



# Water Treatment Plant and Water Distribution Project

West Wise SUD



# Agenda

## Background

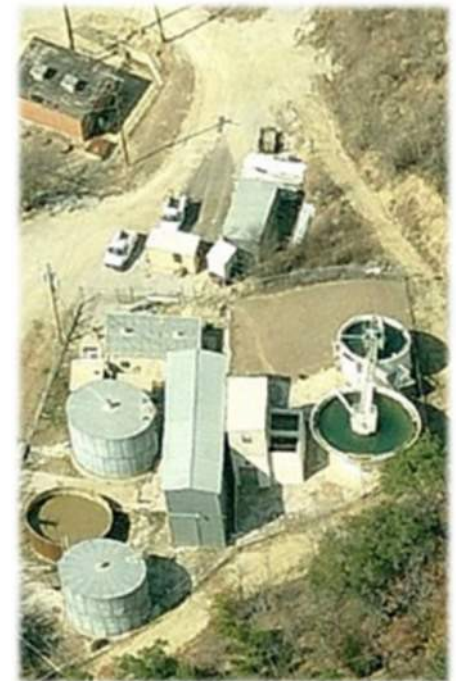
- Water Quality
- TCEQ Requirements
- Age of Plant
- Staged Improvements

## Alternatives

- Plant Condition
- Geologic Challenges
- Alternatives
- Best Option
- Funding Options

## Financing

- Financial Advisor
- Rate Study
- Grants
- Loans



*Safe Water for Wise County*

**Kimley»Horn**

# Background



TEXAS COMMISSION  
ON ENVIRONMENTAL  
QUALITY



# Background

- Health-Based Water Quality Criteria Changed
- Plant Designed to Pre-EPA Standards
- Package Plant is 40+ yrs old; 20-30 yr Service Life
- New Rules + Drought Recovery = Noncompliant Water
- TRWD Lake Aeration Project



*Samples from West Wise  
Water Treatment Plant*



# Background

- Notice of Violation
- Public Notices
- TCEQ Plant Inspections
- Outside Assistance/Plant Audit
- Staged Improvement Plan
- Agreed Order
- Hire Engineer

Bryan W. Shaw, Ph.D., P.E., Chairman  
Toby Baker, Commissioner  
Jon Niermann, Commissioner  
Richard A. Hyde, P.E., Executive Director



## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY Protecting Texas by Reducing and Preventing Pollution

May 2, 2016

### FIRST CLASS MAIL

Betty J. Graves, President  
West Wise Special Utility District  
P.O. Box 566  
Bridgeport, Texas 76426-0566

RE: West Wise  
TCEQ  
Agreed Order Assessing Administrative

Enclosed is a copy of an order

Environmental Quality  
Do then, please contact TCEQ

Sincerely,

*Bridget C. Bohac*  
Bridget C. Bohac  
Chief Clerk

BCB/lg

Enclosure

West Wise



Special Utility District



Kimley»Horn



# Engineering: Condition Assessment

- TCEQ Plant Inspections
  - “Need a new plant.”
- Environmental Engineer’s Evaluation
  - Inadequate Design to meet current Standards
- Structural Engineer’s Evaluation
  - Advanced corrosion/deterioration
  - Foundation , failing hillside issues
- Geotechnical Engineer’s Evaluation
  - Slope stabilization likely impractical/unaffordable
  - Major subsurface works too risky



# Engineering: Condition Assessment



Adjacent Slope

# Engineering: Condition Assessment





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# Engineering: Condition Assessment



Clarifier No. 1



Clarifier No. 1



# Engineering: Source Water Assessment



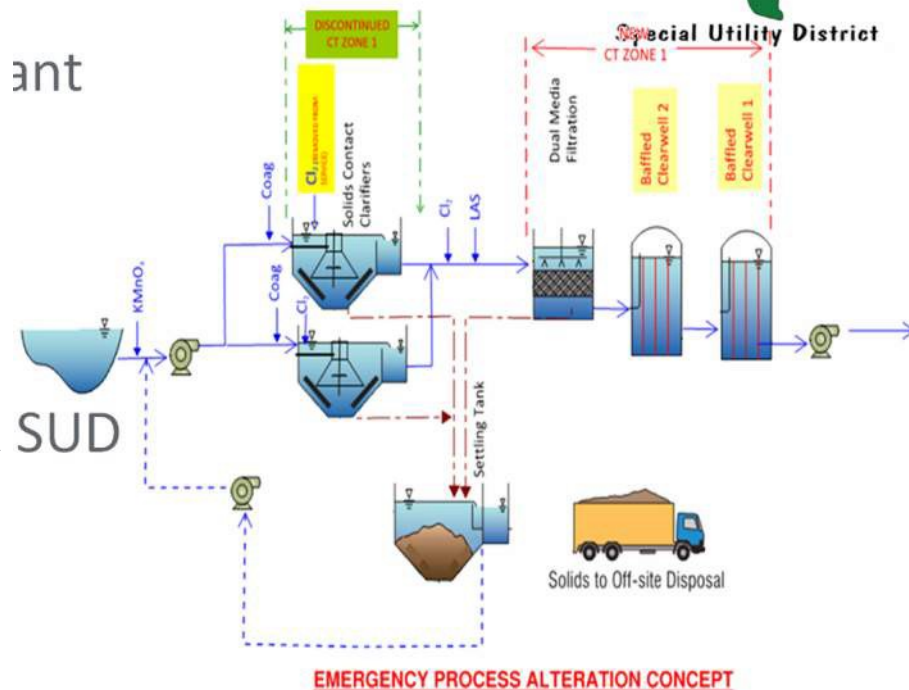
# Engineering: Alternatives Assessment

## 1. Rehabilitate and Convert Existing Plant

- Several plant configurations developed
- More expensive than new facilities
- Geologic issues could not be overcome

## 2. Purchase Water from Walnut Creek SUD

- Additional infrastructure costs
- High cost of buy-in + water use rates
- About 155% net rate impact



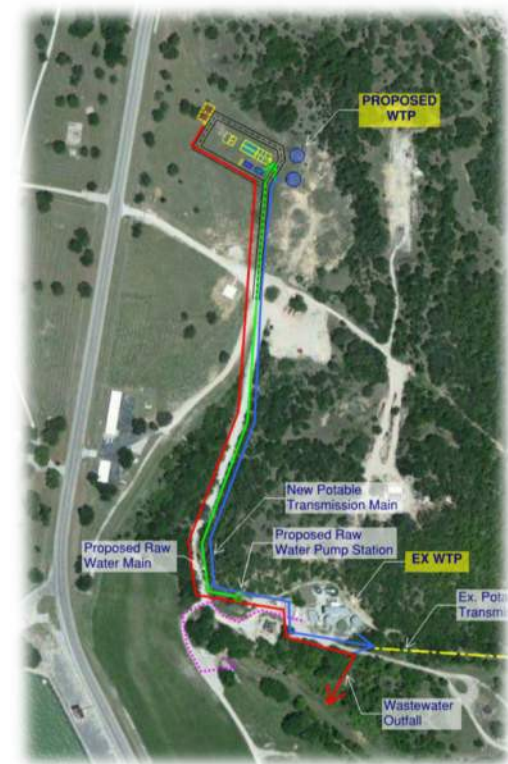
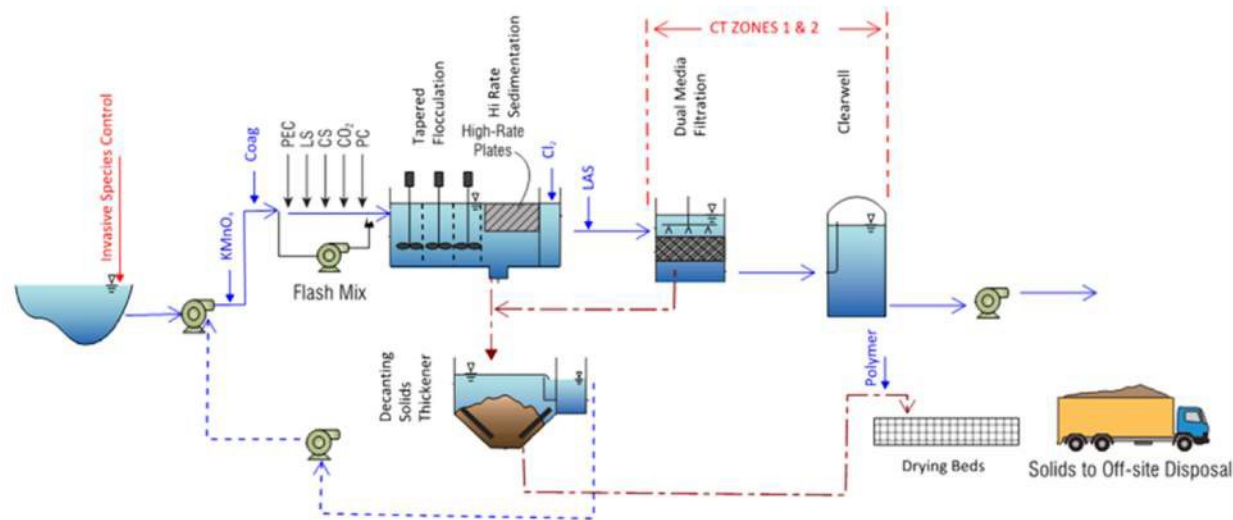


# Engineering: Alternatives Assessment

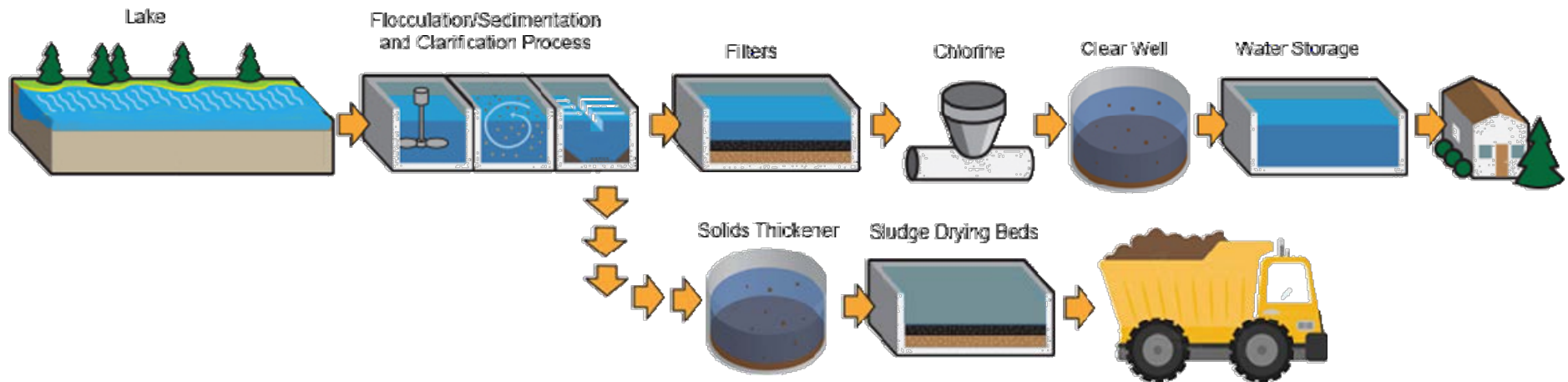
## 3. Conventional Water Plant

- Designed to Modern Standards
- Reliability / Maintainability
- Dam Safety Issues

• FREE NEW PLANT SITE



# Conventional Water Treatment



*Conventional Water Treatment Plant*



## Alternative Selection

1. Rehabilitate and Convert Existing Plant
  - Most Expensive; Geologically Unsound
2. Purchase Water from Walnut Creek SUD
  - Second Most Expensive – More than Double Rates
3. New Plant on TRWD Land
  - Least Expensive
  - Avoids Geologic Issues
  - Gets Plant away from the Dam
  - Long Term Reliability

# Funding Resources



Texas Water Development Board (TWDB)

\$ Drinking Water State Revolving Fund (DWSRF)

Texas Department of Agriculture (TDA)

\$ Texas CDBG

USDA Rural Development (RD)

\$ Water & Waste Disposal Land & Grant Program  
\$ Emergency Community Assistance Grant

**Since 2009**  
Water Loan Interest Rates have fallen by over a third



Interest rates  
now just  
.75-2.875%

40-Year Repayment Terms

Kimley»Horn



# Drinking Water State Revolving Fund



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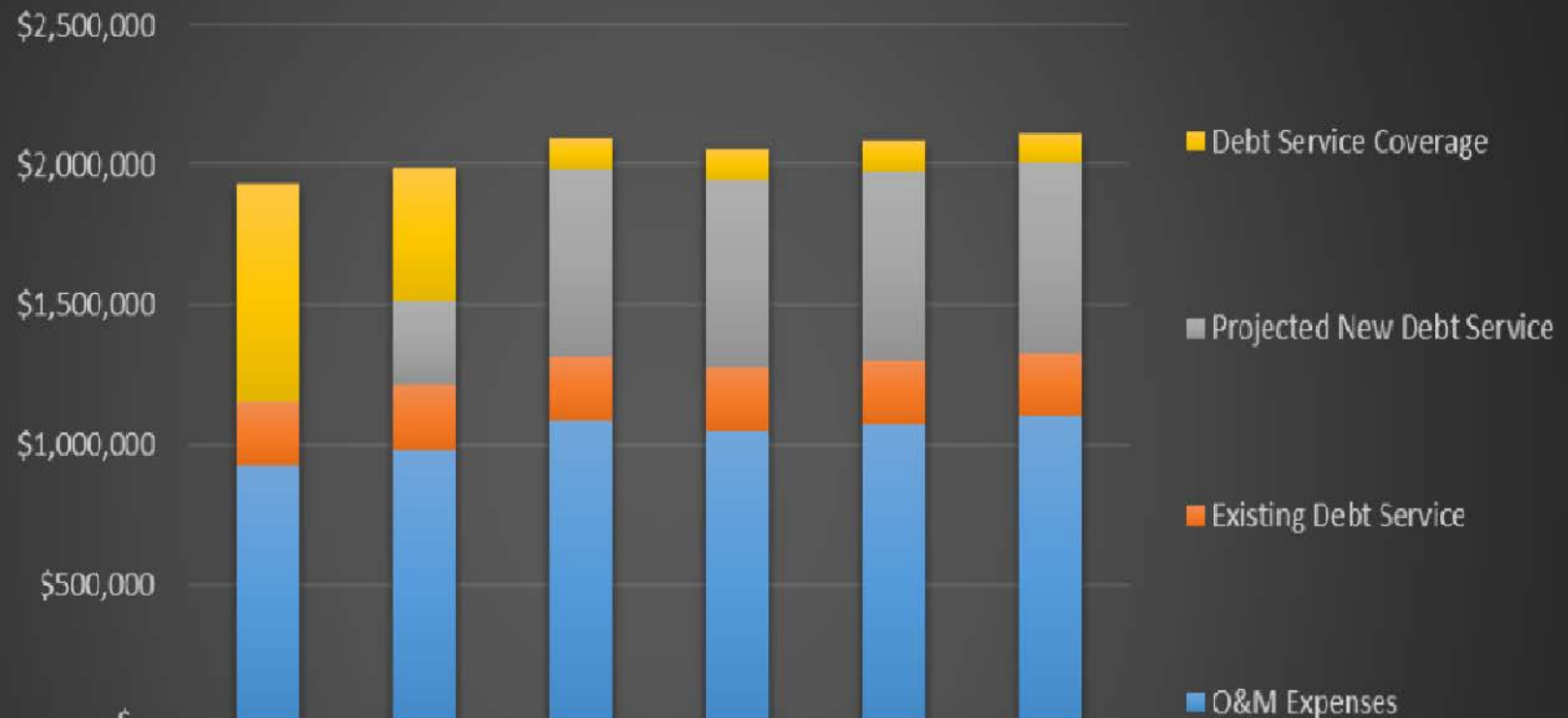
**Texas Water Development Board  
SFY 2017 Drinking Water State Revolving Fund  
Intended Use Plan**

**Appendix J. Project Priority List - By Rank**



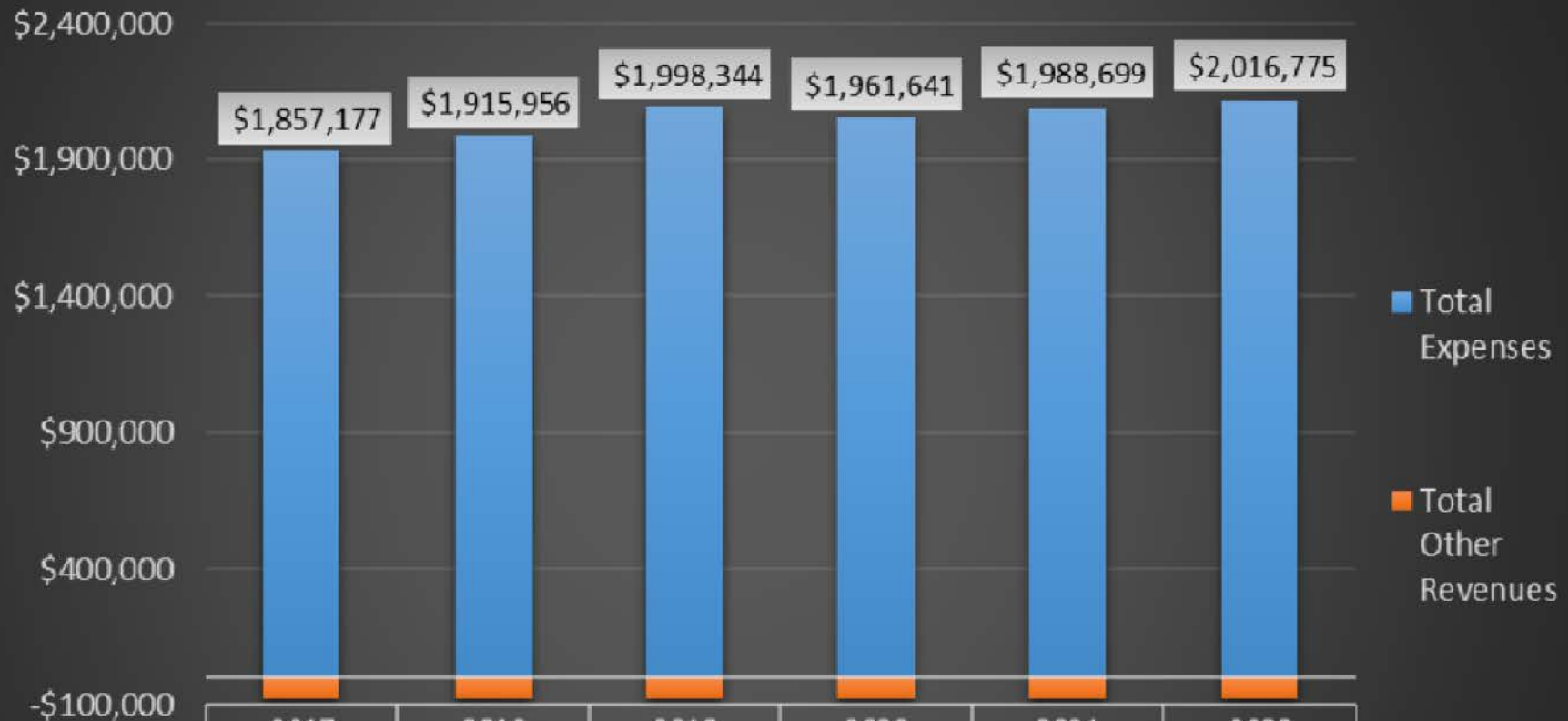
Rank	Points	PIF #	Entity	Owner Type	PWS ID	Population	Project Description
<b>Public Water System</b>							
1	528	11936	Millersview-Doole WSC	W	TX0480015	3,579	Treating well water at the source and blending with surface water.
2	279	11958	Brady	M	TX1540001	6,059	The City of Brady (City) is addressing the need to improve its water system as a result of violations noted by the Texas Commission on Environmental Quality (TCEQ) and the United States Environmental Protection Agency (EPA).
3	147	11987	West Wise SUD	D	TX2490016	4,206	Given the condition of the District's existing WTP and ongoing challenges in meeting DBP-2 requirements, it is anticipated that the primary focus of this project will be to implement construction of a new WTP, which will need to be capable of meeting and exceeding treatment requirements under current LT-2 and DBP-2 criteria while also being capable of meeting anticipated further tightening of these requirements in the future.

## Financing – Operating and Debt Expenses



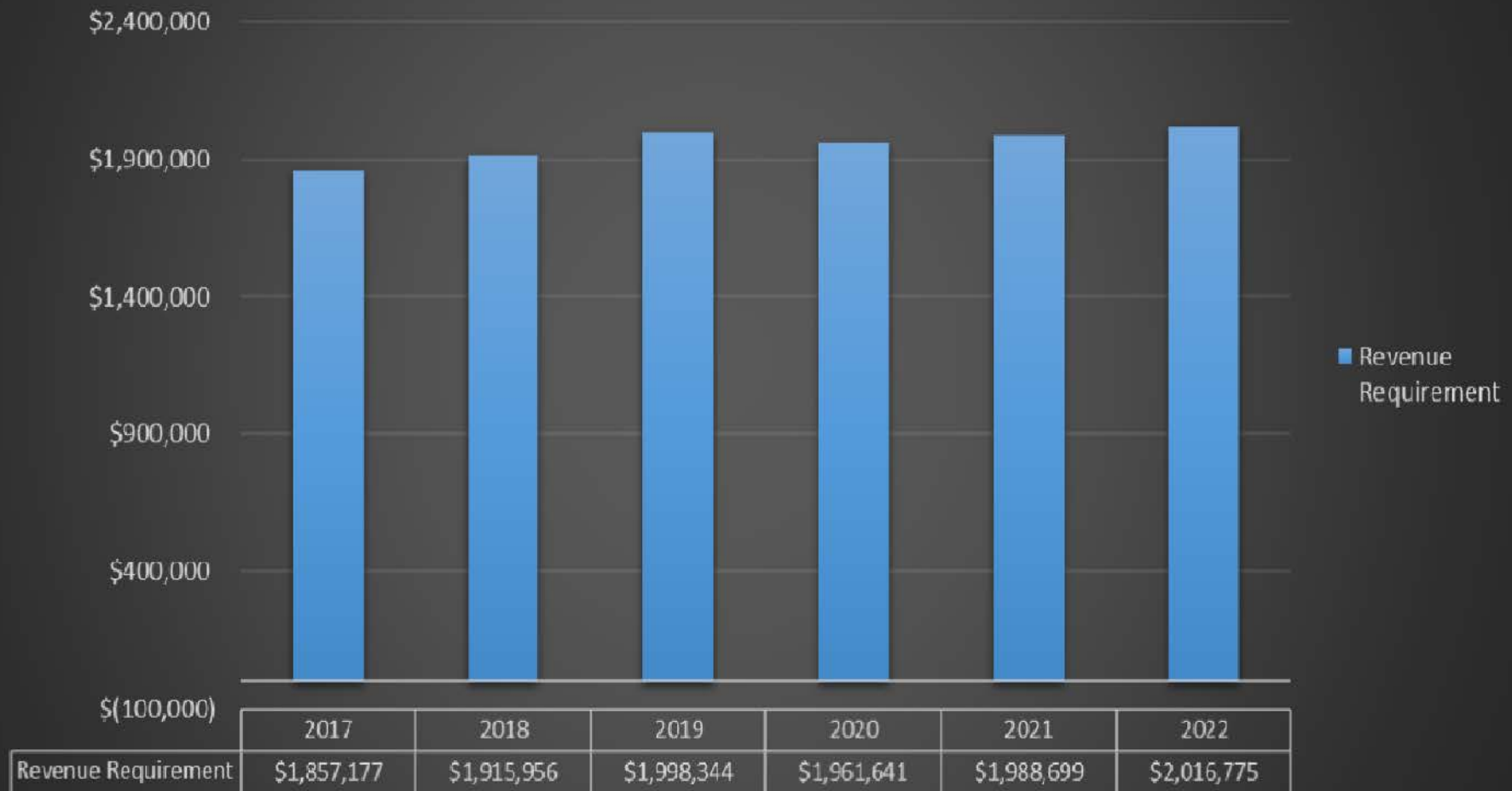
	2017	2018	2019	2020	2021	2022
Debt Service Coverage	\$781,902	\$481,549	\$107,265	\$107,953	\$109,366	\$111,812
Projected New Debt Service		\$299,628	\$673,412	\$672,450	\$670,987	\$673,715
Existing Debt Service	\$227,075	\$227,800	\$228,300	\$228,575	\$228,625	\$223,450
O&M Expenses	\$922,200	\$981,737	\$1,083,545	\$1,047,554	\$1,075,336	\$1,104,149

## Financing – Other System Revenues



	2017	2018	2019	2020	2021	2022
Total Expenses	\$1,931,177	\$1,990,715	\$2,092,522	\$2,056,531	\$2,084,313	\$2,113,126
Total Other Revenues	-\$74,000	-\$74,759	-\$75,530	-\$76,242	-\$76,967	-\$77,704

## Financing – Required Rate Revenues





## Financing – Current Rate Revenues



# Proposed Rate Changes



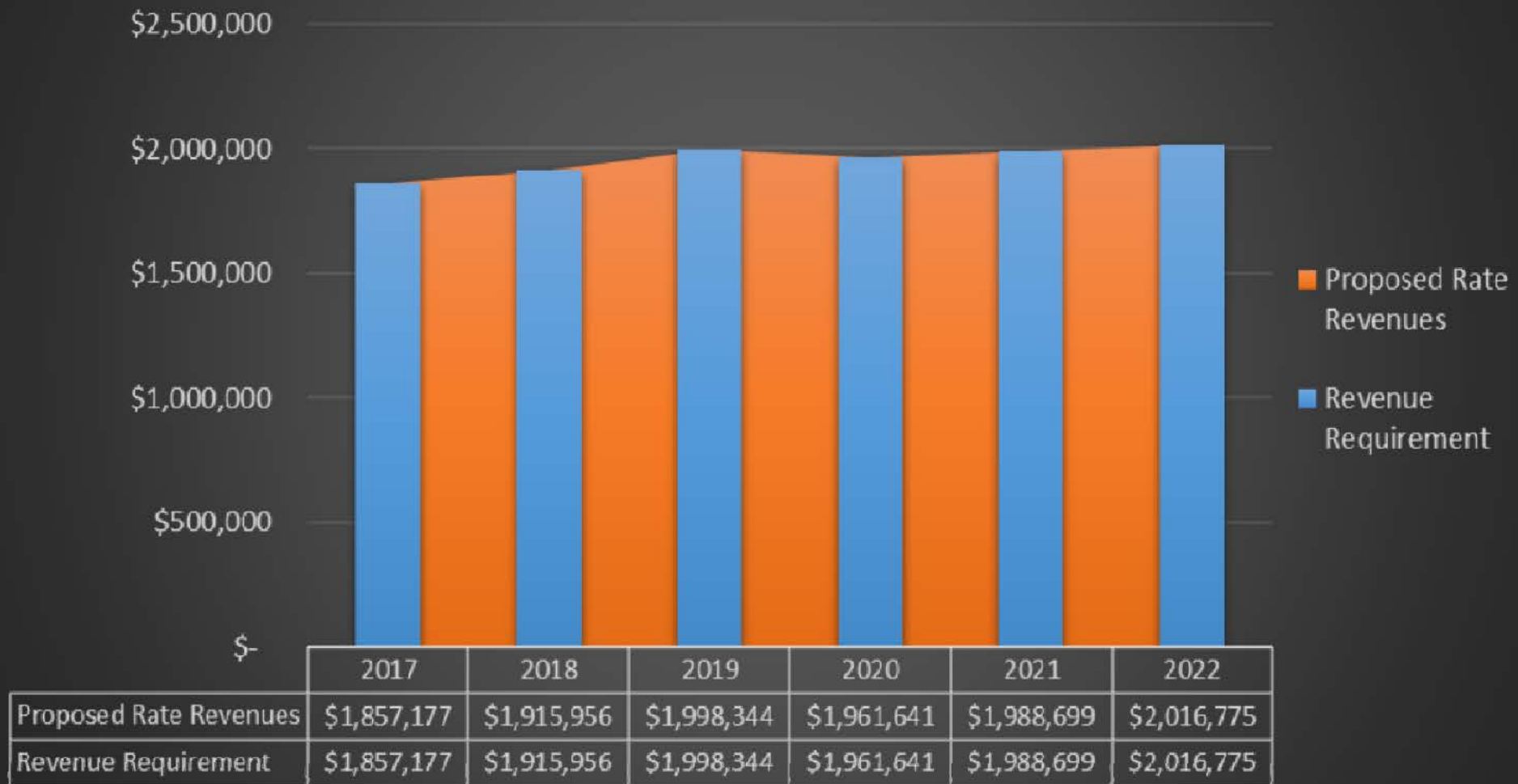
<u>Residential:</u>	<u>Meter / Usage</u>	<u>Current Rate</u>	<u>New Rate</u>
Minimum:	5/8" X 3/4"	\$ 45.00	\$ 74.68
	1"	\$ 120.00	\$ 199.15
Water Usage:	0 – 10,000 gallons	\$ 3.65 per 1,000	\$ 6.06 per 1,000
	10,001 gallons and up	\$ 4.70 per 1,000	\$ 7.80 per 1,000
<u>Commercial:</u>	<u>Meter / Usage</u>	<u>Current Rate</u>	<u>New Rate</u>
Minimum:	5/8" X 3/4"	\$ 70.00	\$ 117.73
	1"	\$ 120.00	\$ 201.83
	2"	\$ 360.00	\$ 605.49
	4"	\$ 1,100.00	\$ 1,850.12
Water Usage	All Gallons	\$ 8.00 per 1,000	\$ 13.46 per 1,000

# Average Monthly Rate Impact Residential Customers



Consumption	Current	2017
5,000 gallons	\$ 63.25	\$ 104.98
<i>Change to Monthly Bill</i>		\$ 41.73
10,000 gallons	\$ 81.50	\$ 135.28
<i>Change to Monthly Bill</i>		\$ 53.78
15,000 gallons	\$ 105.00	\$ 174.28
<i>Change to Monthly Bill</i>		\$ 69.28

## Financing – Proposed Rate Revenues





## Conceptual Arrangement

