



Wastewater
Treatment



Recycled
Water



Energy
Production



Biosolids
Reuse



TRANSFORMING
WASTEWATER
TO RESOURCES



Shore Acres Forcemain Repair Project Consulting Services Contract for Engineering Design Services

Board of Directors Meeting
February 12, 2025

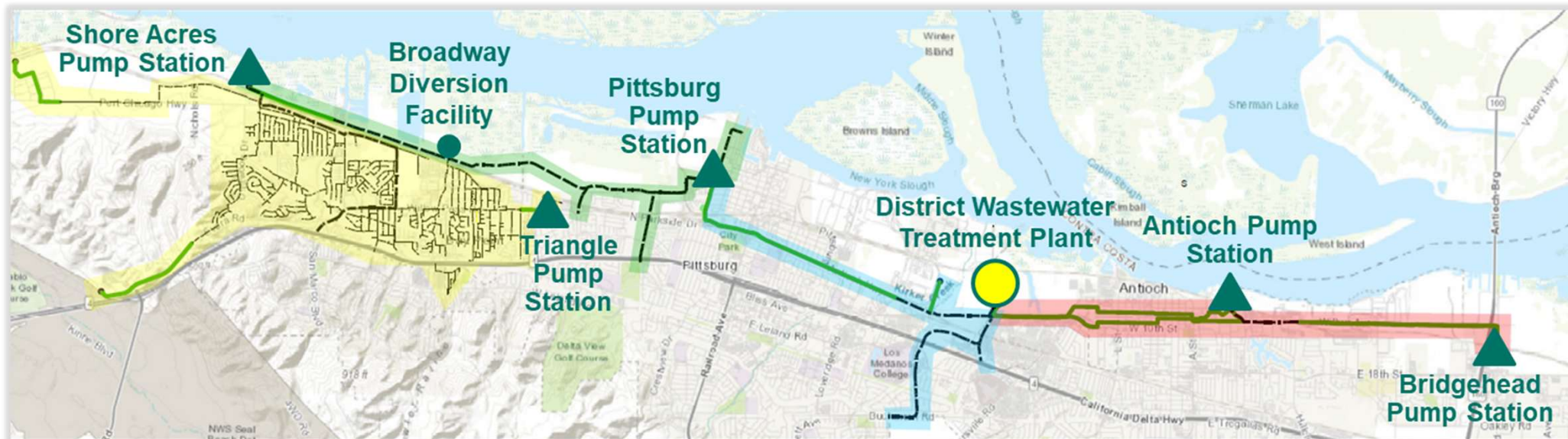
District Wastewater (WW) Collection and Conveyance Services



- District **Wastewater Conveyance System**, includes five pump stations, pressurized pump station discharge lines (forcemains), and gravity interceptors—**32.5 miles** in length
- District **Wastewater Collection System** includes gravity sewers (**Bay Point only**)—**43.0 miles** in length (Bay Point only, Antioch/Pittsburg own collection systems)

Collection/Conveyance System

Service Area	54 sq. miles
Pump Stations	2 Antioch 2 Bay Point 1 Pittsburg
Forcemains	18.2 miles
Interceptors	14.3 miles
BP Collection	43.0 miles



Asset Management Overview

WW Collection/Conveyance System



Wastewater Collection System (Bay Point)

- Staff has inspected (via CCTV) the entire gravity sewer system (43.0 miles, 100%)
- CCTV results used to develop prioritized capital investment needs
- **\$7.9M** in capital investments **completed** to date with **\$4.0M** identified in **future** projects

Collection/Conveyance System

Service Area	54 sq. miles
Pump Stations	2 Antioch 2 Bay Point 1 Pittsburg
Forcemains	18.2 miles
Interceptors	14.3 miles
BP Collection	43.0 miles

Wastewater Conveyance System

- Staff has inspected the entire gravity interceptor system (14.3 miles, 100%)
- Challenges associated with inspection of pressurized forcemains due to 24/7 operating conditions, limited storage capacity, lack of access/redundancy
- As part of forcemain condition assessment activities in the wastewater sector, remaining service life is typically estimated based on pipe age, material, and operating conditions (“desktop analyses”)
- **\$9.7M** (interceptors), **\$16.3M** (forcemains), **\$14.9M** (pump stations) in capital investments **completed** to date with **\$15.9M** (interceptors), **\$34.5M** (forcemains) identified in **future** projects

Completed, Planned Capital Investments in Force mains (FMs)



- District has completed and is planning (subject to Board approval of upcoming 5-year CIP) to complete significant capital investments in pump station (PS) discharge force mains to ensure continued operational effectiveness

Description	Length (mi)	Comments
Shore Acres PS FM	0.9	Major capital project (\$10.5M) to be completed by FY26/27
Antioch PS FM(2)	5.6	Major capital project (\$24.0M) to be completed by FY29/30
Pittsburg PS FM(2)	5.0	Capital project (\$13.6M) completed on one FM in 2019
Bridgehead PS FM(2)	4.1	No planned work—HDPE pipe, installed in 1990, 2003
Camp Stoneman FM	0.4	No planned work—HDPE pipe, installed in 1984
Port Chicago FM	2.3	No planned work—recently installed in 2000s
Total	18.2	\$34.5M in planned capital investments in FMs

Engineering Services Department (ESD) Wastewater Conveyance “Champions”



Shore Acres System (Nayeli Basulto)

- Shore Acres Pump Station
- Broadway Diversion Facility
- 0.9 miles of forcemain
- 7.4 miles of gravity interceptor

District has assigned ESD team members to serve as “champions” for various sectors of the District’s Wastewater Conveyance and Collection Systems

- Subject matter experts to support O&M activities
- Advocates for capital investment, inspection needs
- Directly support Asset Management Program activities

Pittsburg Conveyance System (Max David)

- Pittsburg Pump Station
- 5.4 miles of force main
- 2.8 miles of gravity interceptor

Bay Point System (Stephen Cardiel)

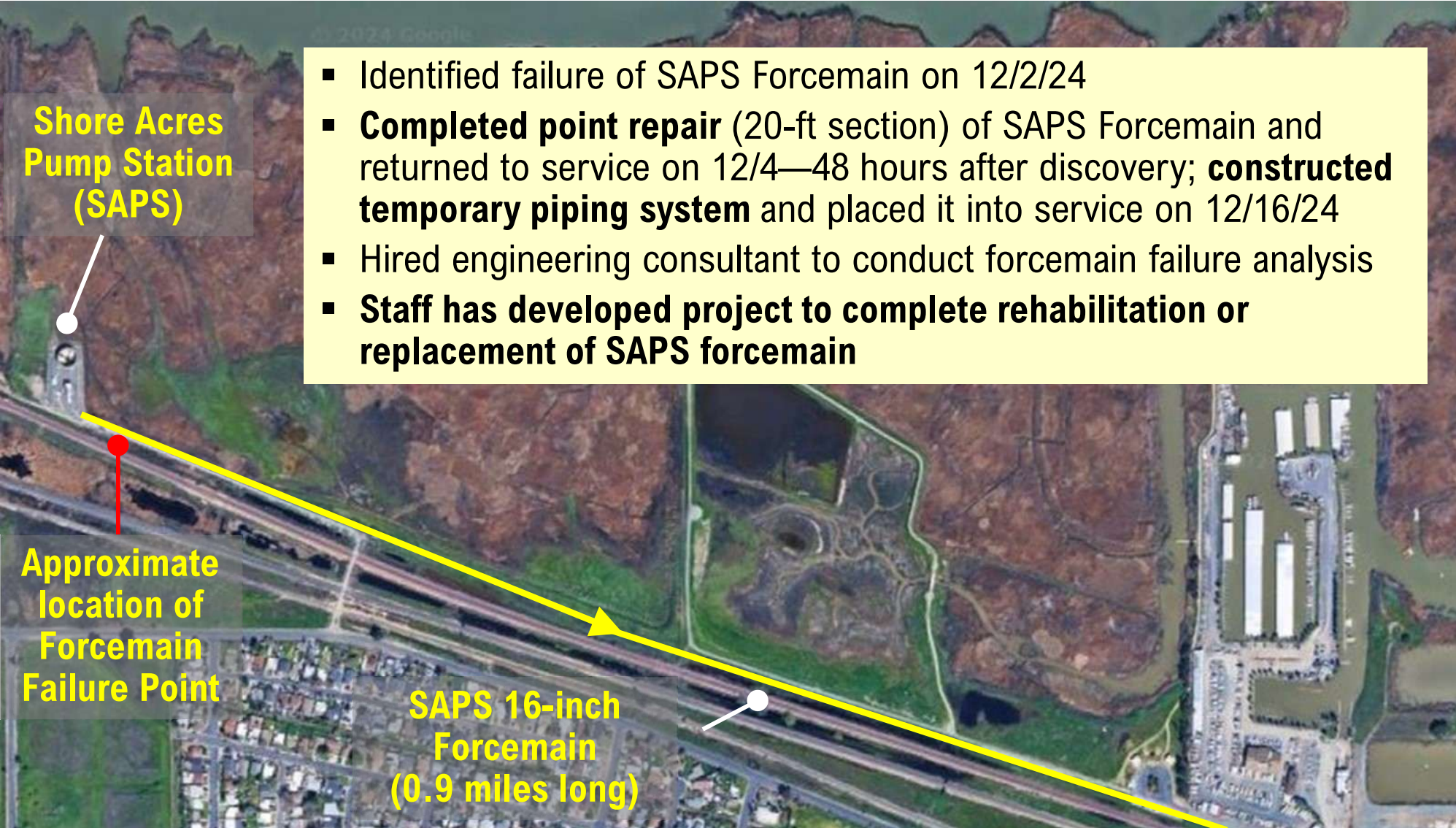
- 2.3 miles of forcemain
- 3.5 miles of gravity interceptor (Willow Pass Interceptor)
- 43.0 miles of gravity sewers

Bridgehead/Antioch Conveyance System (Sean Williams)

- Bridgehead Pump Station
- Antioch Pump Station
- 9.6 miles of force main
- 0.5 miles of gravity interceptor

Shore Acres Forcemain Repair Project Engineering Design Services

- Identified failure of SAPS Forcemain on 12/2/24
- **Completed point repair** (20-ft section) of SAPS Forcemain and returned to service on 12/4—48 hours after discovery; **constructed temporary piping system** and placed it into service on 12/16/24
- Hired engineering consultant to conduct forcemain failure analysis
- **Staff has developed project to complete rehabilitation or replacement of SAPS forcemain**



Shore Acres
Pump Station
(SAPS)

Approximate
location of
Forcemain
Failure Point

SAPS 16-inch
Forcemain
(0.9 miles long)

Engineering Design Services Consulting Services Contract



- District has identified Black & Veatch as most qualified firm to provide engineering design services
 - Extensive experience pipeline assessment and design projects
 - Although not selected, strong project team capabilities demonstrated during consultant selection process for current Antioch Pump Station and Conveyance System Improvements Project
- Staff has negotiated scope of services and cost (\$603,385)
 - Project Management – \$46k
 - Review of Existing Data – \$20k
 - Design (75%, 90%, 100%) – \$303k
 - Permitting/Environmental – \$216k
 - Bid Services Support – \$18k
- Planning-level capital construction cost estimate = ~\$8.0M

Recommended Actions



- 1) Authorize the General Manager to execute a consulting services contract with Black & Veatch to provide **engineering services** in an amount not to exceed \$603,385, for the Shore Acres Forcemain Repair Project
- 2) Authorize the General Manager to transfer monies to the Shore Acres Forcemain Repair Project from the Secondary Process Improvements Project in the amount of \$900,000, for a new total project budget of \$1,500,000