



Ohio Water
Development Authority

Financing Tools that Make Cents

- Bonds with Bullet Amortizations
- Variable Rate Demand Obligations for Savings and Asset/Liability Matching
- Treasury Management Techniques to Minimize Fees and Maximize Investment Income

Bullets Increase Bond Proceeds

Fresh Water 2018 Bonds

10 year bullet of \$136,405,000 issued on 7/17/2018

	Bullet at 10 years	Level Debt Service Years 11 - 24
Premium	\$33.7 million	\$30.0 million
Yields	At bullet – 2.50%	15 Years – 2.80% 20 Years – 2.95%

WPCLF 2019A Bonds

10 year bullet of \$265 million issued on 2/26/2019

	Bullet at 10 years	Level Debt Service Years 11 - 17
Premium	\$105.9 million	\$98.8 million
Yields	At bullet – 2.25%	12 Years – 2.48% 15 Years – 2.68% 20 Years – 3.01%

Bullets Increase Bond Proceeds

DWAF 2023A Bonds

10 year bullet of \$90 million issued on 9/14/2023

	Bullet at 10 years	Level Debt Service Years 11 - 17
Premium	\$21.1 million	\$17.7 million
Yields	At bullet – 3.22%	12 Years – 3.40% 15 Years – 3.73% 20 Years – 3.95%

Bullets Lead to Lower Yields

Fresh Water 2018 Bonds

	With Bullet	Fully Amortizing
Yield to Call	2.50%	2.85%
Yield benefit of 0.35%		

WPCLF 2019A Bonds

	With Bullet	Fully Amortizing
Yield to Call	2.25%	2.47%
Yield benefit of 0.22%		

DWAF 2023A Bonds

	With Bullet	Fully Amortizing
Yield to Call	3.22%	3.58%
Yield benefit of 0.36%		

Variable Rate Demand Obligations Provide Savings

Year	SIFMA *	20 Year AA MMD *
2015	0.03%	3.04%
2016	0.42%	2.56%
2017	0.85%	3.02%
2018	1.41%	3.04%
2019	1.46%	2.63%
2020	0.55%	1.84%
2021	0.04%	1.49%
2022	1.23%	2.72%
2023	3.27%	3.61%

* Average Annual Rate

Variable Rate Demand Obligations (VRDO)

Provide Asset/Liability Matching

	ASSET		LIABILITY
Year	3-month T-Bill * (project funds)	2-year T-Note * (reserve funds)	SIFMA * (VRDO)
2015	0.05%	0.68%	0.03%
2016	0.32%	0.83%	0.42%
2017	0.95%	1.40%	0.85%
2018	1.97%	2.53%	1.41%
2019	2.10%	1.97%	1.46%
2020	0.37%	0.40%	0.55%
2021	0.04%	0.26%	0.04%
2022	2.06%	2.99%	1.23%
2023	5.16%	4.59%	3.27%

* Average Annual Rate

Kicking the Tires on Money Market Fees

- Expense Ratio
 - Portfolio Manager fees and Administrative
- 12b-1 fee
 - Costs of distribution – marketing and selling
- Other Expenses
 - Fee to Trustee/Custodian or other affiliate
- Fee Waivers

Benefits of Asset Managers

(too high of balances in money markets?)

- Reinvestment risk of short duration
- Asset Managers
 - Fees - .05% to 0.10% of Assets Under Management (AUM)
 - Laddered investment portfolio
 - Better execution – 3 to 5 basis points
- Benchmarks
 - Project Funds/Debt Service Funds – 3 to 6 month T-Bill
 - Reserve/Capacity Equity – 1 to 3 year Treasury Note

Contact Information

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Questions