

# Emergency Firefighting Water System



February 2026

# SFFD – SFPUC Coordination



- SFFD Water Supply Officer – PUC Liaison
- SFPUC Response to greater alarm fires
- Quarterly training
- Annual large-scale exercise
- SFPUC Machine Shop service of SFFD portable water supply equipment
- SFWD - EFWS Team – Maintenance and support
- Capital Improvement and Planning Coordination



# Multiple Layers of Fire Protection



- **The standard pressure firefighting system**
  - 8,500 smaller white hydrants on every block
  - Connected to drinking water system
- **The Emergency Firefighting Water System**
  - 135 miles of resilient pipe
  - 1,500 high pressure hydrants
  - 2 saltwater pump stations
  - Fireboat manifolds
  - Saltwater suction hydrants along the waterfront
  - More than 180 cisterns which hold an average of 75,000 gallons of water
- **Future: Potable Emergency Firefighting Water System**
  - 16 miles of resilient pipe
  - Multiple sources of water for flexibility (including Lake Merced)
  - Dual Purpose adds drinking and firefighting reliability and resiliency and increases funding.

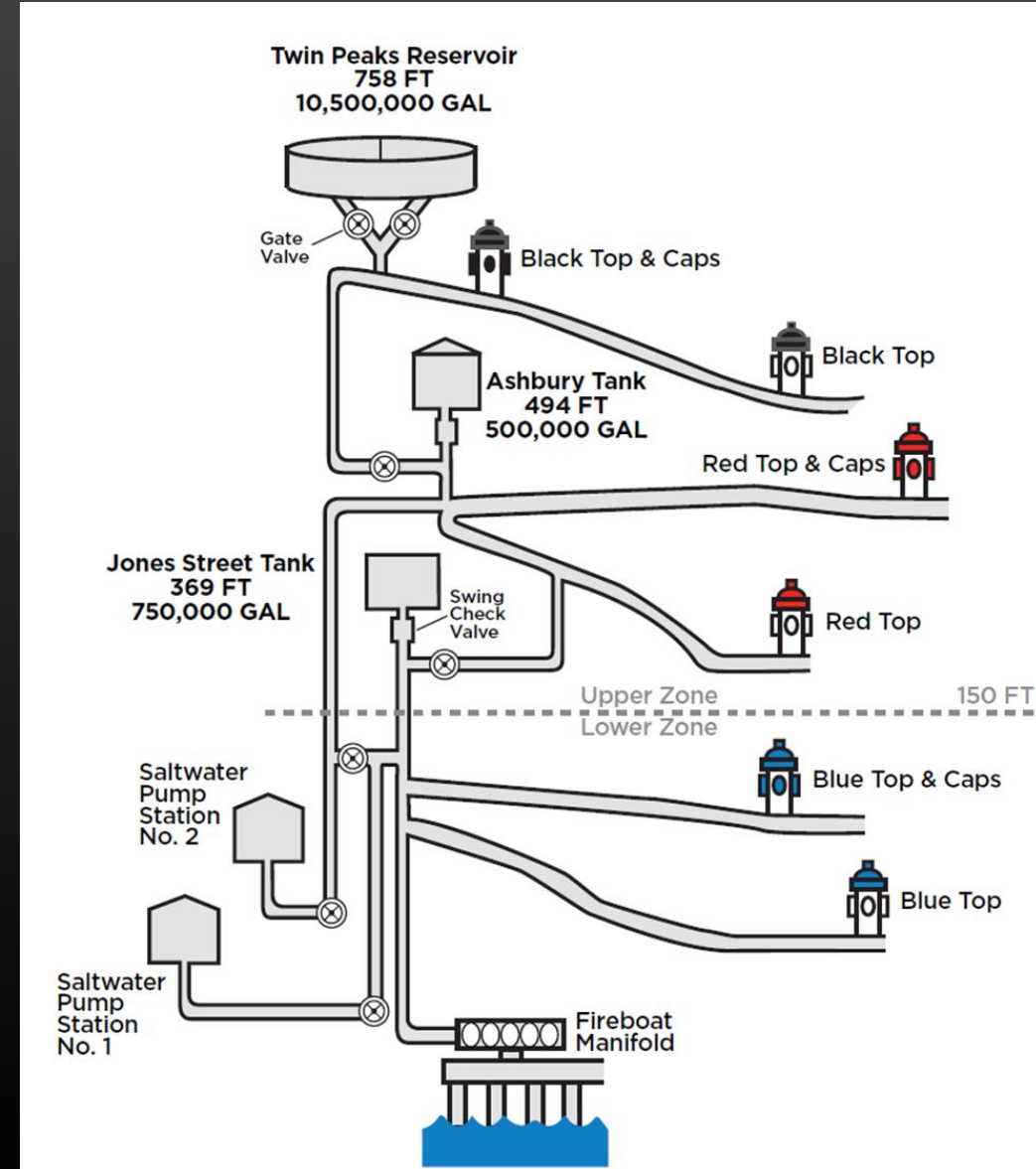




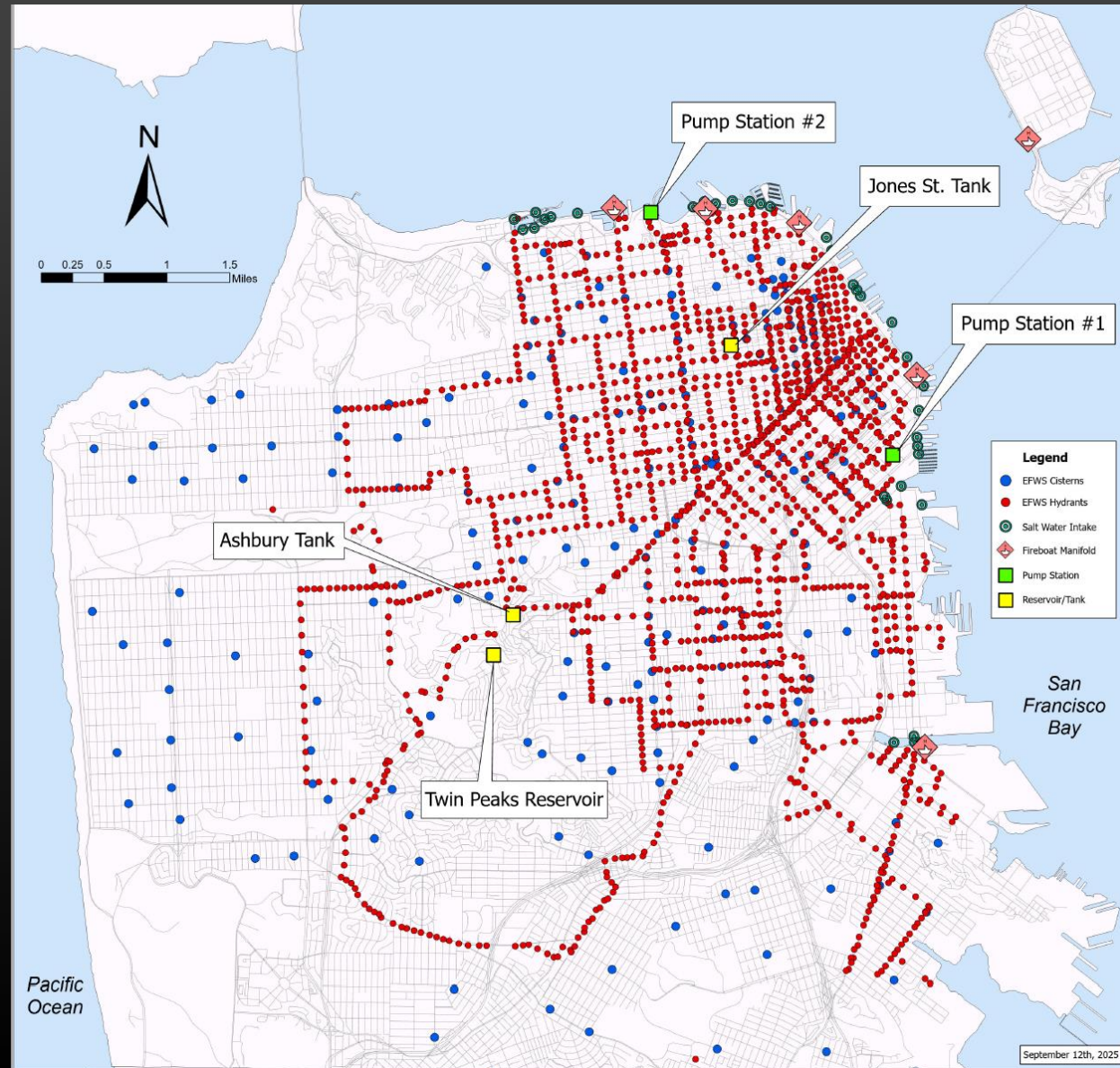
# Emergency Firefighting Water System (Formerly AWSS)



- High-pressure fire-suppression water system
- Primary source of water: Non-drinking water tanks, reservoir, cisterns
- Backup source: pumped salt water
- Ownership transferred from SF Fire Department to SFPUC in 2010



# Existing - Emergency Firefighting Water System



# Potable Emergency Firefighting Water System

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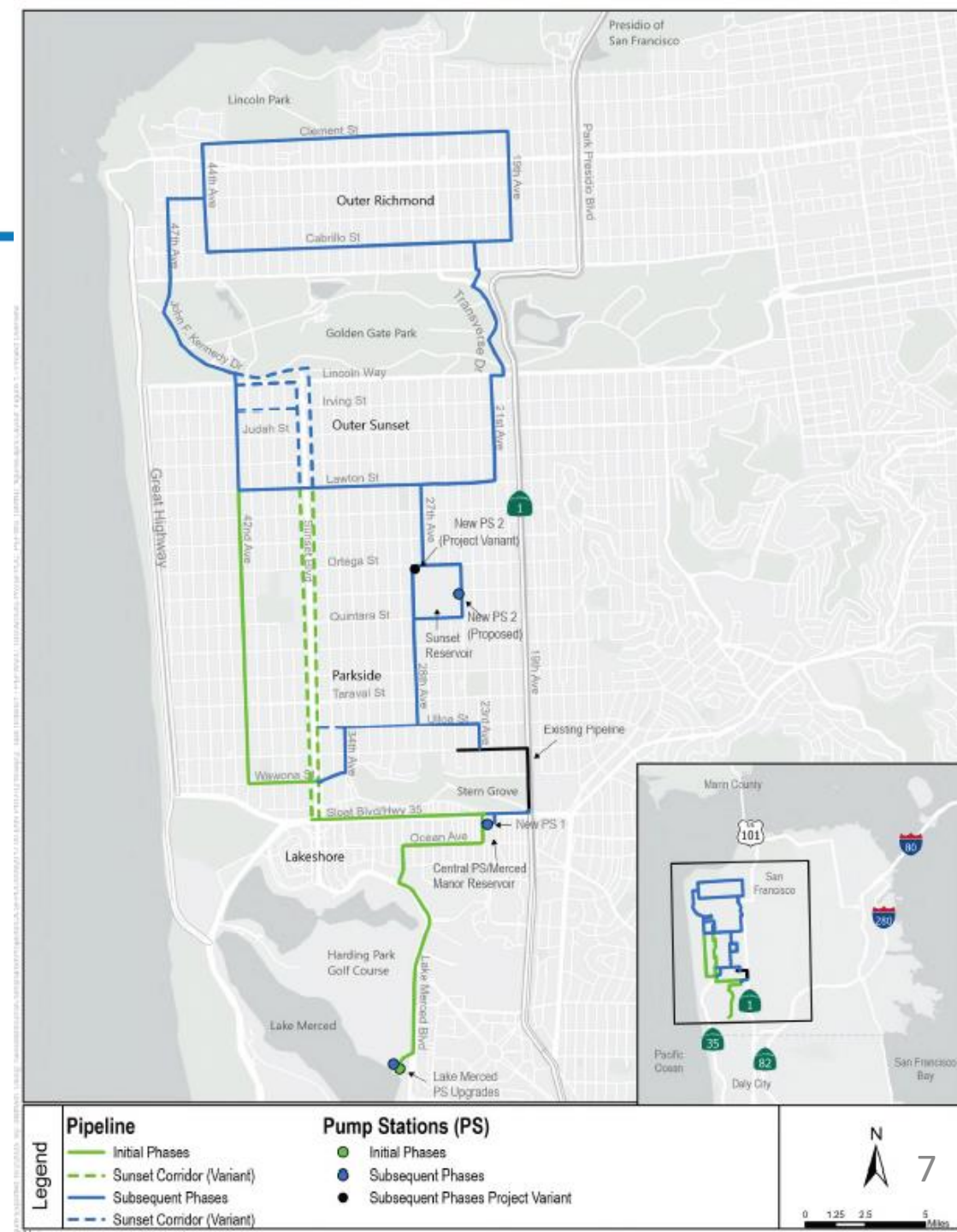
- Earthquake-resistant high-pressure water transmission pipeline within existing public right-of-way
- Serve drinking water and switch to high pressure firefighting water when needed.
- Multiple sources of water
- Back up water source would be Lake Merced.
  - Easy to access and weeks worth of firefighting water contained there.
- This system is being planned and developed in coordination with the San Francisco Fire Department.





## PEFWS Alignment for Westside

- Green has been funded, underway.
- Blue – significant planning underway and future construction projects.
- Dotted lines are alignment variants. Multiple alignments are under consideration in design.





## Potable EFWS - Preferred Alternative

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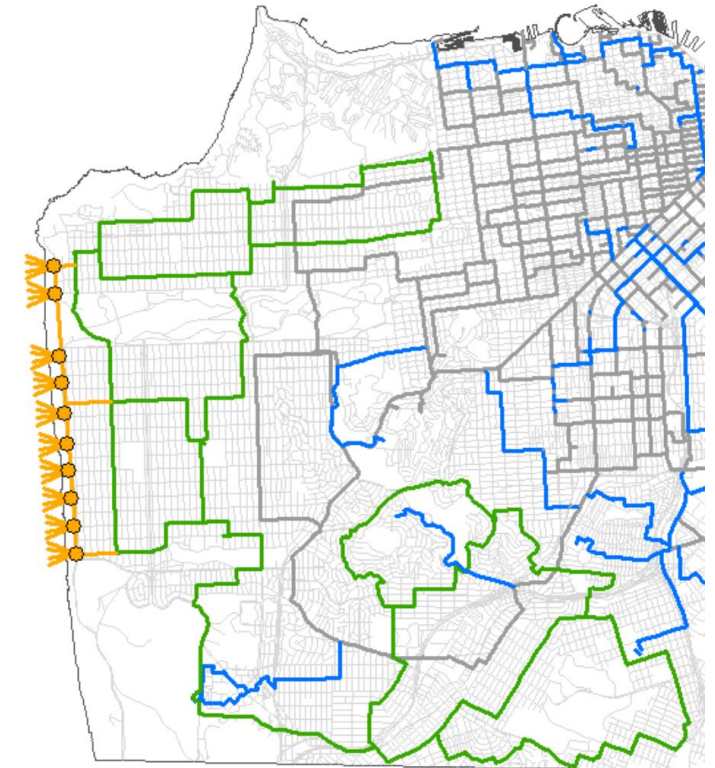
- Uses existing water supply reservoirs and weeks of water supply in Lake Merced in an emergency.
- More cost effective and has immediate benefit to public safety as the system is built out over time.
- Using earthquake resistant ductile iron pipe or welded steel for seismic resilience.
- Detailed hydraulic modeling ensures that there will be sufficient water for firefighting and drinking.
- Water System Improvement Program (2014 to present) Level of Service (LOS) projects ensure water to our reservoirs within 24 hours after a major earthquake.
- Enables cost sharing from SFPUC





# Why not Saltwater for the Westside?

- Existing pump station at Lake Merced. Lake Merced provides weeks of backup emergency water supply (as backup to potable supply)
- Ocean Beach has difficult construction and stringent environmental protection requirements
- Requires five to ten new pump stations, power, diesel backup, significant new infrastructure required along Ocean Beach
  - Difficult to permit/maintain/construct
  - Very expensive
  - Can't utilize SFPUC funds
- History:
  - SFPUC and SFFD thoroughly investigated 12 potential options for this system including saltwater and potable water.
  - Joint recommendation in 2018 was new Potable EFWS.



## Legend

- Westside Seawater Well Station
- Westside Seawater Supply Pipeline
- Existing Conventional EFWS
- Future Conventional EFWS
- PEFWS
- Streets
- Shoreline



# Funding

- Earthquake Safety and Emergency Response (ESER) General Obligation Bonds – approximately 25% of the total ESER bonds
- Match with SFPUC Water Capital Improvement Plan bonds.
- Cost sharing doubles the fire coverage/distance.





# PEFWS Contract A Schedule Impact



			ESER 2026				
2024	2025	2026	2027	2028	2029	2030	2031
Contract A - Design		Bid & Award	Contract A - Construction				
	Contract B - Study	Contract B - Design	Bid & Award	Contract B - Construction			
<div>• CEQA Appeal could delay schedule above and subsequent contracts by minimum of 6 months to 1 year</div>							
<div></div> A – Lake Merced	<div></div> E – Richmond-GG		<div></div> Central Pump Station				
<div></div> B – Sunset West	<div></div> F – Sunset East		<div></div> Sunset Pump Station				
<div></div> Constructed	<div></div> G – Loops/Connectors						
<div></div> C/D - Richmond-GG							





Questions?