

Peaks Mill Water District

Public Meeting

6:00 PM EST, Thursday, March 23

Peaks Mill Christian Church

7534 Peaks Mill Road

Frankfort, Kentucky

Presentation by:

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Background Information:



Peaks Mill Water District

- District Created by Franklin Fiscal Court in March 1961
- Serves Northeast Franklin and Southwest Owen Counties
- Board of Commissioners:
 - ✓ Church Quarles, Chairman
 - ✓ Ross Thompson, Secretary
 - ✓ Raven Turner, Treasurer
- Board Meetings
 - Second Monday of each month, 5:30 PM EST
 - Meetings open to the public

Water System Summary:

- Rates and Service - regulated by the KY Public Service Commission (KY PSC)
- Water Quality - regulated by the KY Division of Water (KY DOW)
- Water System Stats:
 - 1,200 Customers
 - 185 Miles of Water Pipe
 - Three Pressure Zones
 - 3 Storage Tanks (Shadrick, Herman/Smithers, Union)
 - 5 Pump Stations

Water District Challenges:



1. Maintaining Water Quality
2. High Water Loss
3. Aging Infrastructure
4. Increase in Operating Expenses

Water Quality Requirements:

➤ Major KY Division of Water Regulations:

- Pressure between 30 and 150 psi – in compliance
- Minimize Disinfection By-Products – in compliance
- Minimize Lead and Copper Levels – in compliance

➤ Regulatory Challenge

- Maintaining minimum chlorine residuals (> 0.5 ppm)
- Chlorine levels can drop below 0.5 ppm in some parts of system
 - ✓ Remote portion of system
 - ✓ Low density areas
 - ✓ Dead-end water mains (non-circulating)

Actions Taken to Maintain Water Quality

1. 2020 - moved a portion of Pressure Zone 2 & 3 to KY American Supply

- ✓ Higher chlorine residual with annual free chlorine flush in April-May
- ✓ Higher cost of water (\$4.64/1,000 gallons KAWC vs \$2.82/1,000 gallons FPB)
- ✓ Helps but still requires flushing in remote areas

2. 2019-2023 - Flushing

- ✓ Flush on dead ends and remote areas when chlorine drops below 0.5 ppm
- ✓ Installed auto-flushers to reduce manpower required for flushing
- ✓ Annual Cost of \$60,000

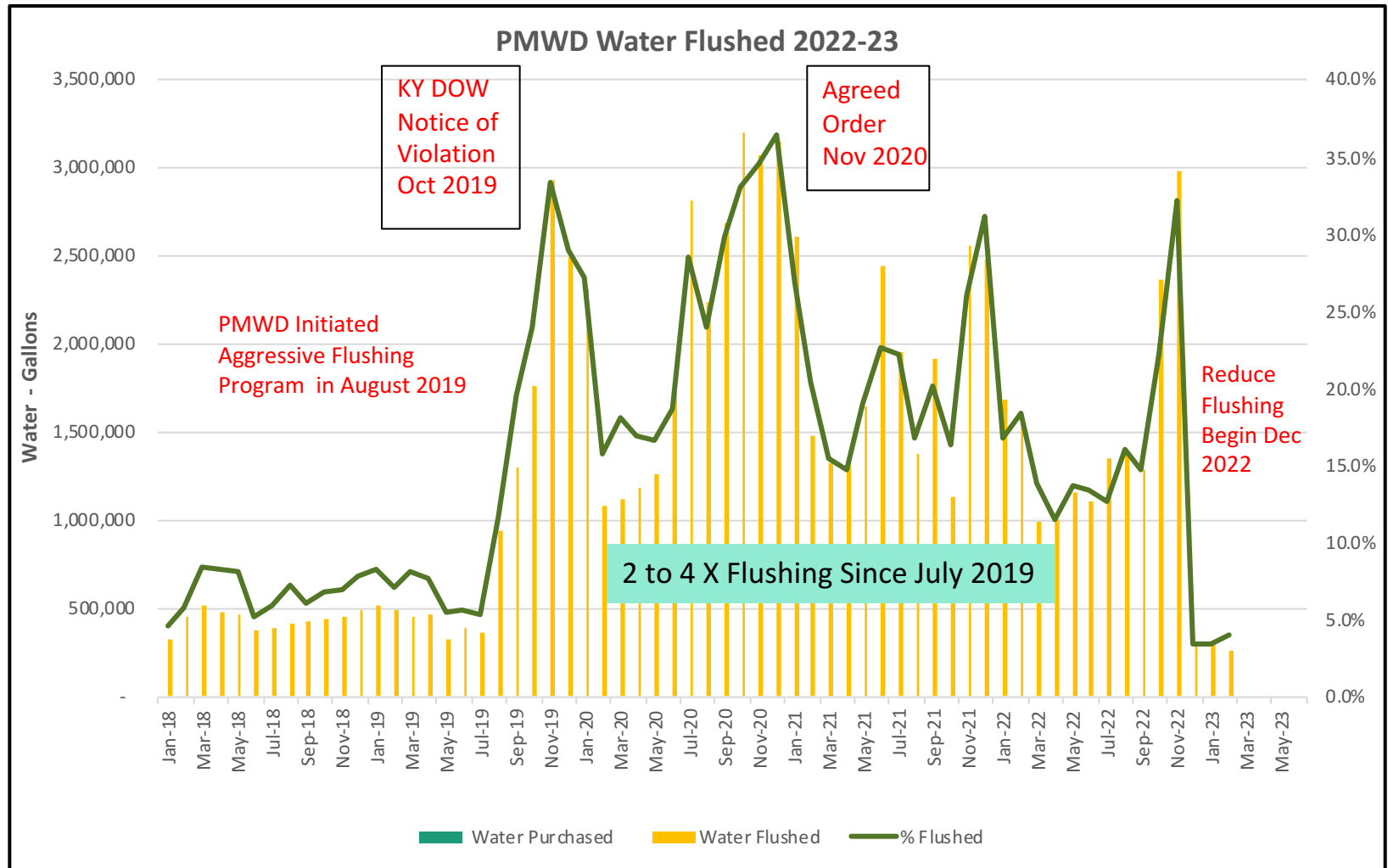
3. 2020-2021 - Distribution Treatment Efforts

- ✓ Pilot chemical feed approved by KY DOW
- ✓ Oracle chemical in 2020-21 to reduce bio-film – no significant improvements
- ✓ Booster Chloramination in 2020-21 – high cost for chemicals and manpower to maintain
- ✓ In 2022 - Concluded a well managed flushing program is more cost effective

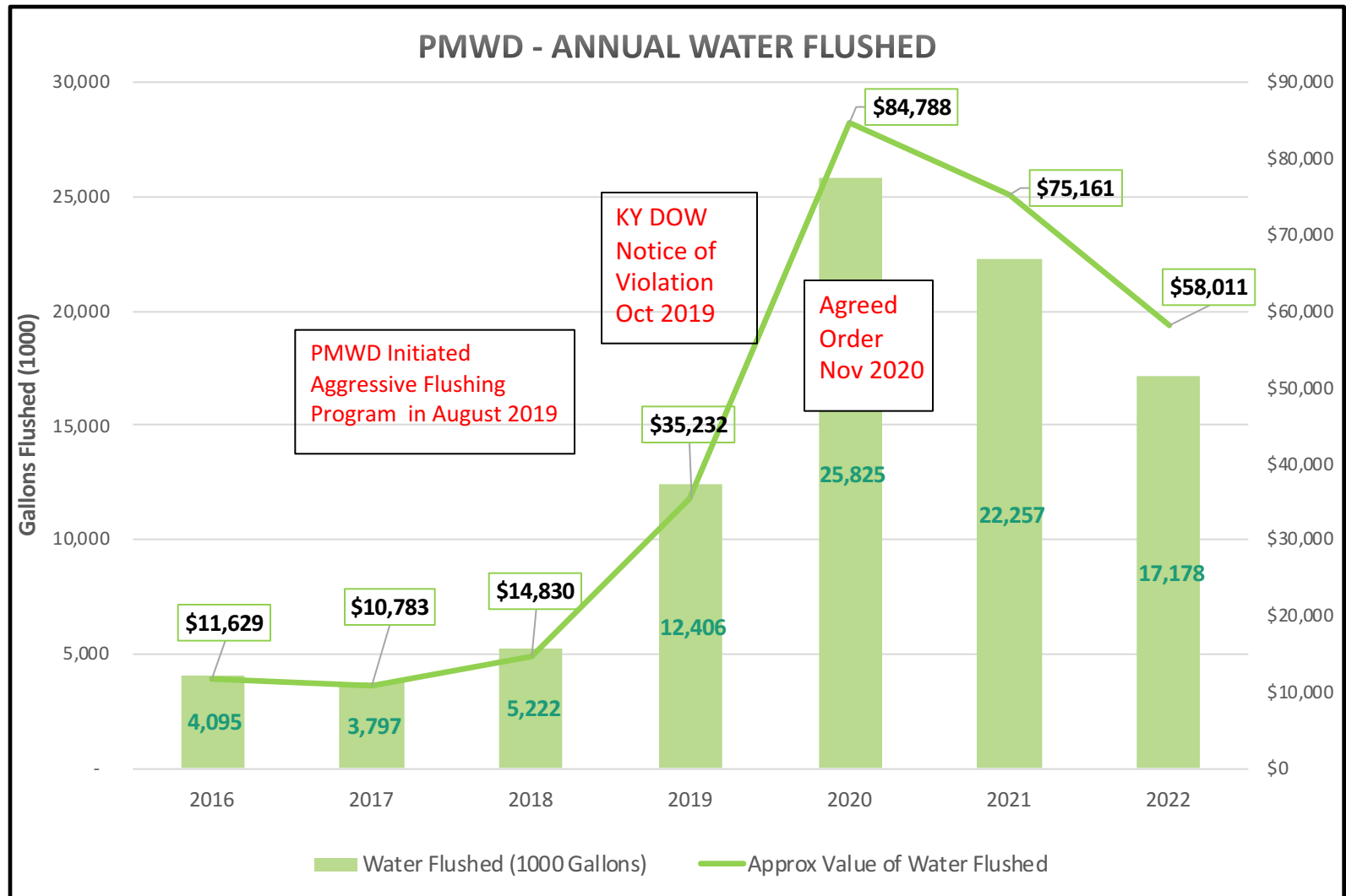
4. Storage Management

- ✓ Best practice is to cycle 30% tank volume daily
- ✓ Adjusting tank levels shows some benefit
- ✓ Limited tank cycling due to 30 psi pressure requirement

Flushed Water Volume



Flushed Water Cost

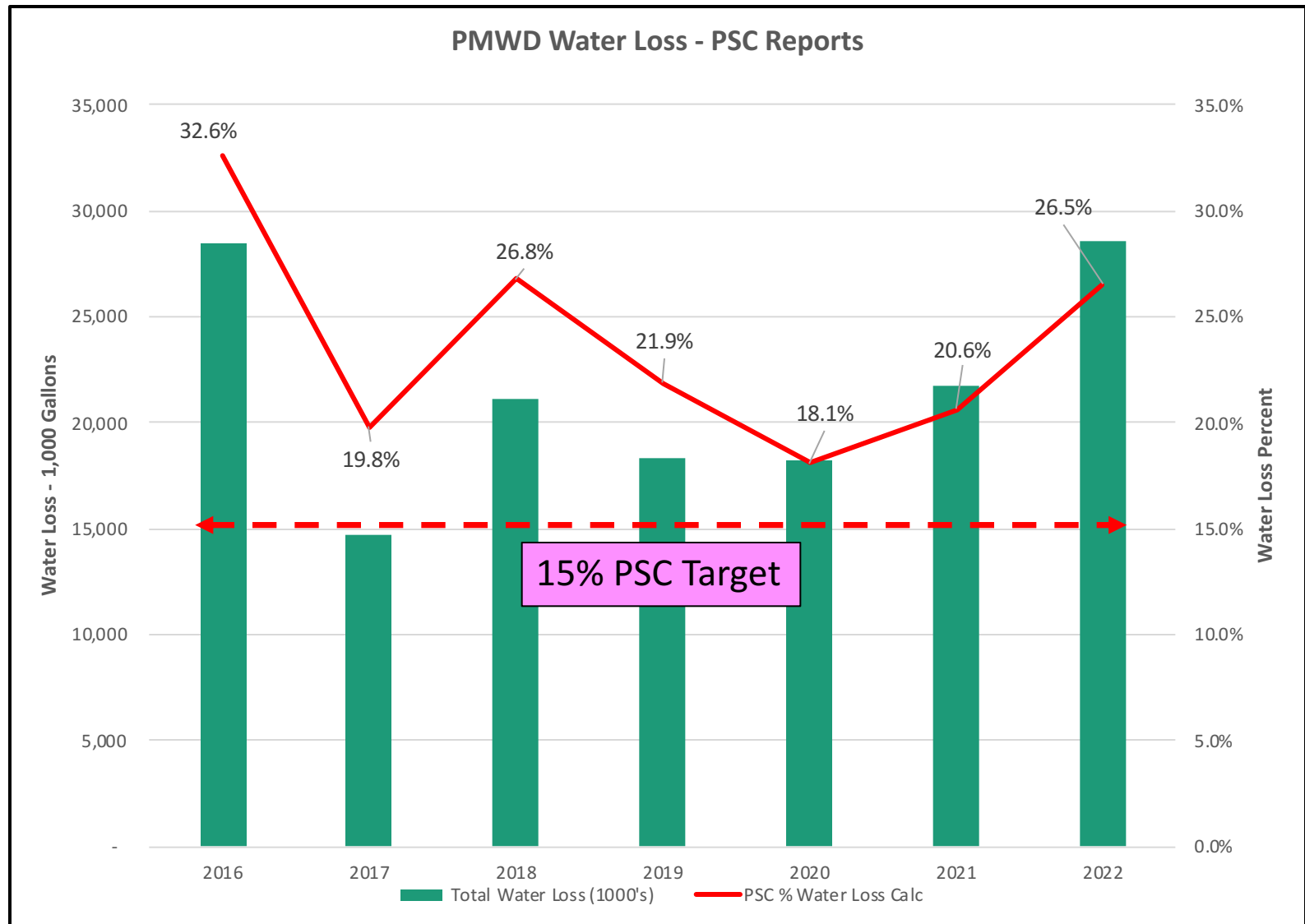


High Water Loss

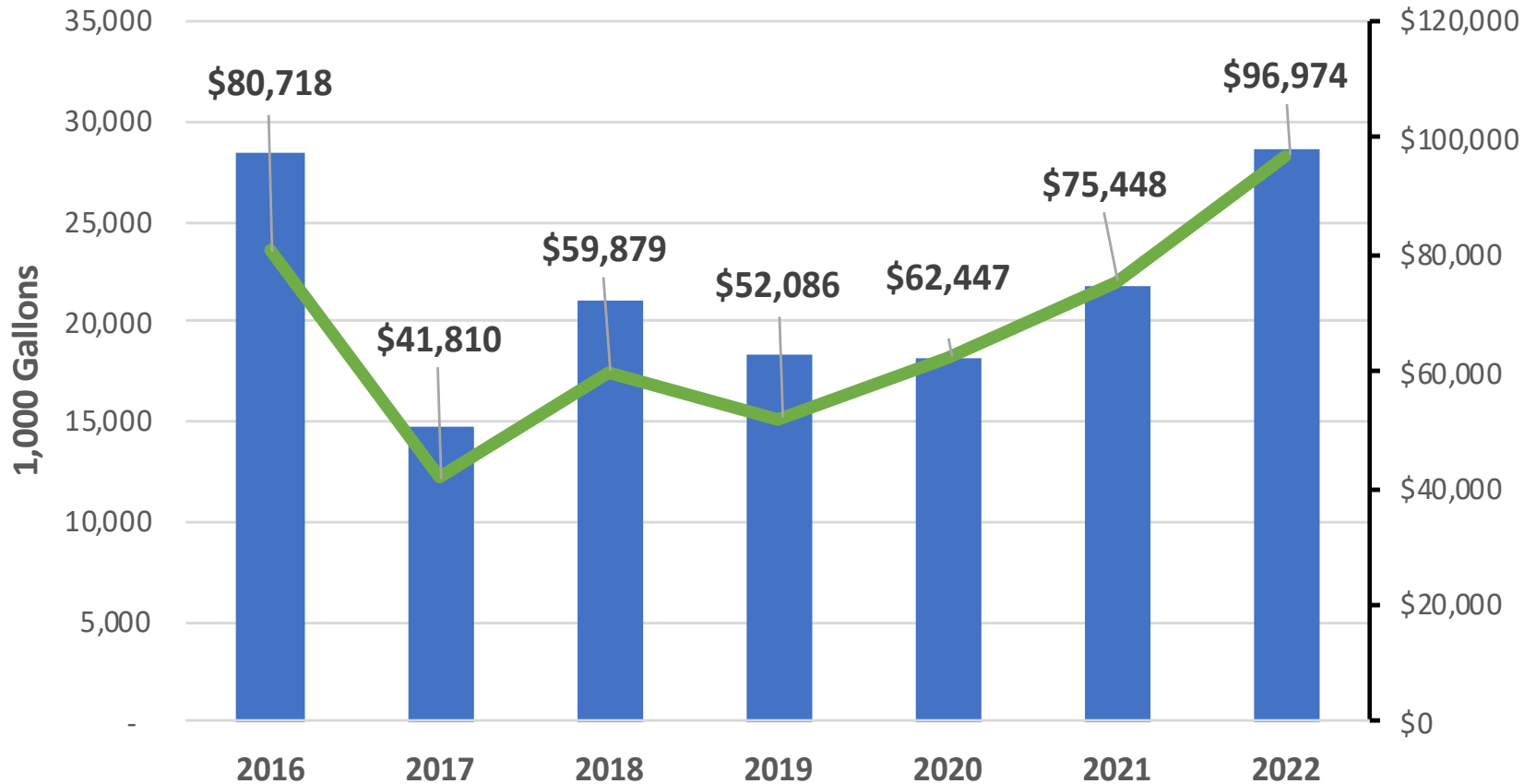


- PMWD has historically high-water loss exceeding 20%
- Primary Causes:
 - Portions of system installed with non-standard pipe materials
 - ✓ Leaks repaired, some exceeding 15 gallons per minute
 - Aging and Inaccurate Water Meters
 - ✓ Meter stock approximately 13 years old
 - ✓ Some meters over 20 years in age
 - ✓ Initial testing indicates 90% do not meet AWWA industry standards
 - ✓ Slow meters may account for 2 to 5 percent of water loss
 - ✓ Estimate of \$750,000 to replace 1,250 water meters
 - Water Theft
 - ✓ Unauthorized connections to water system
- KY PSC recommends less than 15% water loss
- Value of Water loss exceeded \$96,000 in 2022

Water Loss Trends



PMWD Water Loss - Gallons and \$ Value



Water Leak Repairs



Aging Infrastructure Needs - \$3.2 Million



- Water Mains - \$1,200,000
 - Non-standard plastic pipe installed in 1970's
 - Asbestos Cement Pipe installed in 1970's
 - US 127 Main Extension
- Pump Stations - \$350,000
 - Sulphur Lick Pump Station
- Pressure Regulating Stations - \$50,000
 - Corroded valves and piping
- Storage Tanks - \$525,000
 - Three Tanks need painting in next 10 years
- Meter Replacement/Service Lines - \$750,000
- Flushing and Chemical Feed Systems - \$250,000

10-Year Capital Improvement Plan

Peaks Mill Water District - 10 Year Capital Improvement Program 2022-31								
#	Priority	Type	WX #	Project Title	Scope/Description	Years	Budget	
1	A1	Renewal, Reliability, Hydraulics	WX 21073024	Sulfur Lick Booster Pump Station	Rehabilitate Sulphur Lick pump station, including pumps, motors, controls, SCADA telemetry; install 500 feet of 6-inch water main in Cedar Road for emergency supply connection from Georgetown.	2022-23	\$350,000	
2	A2	Water Quality, Water Loss, Operating Equipment	WX 21073035	Distribution System Improvements for Water Quality and Water Loss	Install water circulation in the Shadrick Ferry and Herman Smithers tanks to improve water quality. Install automatic flushing connections on dead end water mains to maintain chlorine residuals. Install on-line chlorine monitoring at PM Office. Install continuous water pressure monitoring as required by KY PSC. Purchase equipment for leak detection, line location, and flow measurement.	2022-23	\$175,000	
3	A3	Regulatory	WX 21073034	Service Line Inventory	Build a Service Line Inventory database required by the Revised Lead and Copper Rule. Complete Inventory of 1250 services by Oct 2024. Scope of work includes vacuum excavation, property/house research age, and field inspection.	2023-24	\$50,000	
4	B1	Regulatory, Customer Service	WX 21073027	Stonewall Subdivision Main Replacement	Replace 4,000 feet of 2-inch water mains with 5,000 feet of 6-inch and 4-inch water mains. Relocate 50 meter/services to front of house, install hydrants and line valves. Existing 3-inch water. Main is undersized and experiences high water loss.	2024-26	\$582,950	
5	B2	Water Quality	WX 21073022	Chemical Feed Building	Construction of a chemical feed building for booster chloramination. Booster chloramination may be required to maintain chloramination residuals above 0.5 ppm during warm water periods.	2023-24	\$146,000	
6	B3	Renewal, Reliability	WX 21073026	US 127 8-inch Main Extension	Install 5,000 feet of 8-inch water main in Owenton Rd/US 127 from Quarles Road/Wright Rd/Perkins Lane to Strohmeier Bypass to replace existing 3" water main and provide backbone water supply for pressure zone 2. (Replaces vulnerable vertical 3-inch cast iron pipe near Strohmeier Bypass)	2024-26	\$582,950	
7	B4	Customer Service	WX 21073036	AMR Replacement	Existing AMR system installed in 2009 and reaching end of useful life in 2024. Replace existing 1250 AMR meters with new AMR/AMI system. Scope includes meters, encoders, transponders, radios, communication software, field computers, leak sounding equipment. Phase project over 2-3 years.	2024-26	\$745,000	
8	C1	Operations	TBD	Storage Building	Build storage facility for materials and equipment. Approximately 1,200 square feet @\$35/sf plus utilities.	2027-31	\$64,300	
9	C2	Maintenance	TBD	Shadrick Ferry Tank Painting	Storage tank installed in 2005, plan to repaint exterior in 2027-31	2027-31	\$175,000	
10	C3	Maintenance	TBD	Herman Smithers Tank Painting	Storage tank installed in 1986, plan to repaint exterior in 2027-31	2027-31	\$175,000	
11	C4	Maintenance	TBD	Union Ridge Tank Painting	Storage tank installed in 2005, plan to repaint exterior 2027-31	2027-31	\$175,000	

\$3.2 Million over 10 years

Income and Expense History



➤ History of Rate Increases

- Last rate Increase was July 26, 2018 (2016 audited financials)
- \$48.02 average bill for 4,000 gallons per month

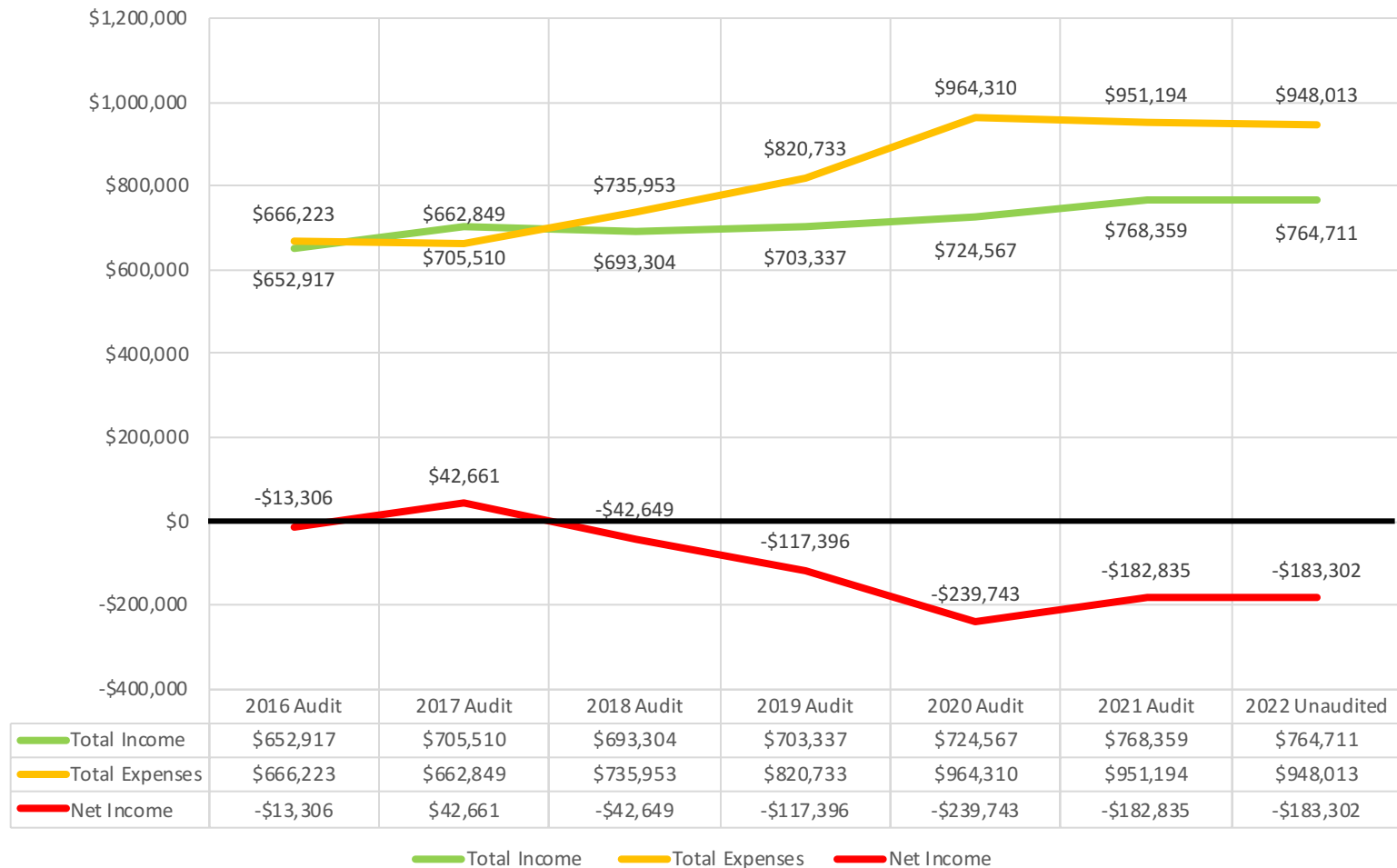
➤ Revenue has increased 17% since 2016

➤ Expenses have increased 42% since 2016

- Cost of increased flushing
- Cost of lost water (leaks, theft, inaccurate meters)
- Cost of compliance (maintain chlorine residuals)
- Overall increase in labor, materials and equipment costs (COVID impact)

PMWD Revenue and Expenses

PMWD Profit and Loss 2016-2022



Alternatives to Address Challenges

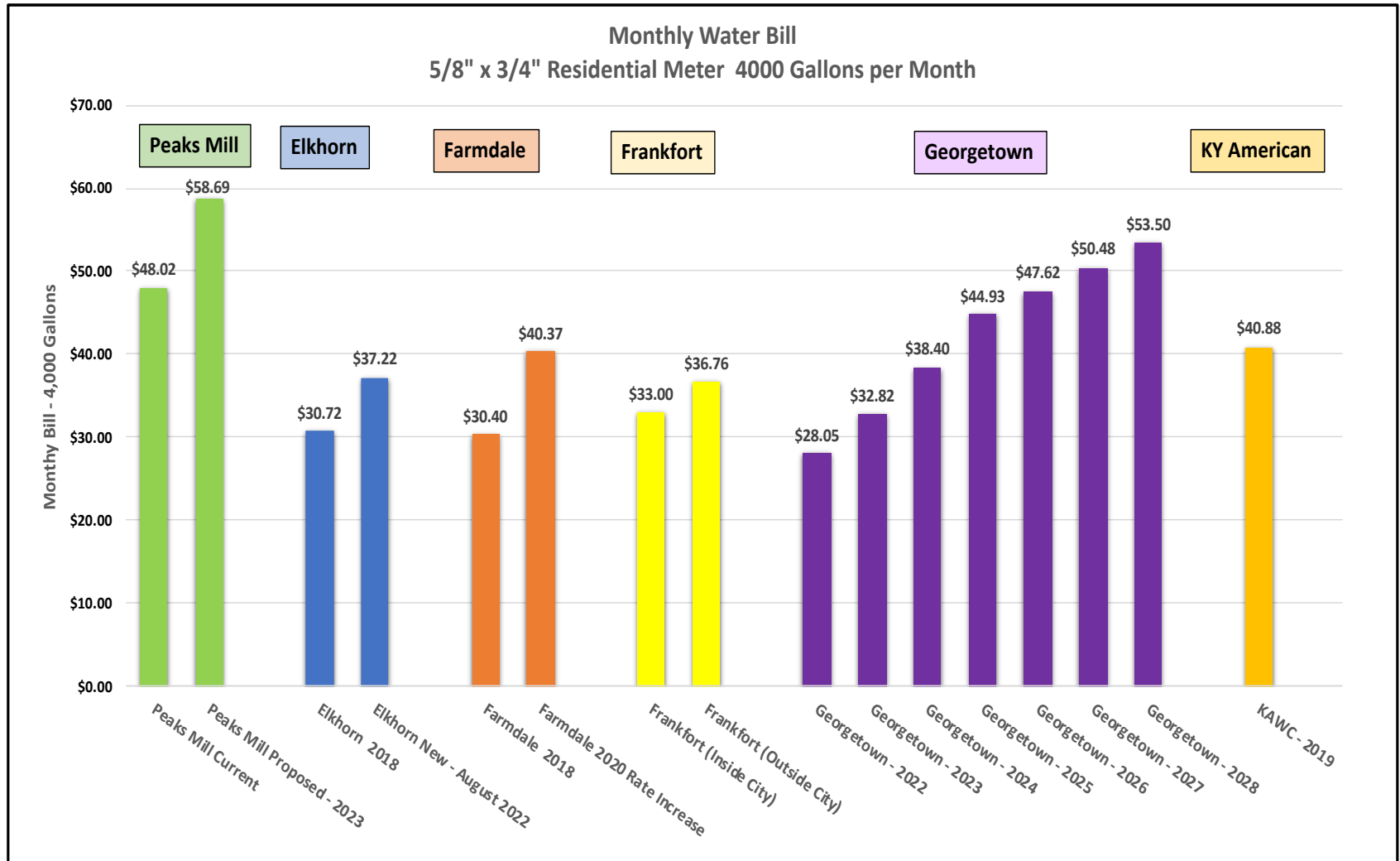


1. Rate Increase of 24.6%
 - Plus \$4.51 surcharge for 4 Years
2. Acquisition by Larger System
3. No Action

1. Rate Increase Alternative

- 2022 Rate Analysis by Ky Rural Water Association
 - 24.6% Average Rate Increase
 - Plus \$4.51 Water Loss Surcharge for 4 Years
 - Average Monthly Bill for 4,000 Gallons increases from \$48.02 to \$58.69
 - Once water loss drops, then surcharge is removed
- Last rate increase approved by PSC on July 26, 2018 (based on 2016 Financials)
- Consumer Prices (CPI) have risen 25% since 2016

Area Rate Comparison



2. Acquisition Alternative

➤ Three System Contacted – Two Interested:

- Frankfort Plant Board
- Kentucky American Water
- Georgetown Water

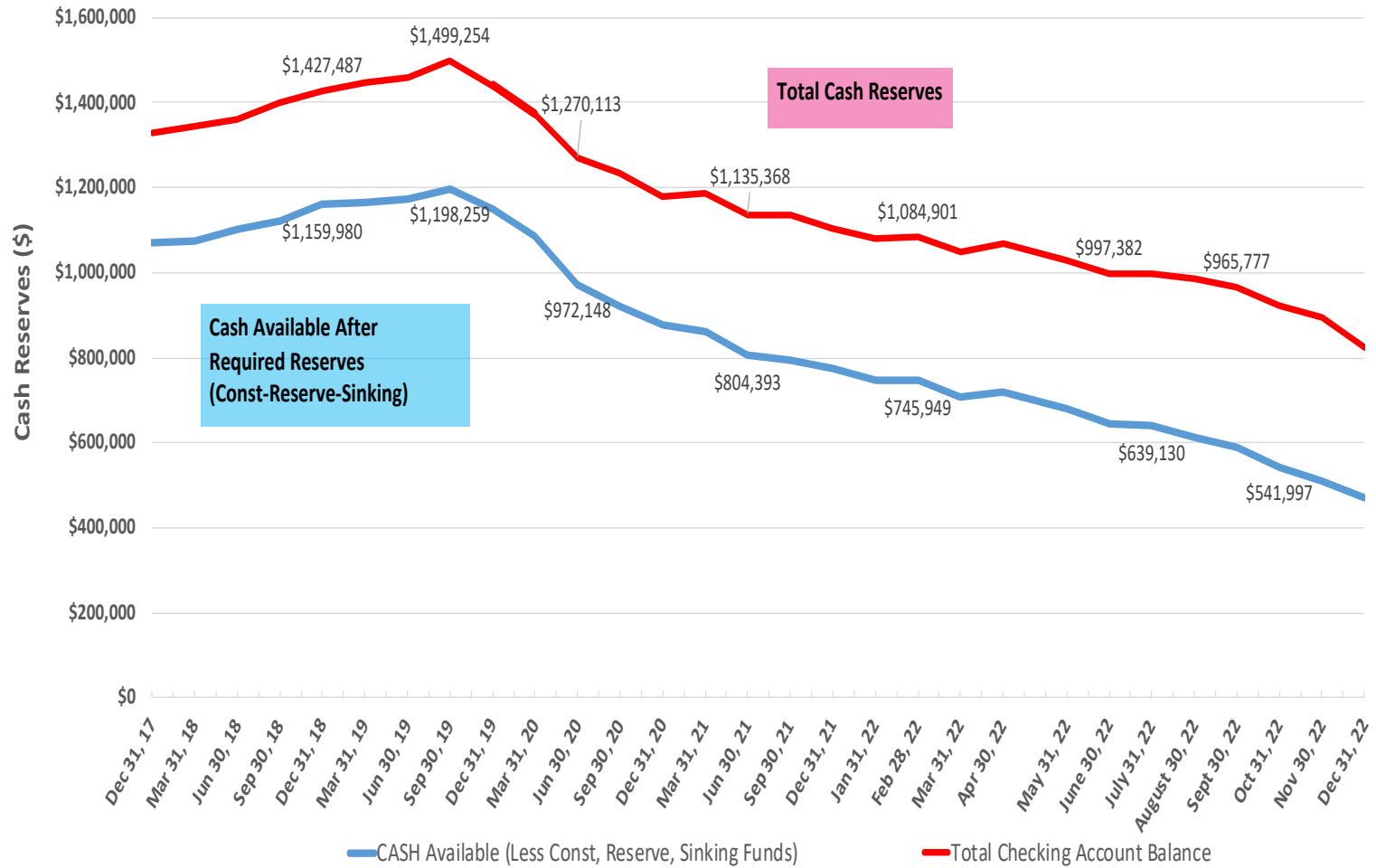
➤ Schedule:

- Kickoff Meeting January 19, 2023
- Facility Inspection: February 7, 2023
- Due Diligence Period: February to April 2023
- Public Meeting: March 23, 2023
- Proposals Due: April 28, 2023
- Board Evaluation and Negotiation: May to July 2023
- Public Meeting and Decision by Board: August to September 2023
- KY PSC Review: October 2023
- Transition Period: December 2023

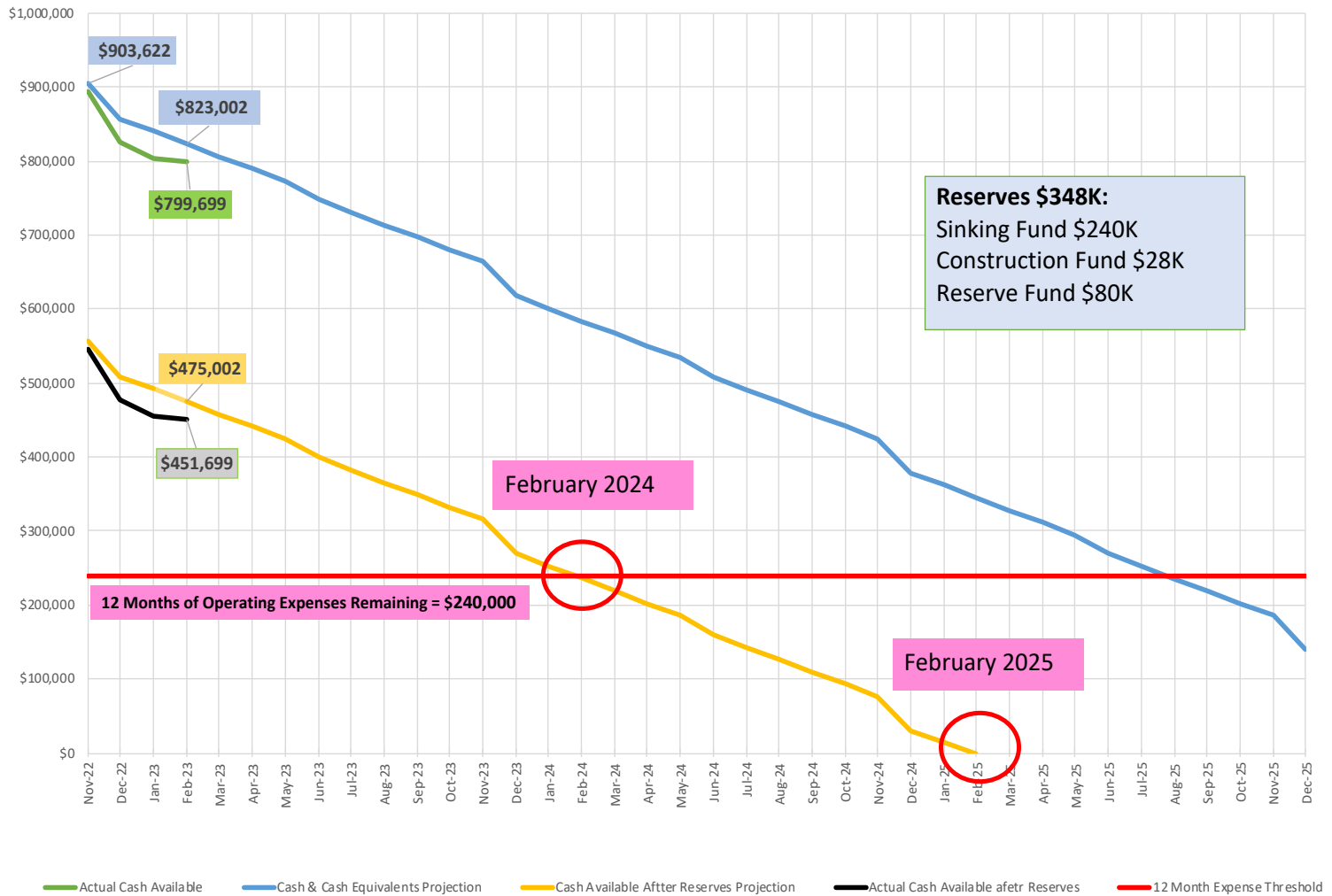
3. No Action Alternative:

- PMWD has 18-24 months of cash available before reaching cash reserves level of \$348,000
- Current rate of cash decline averages \$17,000 per month
- No reserves for any significant emergency
 - Major Infrastructure failure
 - Natural disaster
- Critical date for final decision is February 2024 when unrestricted cash levels reach \$240,000

Peaks Mill Cash Reserves



PMWD Cash Projection



Questions and Comments



For Information about this
presentation, contact:

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