



San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

SF Emergency Firefighting Water System Capital Project Update to the Land Use and Transportation Committee

January 22, 2024

Katie Miller, Director, Water Capital Programs, SFPUC
Brian Strong, Director, Office of Resilience and Capital Planning
Darius Luttrupp, Deputy Chief, SFFD

Emergency Firefighting Water System

Agenda

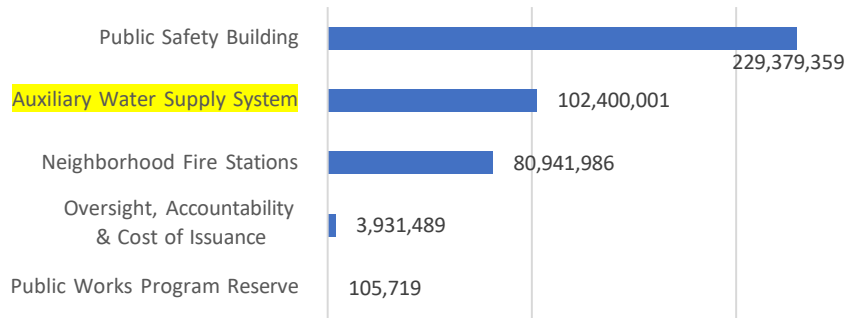
- Accomplishments to Date
- EFWS Future Build-Out
- EFWS Currently Funded Projects
- Financing Study Recommendations
- SFFD Update



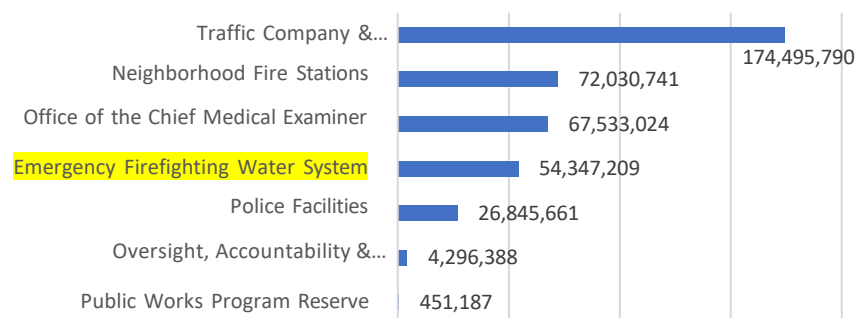


ESER Bond Program 2010, 2014, & 2020

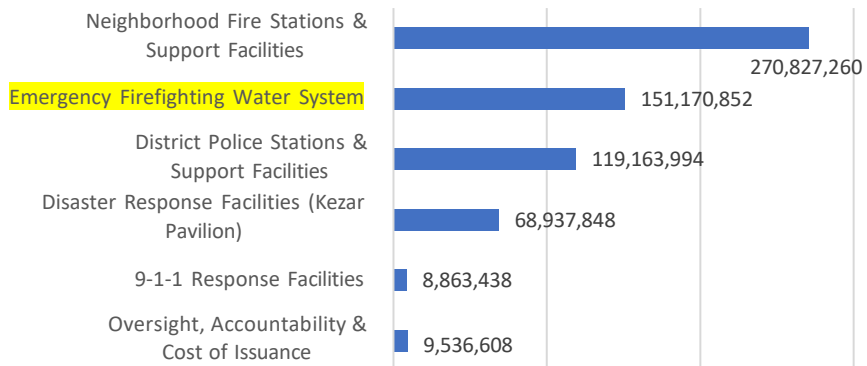
Overview of ESER 2010 Scope and Budget \$416.7M



Overview of ESER 2014 Scope and Budget \$400M



Overview of ESER 2020 Scope and Budget \$628.5M










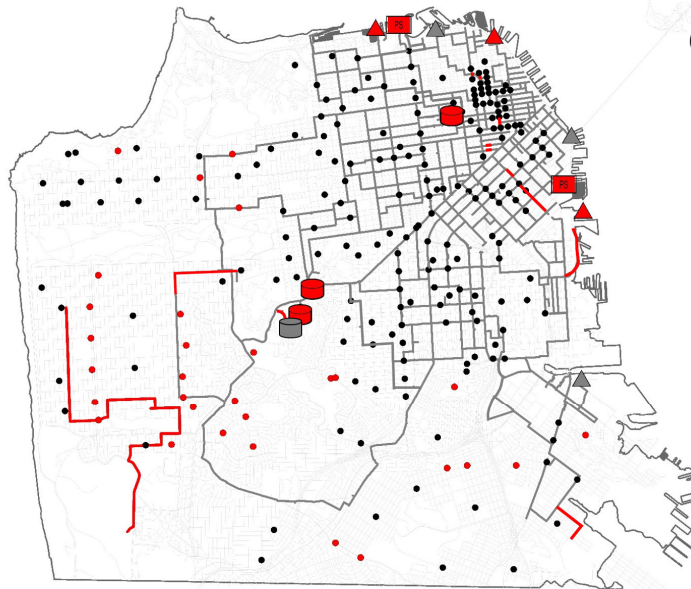
EFWS System Improvements funded for \$308M representing 21% of ESER Bond Funding (2010-2020)

Source: Quarterly Status Report, Presented to the Citizens' General Obligation Bond Oversight Committee, Third Quarter of FY22-23, June 2023.



Accomplishments to Date

-  Pump Stations 1 and 2
-  Storage: Jones, Ashbury, Twin Peaks, Clarendon (Sutro Res.)
-  Fireboat Manifolds
-  Cisterns
-  Existing Conventional EFWS
-  PEFWS and Conventional (Completed and In Progress)
-  Major ESER Bond Funded Improvements (Completed and In Progress)



EFWS Expansion:

- **Candlestick Point pipeline**
- **Terry Francois & Mariposa EFWS Pipeline**
- **Terry Francois/Mission Rock/Warriors Way EFWS Pipeline**
- **Clarendon Supply connection to Summit Reservoir**
- **19th Ave Potable EFWS pipeline (Sloat Blvd to Vicente St)**
- **Vicente Potable EFWS pipeline (19th Ave to 23rd Ave)**

Completed Projects:

Facilities:

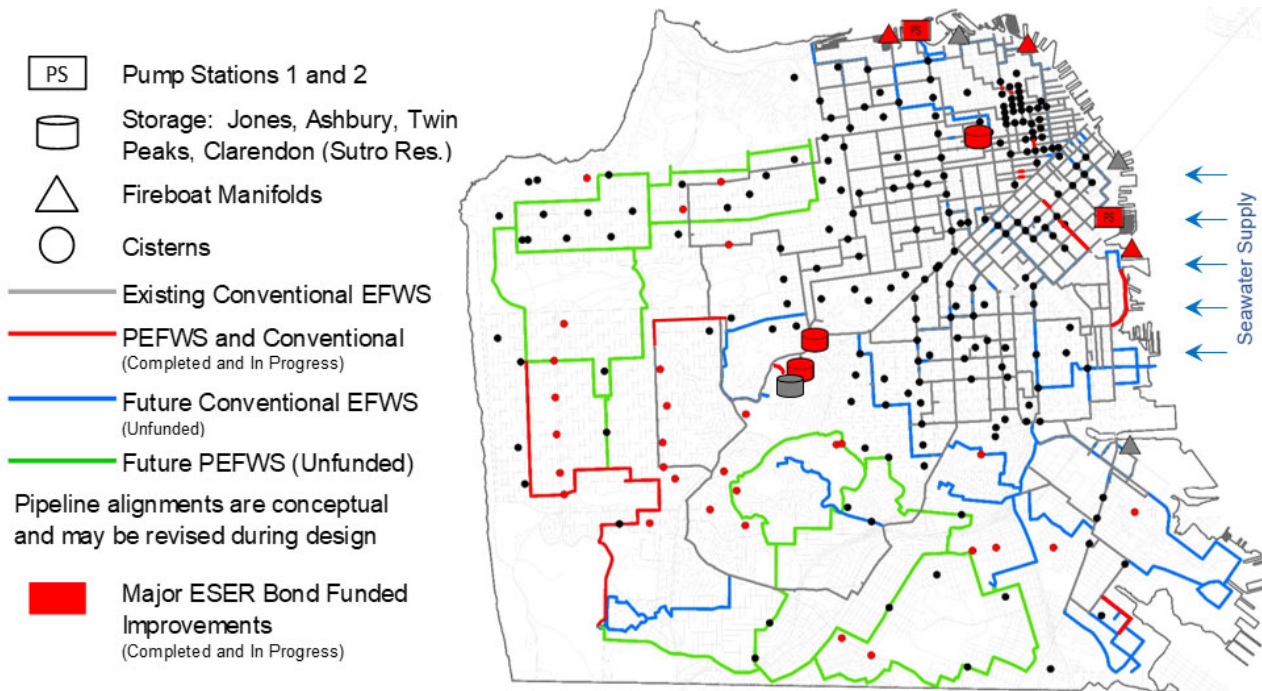
- **30 new cisterns**
- **Twin Peak Reservoir upgrades**
- **Ashbury Tank upgrades**
- **Jones Street Tank, Valves and Controls Improvements**
- **Pump Station No. 1 Upgrades**
- **Pump Station No. 2 Upgrades**

Existing EFWS Pipeline Improvements:

- **Ashbury Bypass EFWS Pipeline**
- **Fillmore/Haight pipeline**
- **Irving Street EFWS Pipeline**
- **19th Ave EFWS Pipeline (from Irving St to Kirkham St)**
- **Columbus Avenue pipeline**



EFWS Future Build-out

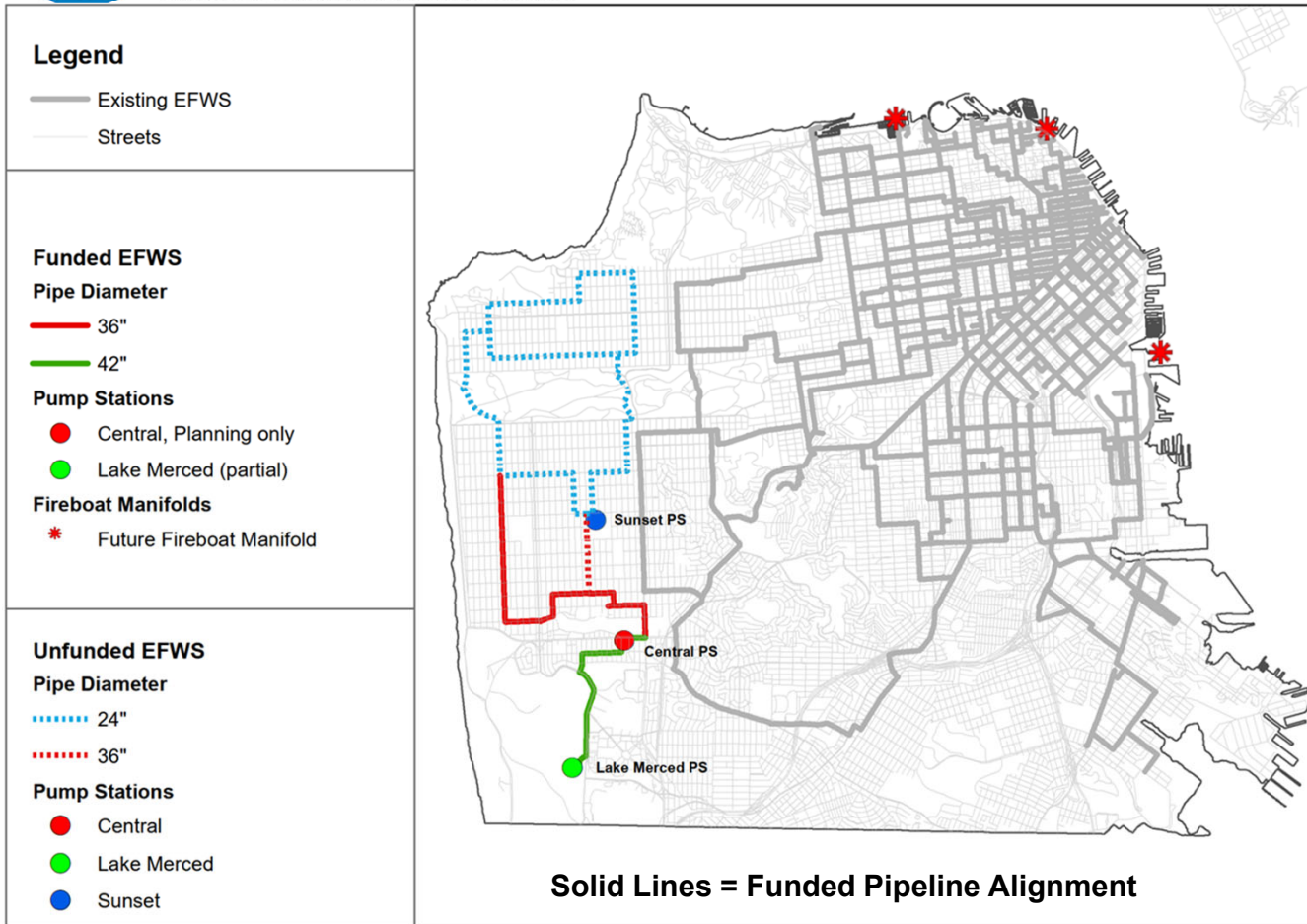


**2050 Planning Study (2021)
Proposed Future Pipelines
both EFWS and PEFWS –
Full Build-Out Citywide**

Full EFWS Build-Out will
require significant future
funding commitments

Planning Study estimated cost
at least \$4B by 2046

Potable EFWS Current Funding



May 2023 Draft Conceptual Engineering Report

- Pipeline Cost Increase
- Fireboat Manifold Cost Increase

Funding Solutions

Cost Saving Alternatives

Prioritization of Projects

Water CIP to fund “fair share:”

- 55% ESER, 45% Water CIP for PEFWS pipeline
- 100% ESER for EFWS components

Schedule Solutions

Water to fund Planning/Design for “shovel ready” projects in 2028

Potable EFWS Project Schedule

PEFWS Project Delivery – Forecasted Milestones

2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Planni	Contract A Design		Bid &															
	Planni	Contract B Design		Contract A Construction														
				Bid &	Contract B Construction													
		Contracts C & D Planning		Contract C Design	Contract C Construction													
					Central Pump Station Design	Contract D Design		Central PS Construction										
								Contract E Design	Contract E Construction									
									Contract F Design	Contract F Construction								
											Contract G Design	Contract G Construction						
												Sunset Reservoir Pump Station Design	Sunset Reservoir Construction					
												Contract H Design	Contract H Construction					



 Currently not funded

- Contract A – 42” Welded Steel Pipe
- Contract B – 36” Welded Steel Pipe
- Contract C – 24” ERDIP
- Contract D – 24” ERDIP
- Contract E – 24” ERDIP
- Contract F – 24” ERDIP
- Contract G – 24” ERDIP
- Contract H – 36” Welded Steel Pipe

Fireboat Manifolds

- 3 Fireboat Manifolds in Planning (Fort Mason, Pier 33-1/2, Mission Bay Ferry Landing)
 - Fort Mason critical with high risk of failure
 - Mission Bay Ferry Landing - high value and low cost
 - Pier 33-1/2 recommend waiting for Sea Wall Improvements
- Recommend funding Design, Construction of new manifolds at Fort Mason & Mission Bay Ferry Landing using ESER 2020
- SFPUC and SFFD implementing Emergency Response protocols for Fort Mason until upgrade completed
- Schedule: Design/Permitting 2024-2026; Construction 2027-2029



Fort Mason Pier 1

2050 Planning Study Financing Study Recommendations

- Continue to support EFWS through the ESER G.O. program
- Continue to include EFWS in Development Agreements as new development occurs
- Consider the future formation of a Community Facilities District to support the Westside extension
- Consider public outreach campaign on fire prevention strategies

The future of EFWS & fire mitigation

Major current and potential funding sources compared:

Source Type	Revenue Generating Potential	Stable Revenue Stream	Long-Term Sustainability	Competition for other City uses	Voter Approval Required	Administrative Complexity
Current Funding Sources						
General Obligation Bonds	Strength	Strength	Neither strength or weakness	Weakness	Weakness	Neither strength or weakness
Water Revenue Bonds	Strength	Neither strength or weakness	Neither strength or weakness	Weakness	Strength	Neither strength or weakness
Developer Agreements	Weakness	Weakness	Weakness	Strength	Strength	Neither strength or weakness
Other Funding Sources						
Mello-Roos Bonds / CFD	Strength	Strength	Strength	Neither strength or weakness	Weakness	Weakness

Key		
Strength	Neither strength or weakness	Weakness

Fire ignition mitigation can include city mandates and/or public outreach on excess flow shut-off valves and automatic circuit breakers

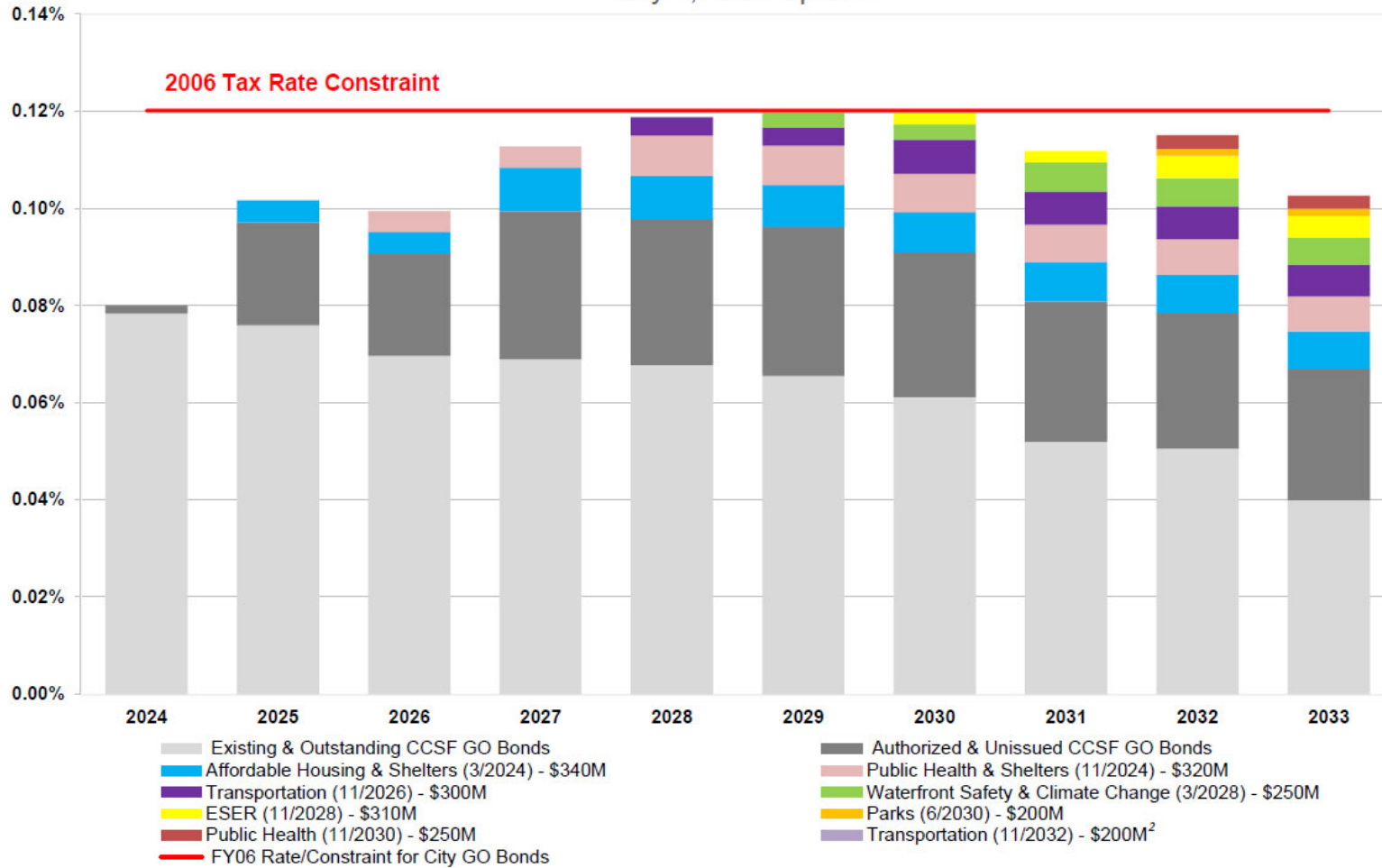
G.O. Bond Schedule

Election	Proposed Program	Amount (M)	Details
Mar 2024	Affordable Housing	300	<ul style="list-style-type: none"> Contribution to Affordable Housing Pipeline: 300M
Nov 2024	Public Health & Shelters	360	<ul style="list-style-type: none"> Chinatown Health Clinic: 72M Silver Ave Health Clinic: 35M City Clinic: 29M ZSFG Bldg 3 Retrofit to allow 101 Grove Exit: 51M LHH/ZSFG Critical Renewals: 33M 1001 Polk St/260 Golden Gate Shelters: 140M
Nov 2026	Transportation	300	<ul style="list-style-type: none"> MTA facilities / yards
Mar 2028	Waterfront Safety & Climate Change	250	<ul style="list-style-type: none"> Seawall resilience: 200M Other climate priorities (flood/heat/GHG, etc.): 50M
Nov 2028	Earthquake Safety & Emergency Response	310	<ul style="list-style-type: none"> Fire Stations Police Stations Emergency Firefighting Water Supply
Jun 2030	Parks & Open Space	200	<ul style="list-style-type: none"> 10 years since last RPD bond + escalation Renewals, retrofits, and climate projects across the city
Nov 2030	Public Health	250	<ul style="list-style-type: none"> ZSFG Building 80/90 Health Clinics and other projects across the city
Nov 2032	Transportation	200	<ul style="list-style-type: none"> On-going facility and system-wide needs Projects yet to be defined
¹⁰ TOTAL		2,170	



sed Capital Plan - General Obligation Debt Program FY2024-2033

May 1, 2023 Update¹



¹ Updated size and timing of Affordable Housing & Shelters (3/2024) and Public Health & Shelters (11/2024) authorizations

² First tax levy for Transportation (11/2032) authorization does not occur until FY2034

AV growth assumption of 1.14%, 1.03%, 0.87%, 1.01%, 1.48% from FY24-28, 3% per year thereafter

Revised 5-1-2023

Hose Tender Update

3 new hose tenders

- Station 18, located
1935 32nd Ave
in service
- Station 22, located
1290 16th Ave
Coming summer 2024
- TBD
Coming summer 2024



Demonstration at Twin Peak on 10-17-2023



Portable Hydrant

EFWS Operations – Drills & Training

SFPUC & SFFD: joint activities, drills to prepare and train for emergencies:

- Quarterly 5-inch EFWS Hose Tender and Portable Hydrant Drills
 - Test & replace hose as needed
- Quarterly Fireboat and Manifold Drills
- Pressure & Flow Testing for Treasure Island System
- SFFD & SFPUC Joint Agency EFWS Monthly Meetings & Annual Tabletop Exercises
- Upcoming Demonstration at Lake Merced – January 31, 2024



- Inspections & Preventative Actions – Joint with SFFD
 - High Pressure Hydrants
 - Seawater Suction Connection Infrastructure
 - Reservoirs and Cisterns
- Various Pipeline Leak Repairs
- Monthly & Annual Pump and Generator Inspections and Preventive & Corrective Actions at Pump Stations and Reservoirs
- Valve Inspections & Exercising
 - Valves exercised and pressure tests performed around open sewer trenches to verify integrity of pipelines adjacent to construction



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Questions?