



GLWA
Great Lakes Water Authority



Siebert
Williams
Shank

A SHANK WILLIAMS CISNEROS COMPANY



Series 2022 Transaction Update

July 25, 2022

PFM Financial Advisors LLC

555 Briarwood Circle
Suite 333
Ann Arbor, MI 48108

734.994.9710
pfm.com



Agenda

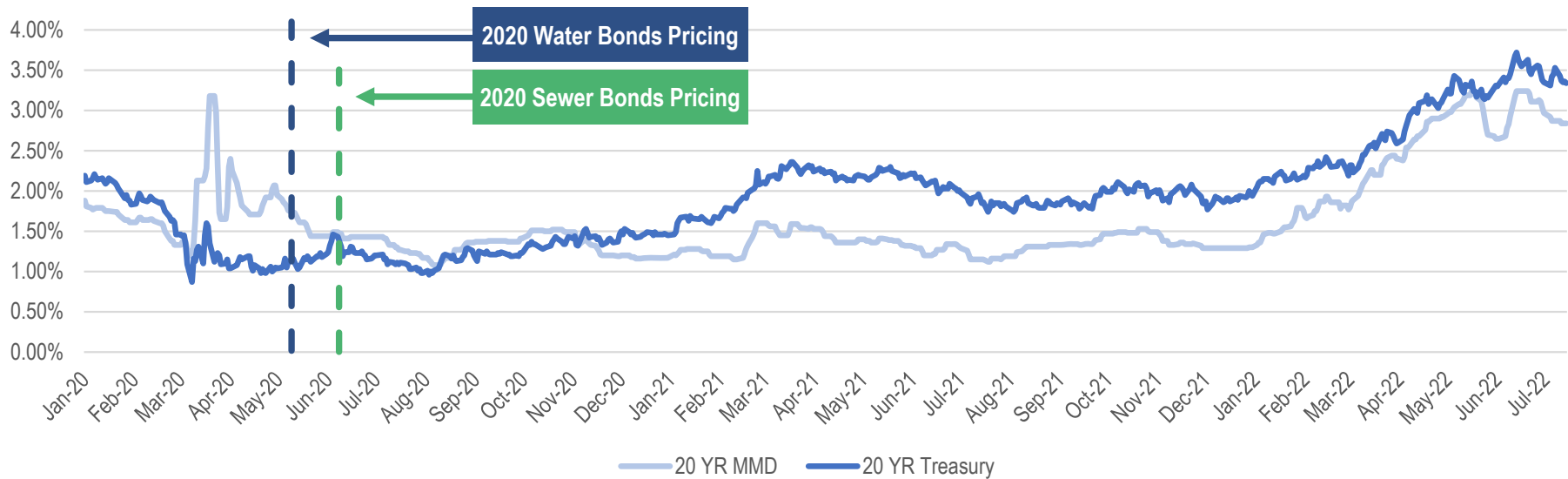
- I. Municipal Market Update
- II. Series 2022 Transaction and Plan of Finance
- III. Series 2022 Transaction Schedule



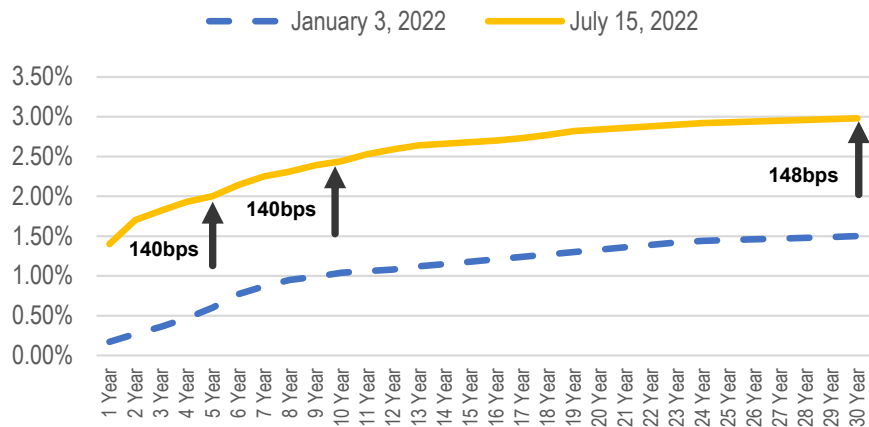
I. Municipal Market Update



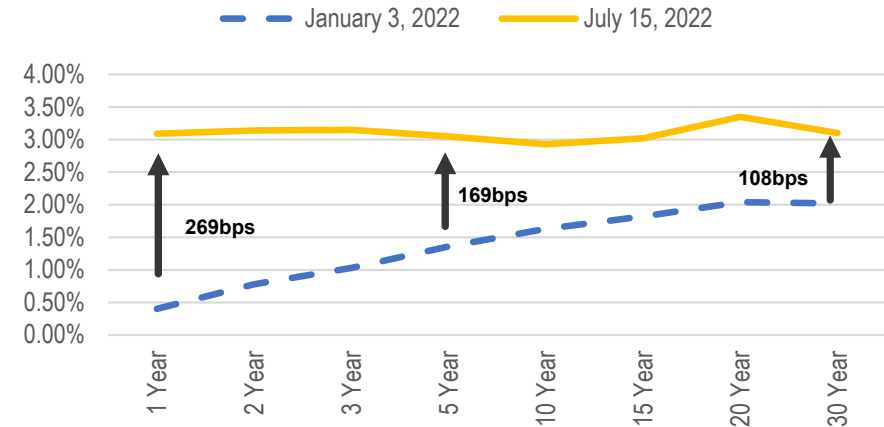
Interest rates have risen since early 2022



Tax-Exempt Yield Curve Comparison



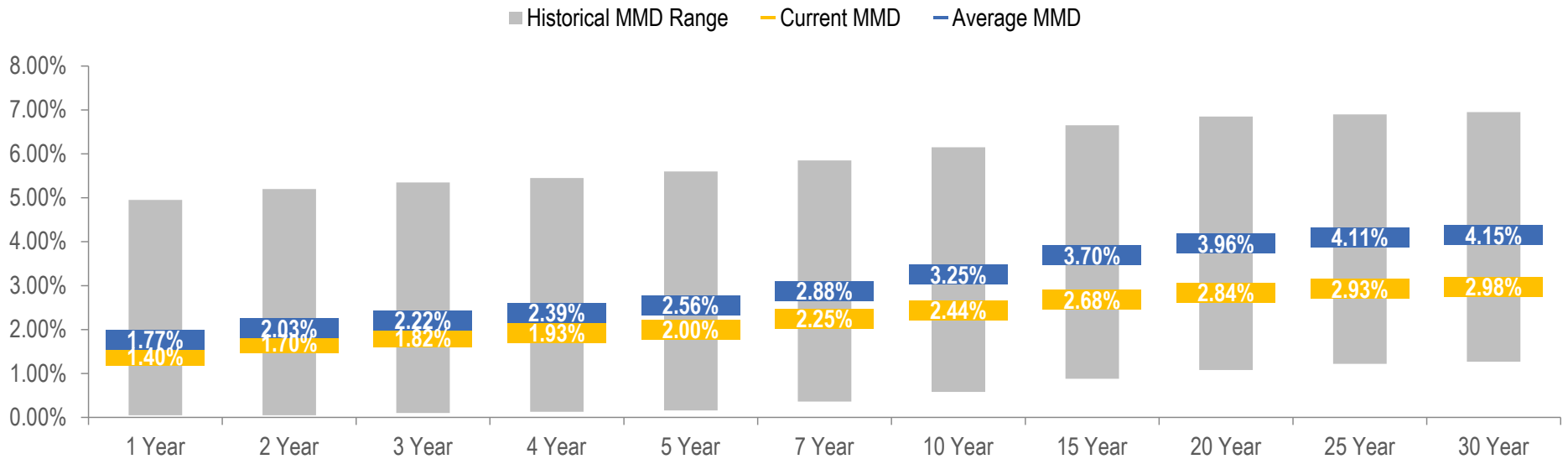
Taxable Yield Curve Comparison





...but long-term tax-exempt rates remain historically low and attractive for issuers

30 Year History of AAA MMD Rate Position
(July 15, 1992 to July 15, 2022)



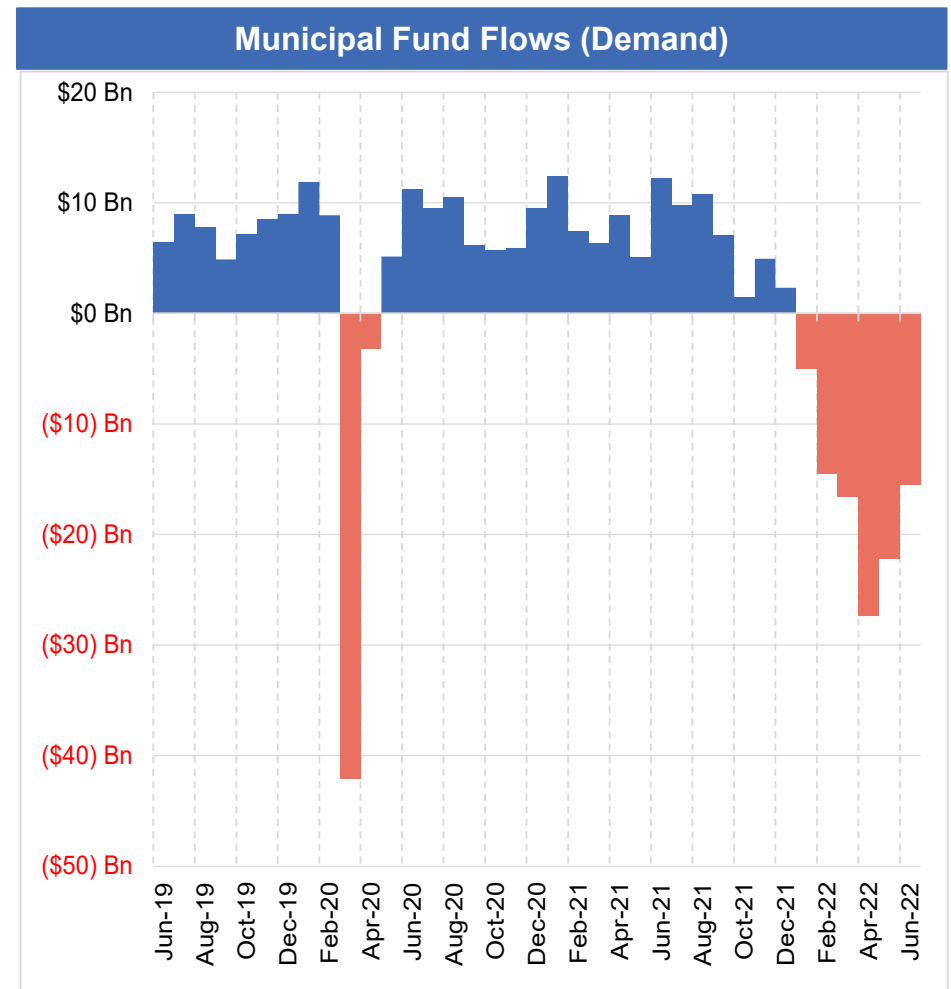
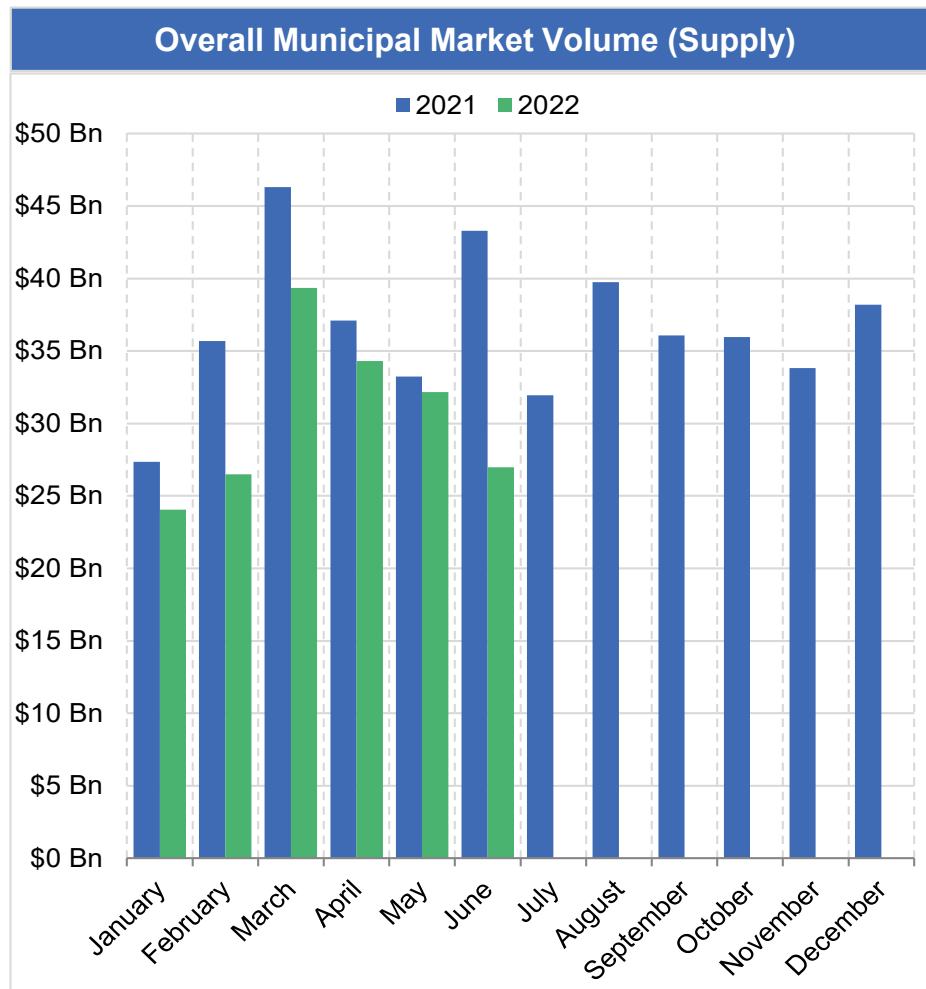
Statistic	1 Year	2 Year	3 Year	4 Year	5 Year	7 Year	10 Year	15 Year	20 Year	25 Year	30 Year
7/15/2022	1.40%	1.70%	1.82%	1.93%	2.00%	2.25%	2.44%	2.68%	2.84%	2.93%	2.98%
Average	1.77%	2.03%	2.22%	2.39%	2.56%	2.88%	3.25%	3.70%	3.96%	4.11%	4.15%
Spread to Avg.	-0.37%	-0.33%	-0.40%	-0.46%	-0.56%	-0.63%	-0.81%	-1.02%	-1.12%	-1.18%	-1.17%
Minimum	0.05%	0.05%	0.10%	0.13%	0.16%	0.36%	0.58%	0.88%	1.08%	1.22%	1.27%
Spread to Min.	1.35%	1.65%	1.72%	1.80%	1.84%	1.89%	1.86%	1.80%	1.76%	1.71%	1.71%
Maximum	4.95%	5.20%	5.35%	5.45%	5.60%	5.85%	6.15%	6.65%	6.85%	6.90%	6.95%
Spread to Max.	-3.55%	-3.50%	-3.53%	-3.52%	-3.60%	-3.60%	-3.71%	-3.97%	-4.01%	-3.97%	-3.97%
Percent of Market Days Lower	47.86%	49.94%	48.53%	45.70%	43.80%	40.44%	33.74%	28.51%	25.46%	22.59%	22.28%

Tax-exempt interest rates have only been lower 20-30% of the time for long-term borrowings



Recent volatility has caused outflows from municipal bond funds; new issue municipal supply remains lower than this time last year

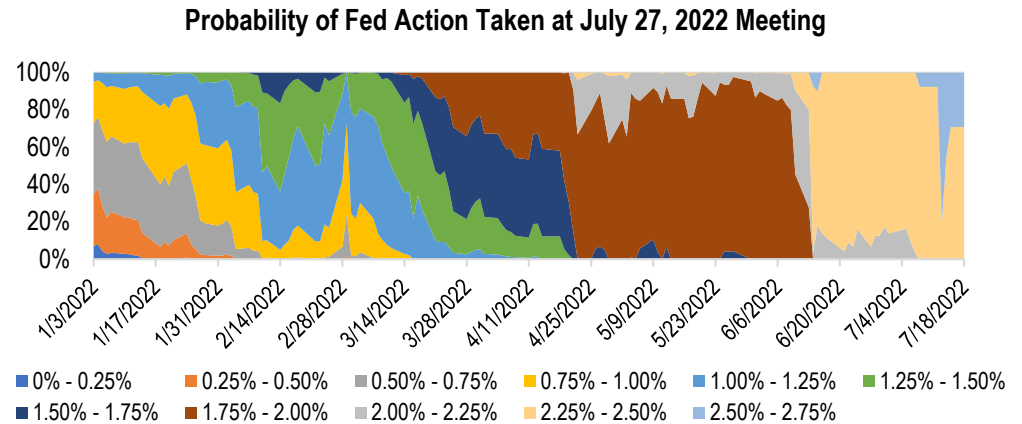
- New issuance volume was down by 37% year-over-year in June, year-to-date new issuance volume was 18% lower than 2021 issuance through June.





Short-term interest rates are projected to rise

- At the June 15, 2022 FOMC meeting, the committee raised the target range for federal funds by 75bps to 1.50% - 1.75%
- The committee stated that it “...anticipates ongoing increases in the target range will be appropriate.”
- In addition, the committee stated it will continue to reduce the size of its balance sheet through open market operations



Bond Yield Forecast (As of July 18, 2022)										
Average Forecasts	Current	Q3 22	Q4 22	Q1 23	Q2 23	Q3 23	Q4 23	Q1 24	Q2 24	Q3 24
30-Year UST	3.15 %	3.34 %	3.42 %	3.41 %	3.40 %	3.31 %	3.27 %	3.43 %	3.41 %	3.50 %
10-Year UST	2.99 %	3.25 %	3.31 %	3.30 %	3.24 %	3.16 %	3.10 %	3.27 %	3.23 %	3.30 %
5-Year UST	3.09 %	3.30 %	3.34 %	3.30 %	3.22 %	3.06 %	2.95 %	3.13 %	3.09 %	3.16 %
2-Year UST	3.17 %	3.31 %	3.41 %	3.42 %	3.29 %	3.12 %	3.01 %	3.15 %	3.06 %	3.09 %
3M SOFR	2.48 %	2.84 %	3.30 %	3.45 %	3.45 %	3.21 %	2.97 %	2.72 %	2.67 %	2.54 %
Fed Funds Target Rate (Upper)	1.75 %	3.00 %	3.55 %	3.65 %	3.60 %	3.45 %	3.25 %	3.10 %	2.95 %	2.85 %
Fed Funds Target Rate (Lower)	1.50 %	2.74 %	3.28 %	3.42 %	3.37 %	3.17 %	2.99 %	2.83 %	2.70 %	2.59 %

Source: Bloomberg; Federal Reserve press release dated June 15, 2022; CME FedWatch Tool



II. Series 2022 Transaction and Plan of Finance



Overview of Transaction and Plan of Finance

- GLWA plans to issue approximately \$225 million of new money proceeds for each of the Water and the Sewer systems to fund regional Capital Improvement Program projects
 - New money is planned to be issued as long-term fixed-rate debt on a combination of the Senior and Second liens
 - Preliminary structure calls for a smoothing of the existing debt profile to create generally overall level debt service with a 30 year final maturity
 - Issuance split between Senior and Second liens will be optimized to account for market conditions and optimize reserve fund releases, reduce programmatic interest costs, and effectively utilize both Senior and Second lien capacity
- Additionally, GLWA contemplates a small refunding of certain currently callable Sewer system debt maturing on 7/1/2023
 - Although refunding component creates fairly modest savings of ~2%, this debt (call date 7/1/2022) has become a wasting asset, with a refunding now likely representing the only opportunity to generate savings prior to maturity
 - Flexibility is included within Series Ordinance to refund a larger universe of bonds if interest rates fall materially prior to pricing
- Full transaction team has been assembled, with Siebert Cisneros Shank & Co. and Goldman Sachs & Co. appointed to lead the underwriting group as the senior bookrunning manager and the co-senior manager, respectively
- GLWA and transaction team will engage with all three rating agencies over next several weeks to request assignment of credit ratings (current ratings are A1/A2, AA-/A+, A+/A from Moodys, S&P, Fitch)



Series 2022 – Transaction Participants

Transaction Role	Firm
Issuer	• Great Lakes Water Authority
Financial Advisor	• PFM Financial Advisors LLC
Bond Counsel	• Dickinson Wright, PLLC
Trustee and Escrow Agent	• U.S. Bank, N.A.
Feasibility Consultant	• The Foster Group
Senior Bookrunning Manager	• Siebert Williams Shank & Co., LLC
Co-Senior Manager	• Goldman Sachs & Co. LLC
Co-Managing Underwriters	• Citigroup Global Markets Inc. • J.P. Morgan Securities LLC • Loop Capital Markets LLC • Morgan Stanley & Co. LLC • Ramirez & Co., Inc. • Wells Fargo Securities
Underwriter's Counsel	• Kutak Rock, LLP
Auditor	• Baker Tilly Virchow Krause, LLP



Series 2022 – Preliminary New Money Sources and Uses

Issuance Summary

- Generates total proceeds of \$225 million for each the Water and Sewerage systems
- Basic structure shown assumes a 50 / 50 split between Senior and Second Lien issuance but will be optimized dependent on market conditions and final needs
- Preliminary DSRF releases / deposits are incorporated
- DSRF releases / deposits will change based on market conditions and optimized structure

Assumptions

- Interest rates as of July 15, 2022
- 5% coupon structure
- Structured for level overall debt service over 30 years
- Assumes par call on 7/1/2032
- Assumes 30-year final maturity

Water Supply System: New Money Borrowing			
	Senior	Second	Aggregate
Delivery Date:	9/13/2022	9/13/2022	8/1/2022
Call Date:	7/1/2032	7/1/2032	7/1/2032
Final Maturity:	7/1/2052	7/1/2052	7/1/2052
Sources (\$)			
Par Amount	99,665,000	105,250,000	204,915,000
Premium	12,407,426	12,393,316	24,800,741
Reserve Fund Release	1,127,123	-	1,127,123
Total Sources	113,199,549	117,643,316	230,842,865
Uses (\$)			
Project Fund	112,500,000	112,500,000	225,000,000
Reserve Fund Deposit	-	4,404,741	4,404,741
COI / Underwriter's Discount	699,549	738,575	1,438,124
Total Uses	113,199,549	117,643,316	230,842,865
Statistics			
Arbitrage Yield (%):	3.51%	3.51%	3.51%
True Interest Cost (%):	4.09%	4.14%	4.12%
Weighted Average Life (yrs.):	20.19	20.19	20.19
PV of 0.01% Change in Interest Rates (\$)	87,222	91,297	178,519

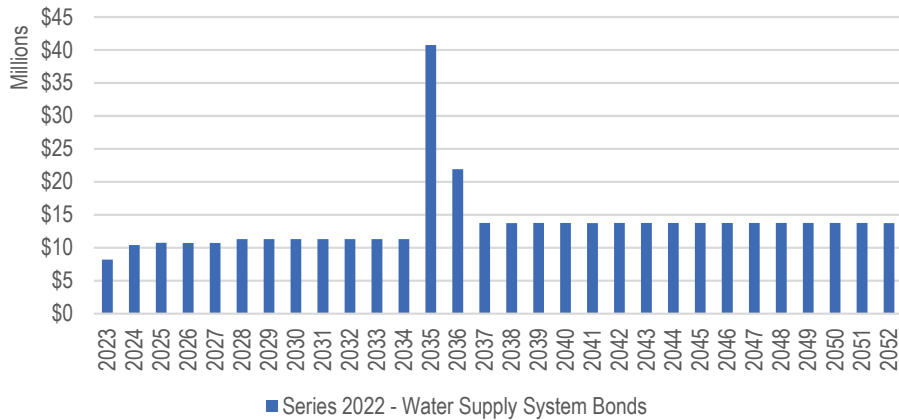
Sewage Disposal System: New Money Borrowing			
	Senior	Second	Aggregate
Delivery Date:	9/13/2022	9/13/2022	8/1/2022
Call Date:	7/1/2032	7/1/2032	7/1/2032
Final Maturity:	7/1/2052	7/1/2052	7/1/2052
Sources (\$)			
Par Amount	96,155,000	96,480,000	192,635,000
Premium	11,427,203	10,865,380	22,292,583
Reserve Fund Release	5,591,879	5,833,121	11,425,001
Total Sources	113,174,082	113,178,502	226,352,584
Uses (\$)			
Project Fund	112,500,000	112,500,000	225,000,000
Reserve Fund Deposit	-	-	-
COI / Underwriter's Discount	674,082	678,502	1,352,584
Total Uses	113,174,082	113,178,502	226,352,584
Statistics			
Arbitrage Yield (%):	3.58%	3.58%	3.58%
True Interest Cost (%):	4.18%	4.23%	4.21%
Weighted Average Life (yrs.):	22.33	22.33	22.33
PV of 0.01% Change in Interest Rates (\$)	83,717	83,480	167,197

Note: Preliminary, subject to change; Tables may not add exactly due to rounding to nearest dollar. Debt Service Reserve Fund releases shown are preliminary, and may differ depending on market conditions and the final structure.

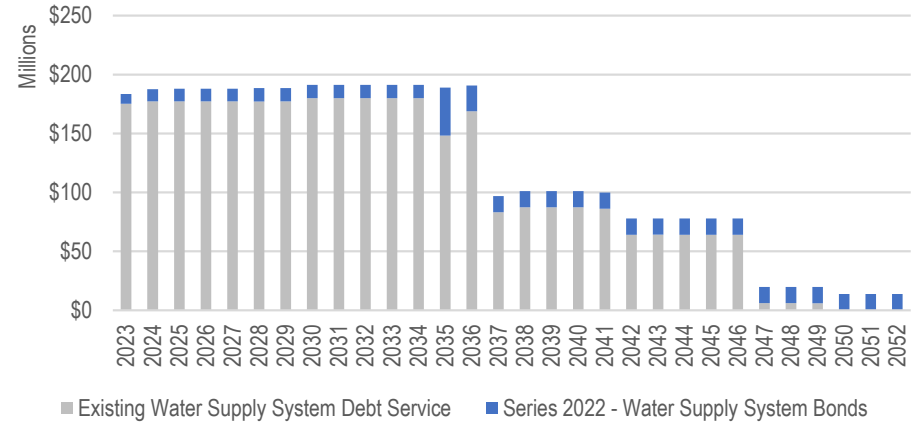


Preliminary New Money Amortization

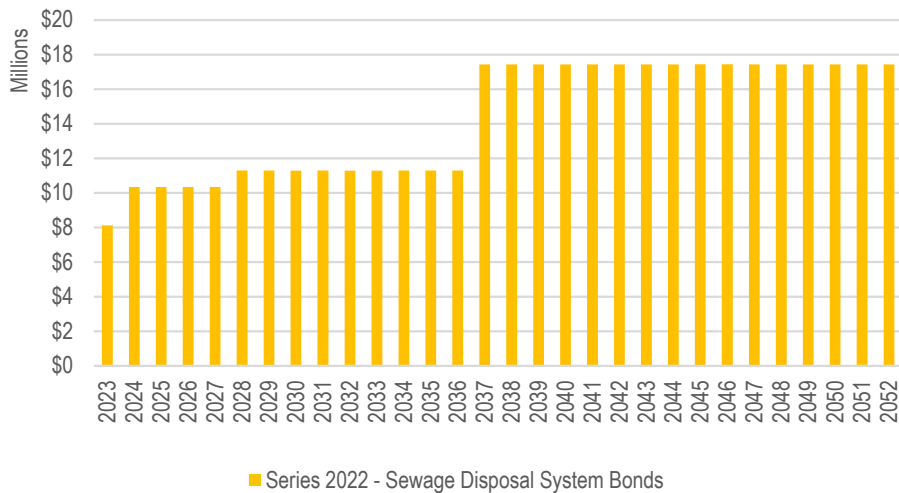
Series 2022 – Water Supply System Bonds



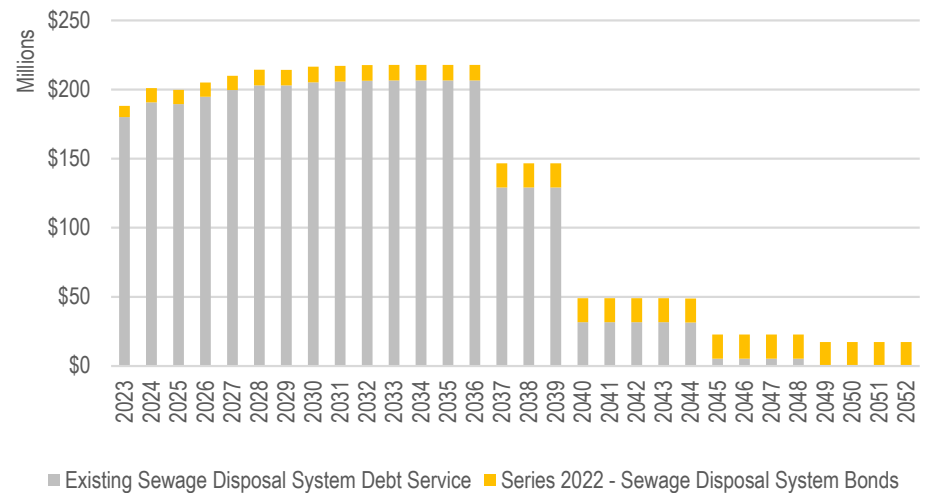
Aggregate Water Supply System



Series 2022 – Sewage Disposal System Bonds



Aggregate Sewage Disposal System



Note: Preliminary, subject to change based on market conditions



Tax-Exempt Current Refunding – Sewer System

Savings Summary

- About \$340 thousand in gross cash flow savings can be achieved (>\$330 thousand present value)
 - Will be a wasting asset if left outstanding

Refunding Candidates

- Includes all currently refundable fixed rate bonds

Assumptions

- Uninsured, matched lien refunding
- Interest rates as of July 15, 2022
- Savings structured for level savings
- Contribution of accrued interest from DS fund
- Debt service reserve fund releases / deposits will be structured in conjunction with new money
- 5% Coupon Structure
- Non-Callable Structure
- PV at Arbitrage Yield

Sewer System – Senior Lien Current Refunding

Delivery Date:	9/13/2022
Call Date:	n/a
Refunding Par (\$):	17,660,000
Current Refunded Par (\$):	17,985,000
NPV Savings (\$):	334,255
NPV Savings as % :	1.86%
Arbitrage Yield (%):	2.15%
TIC (%) :	2.19%
WAM:	0.80 yrs
Refunded Bonds WAM:	0.80 yrs
PV of 0.01% Change in Interest Rates (\$)	1,589

Bond Year	Net Prior Debt Service (\$)	Refunding Debt Service (\$)	Total Savings (\$)
7/1/2023	17,704,400	18,366,400	338,000
Total	17,704,400	18,366,400	338,000

Note: Preliminary, subject to change based on market conditions



III. Series 2022 Transaction Schedule



Preliminary Transaction Calendar

Expected Timing	Event
July 25	■ Audit Committee Consideration of Series Ordinances and Resolutions
July 27	■ Board Consideration of Series Ordinances and Resolutions
August 3 to 8	■ Rating Agency Meetings
August 19	■ Receive Ratings
August 22	■ Post POS & Investor Roadshow
August 30	■ Bond Transaction Pricing
September 13	■ Bond Transaction Closing
September 23	■ Update to Audit Committee on Financing

July 2022						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

August 2022						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

September 2022						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Note: Schedule subject to change based on market conditions