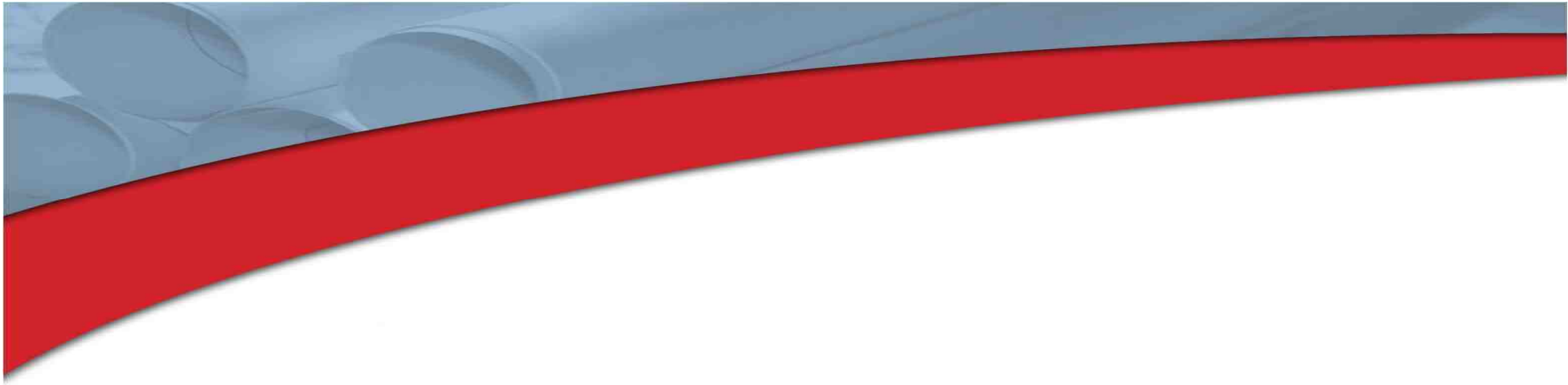
	Local Borrowing at 3.875% for 30- Years	CWSRF Loan at 0% for 30 Years w/ 2% Admin	USDA-RD 25% Grant, 75% Loan at 3.25% for 30- Years
Estimated Total Project Cost	\$6,932,000	\$6,932,000	\$6,932,000
Additional Forgiveness or Grant	\$0	-\$962,500	-\$1,733,000
Estimated Loan	\$6,932,000	\$5,969,500	\$5,199,000
Annual Cost for New Debt	\$394,816	\$266,538	\$273,892
Annual Cost for Existing Debt	\$130,621	\$130,621	\$130,621
Existing O&M Costs	\$456,736	\$456,736	\$456,736
Total Budget	\$982,173	\$853,895	\$861,249
Post-Project User Annual Cost	\$1,548	\$1,346	\$1,357

NOTES

- The capital recovery factor (a/p) for 3.875% interest for 30 years is 0.051019.
- The capital recovery factor (a/p) for 2% interest for 30 years is 0.044650.
- The capital recovery factor (a/p) for 3.25% interest for 30 years is 0.046985.
- The existing O&M cost is based on the 2026 Budget. Existing debt is for the SRF funded collection and pumping improvements currently in construction, with repayment starting in 2027.

Next Steps:

- Final design 2026-2027, under the State Revolving Fund program
- Funding applications
- Bond Vote
- Construction 2028-2030?



Comments & Questions ??

Thank You!