

Massachusetts Water Resources Authority

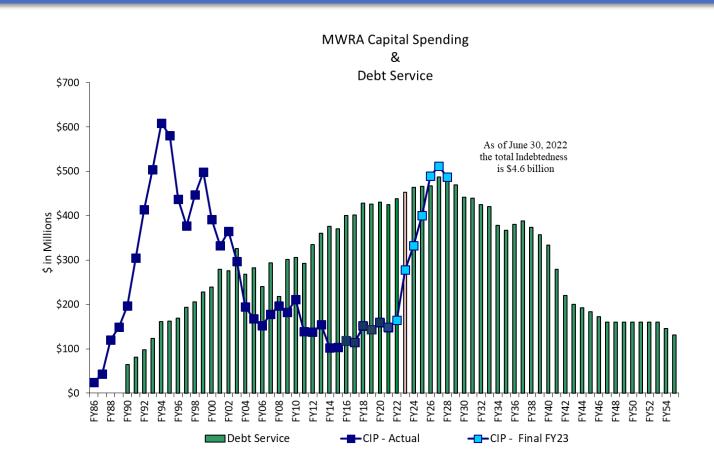
Capital Financing Overview

MWRA Advisory Board Finance Committee

November 2, 2022

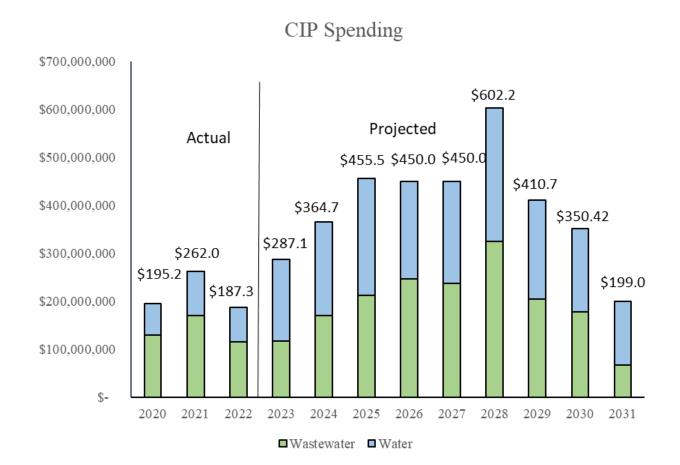


Debt Service and Capital Spending





Capital Improvement Program





Determining Borrowing Amount and Timing

- Review Actual and Projected Spending
- Borrowing split by utility

FY 23 Borrowing Needs Projections

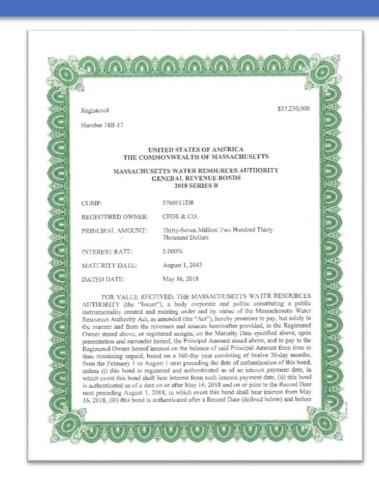
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Utility	July	August	September	October	November	December	January	February	March	April	May	June	
Sewer	\$ 55,815,569	\$ 52,508,857	\$ 43,946,347	\$ 34,436,027	\$ 25,756,266	\$ 16,245,946	\$ 3,053,426	\$ (12,027,596)	\$ (25,220,116)	\$ (45,373,486)	\$ (68,208,154)	\$ (70,523,318)	
Water	\$ 58,475,732	\$ 51,485,457	\$ 46,319,027	\$ 38,475,747	\$ 29,731,600	\$ 21,888,320	\$ 13,658,750	\$ 3,444,754	\$ (4,784,816)	\$ (17,397,246)	\$ (31,721,950)	\$ (43,972,586)	
Total	\$ 114,291,301	\$ 103,994,314	\$ 90,265,374	\$ 72,911,774	\$ 55,487,866	\$ 38,134,266	\$ 16,712,176	\$ (8,582,842)	\$ (30,004,932)	\$ (62,770,732)	\$ (99,930,104)	\$ (114,495,904)	



How Does MWRA Issue Bonds

- Board Approval
- Debt Issuance Team
 - Bond/Disclosure Counsel
 - Financial Advisor
 - Underwriter

Credit Ratings





Debt Issuance

PRELIMINARY OFFICIAL STATEMENT DATED DECEMBER 1, 2021

NEW ISSUE - BOOK-ENTRY ONLY SYSTEM

see "Ratings" herein

In the opinion of Bond Counsel, assuming the occurrecy of certain representations and certifications, and continuing compliance with certain tex covenants, under existing stantose, regulations, ruleign and court decisions, interest on the 2021 Series B Bonds is excludable from gross income for federal income tax purposes, and interest on the 2021 Series B Bonds is not an term of the purpose of computing the alternative minimum tax imposed on individuals. Interest on the 2021 Series C Bonds is generally subject to inclusion in federal gross income of the Holders thereof, in the opinion of Bond Counsel, interest on the 2021 Bonds and any profit made on the sale thereof are exempt from Massachiustic personal property tax. See



MASSACHUSETTS WATER RESOURCES AUTHORITY \$[75,000,000]* General Revenue Bonds, 2021 Series B (Green Bonds) \$[700,000,000]* General Revenue Refunding Bonds, 2021 Series C (Federally Taxable) (Green Bonds)

Dated: Date of Initial Delivery

Due: As shown on the inside cover

The Massachusetts Water Resources Authority (the "Authority") will issue in General Reveume Bonds, 2021. Series B (the "2021 Series B Bonds") and its General Reveume Refunding Bonds, 2021 Series C (Federally Trasdole) (Green Bonds) (the "2021 Series G Bonds", and together with the 2021 Series B Bonds, the "2021 Bonds") as fully registered bonds in the name of Cede & Co. as nominee for The Depository Trust Company ("DTC"). New York. New York. Purchases of the 2021 Bonds will be made in book-entry form only, in the denominations of \$5,000 or any integral multiple thereof, and no physical delivery of the 2021 Bonds will be made to purchasers. So long as Cede & Co. is the registered owner of the 2021 Bonds, principal and interest on the 2021 Bonds are payable to DTC by U.S. Bank National Association, as Trustee, See "The 2021 Bonds - Bonds

The 2021 Bonds will bear interest at the fixed rates and mature in the years and in the principal amounts set forth on the inside cover pages hereof. Interest on the 2021 Bonds will accure from their date of delivery. Interest on the 2021 Bonds will be payable on February 1 and August 1 of each year, commencing February 1, 2022. The 2021 Bonds will be subject to redemption prior to maturity, as more fully described herein.

The 2021 Bonds will constitute general obligations of the Authority, Ina ddition, the 2021 Bonds will be secured by a lien on and pledge of certain revenues and other moneys of the Authority, as described herein. Neither The Commonwealth of Massachusetts (the "Commonwealth") nor any political subdivision thereof shall be obligated to pay the principal of, or premium, if any, or interest on any 2021 Bond, and neither the faith and credit nor the taxing power of the Commonwealth or any political subdivision thereof is pledged to such payment. The Authority has no taxing power of the Commonwealth or any political subdivision thereof is pledged to such payment. The Authority has no taxing power and the proposed to the payment. The Authority has no taxing power and the proposed to the payment. The Authority has no taxing power and the proposed to the payment. The Authority has no taxing power and the proposed to the payment. The Authority has no taxing power and the proposed to the payment and the proposed to the payment and the proposed to the payment and th

The 2021 Bonds are effered when, as and if issued by the Authority and received by the Underwriters, subject to the approval of legality by Greenberg Traurig, LLP, Boston, Massachusetts, Bond Counsel, and certain other conditions. Certain legal matters will be passed upon for the Authority by its Disclosure Counsel, McCarter & English, LLP, Boston, Massachusetts, and for the Underwriters by their counsel, Mintz, Levin, Colm, Ferris, Glovsky and Popeo, P.C., Boston, Massachusetts, Settlement of the Issue is expected at OFLO New York ov Pork our or about December , 2018.

December __, 2021

Preliminary, subject to change.

 Citigroup
 Barclays
 BofA Securities
 Jefferies
 Morgan Stanley

 Goldman Sachs & Co., LLC
 J.P. Morgan
 Ramirez & Co., Inc.

 RBC Capital Markets
 UBS
 UBS

ME1 37949958v.10

- The issuance of tax-exempt bonds is subject to oversight from:
 - Securities and Exchange Commission
 - Internal Revenue Service
 - Municipal Securities Rule Making Board.
- Disclosure documents are develop which provide information on MWRA's finance, management and operations.
- Credit Rating Agencies receive an update on MWRA and assign a credit rating to the new bonds.



Debt Issuance

NEW ISSUE - BOOK-ENTRY ONLY SYSTEM

See "Ratings" herein.

In the opinion of Bond Counsel, assuming the accuracy of certain representations and certifications, and continuing compliance with certain tex covenants, under existing stantes; regulation, rulings and court decisions, interest on the 2021 Series B Bonds is excludable from gross income for federal income tax purposes, and interest on the 2021 Series B Bonds in on an item of tax preference for the purpose of computing the alternative minimum tax imposed on individuals. Interest on the 2021 Series C Bonds is generally subject to inclusion in federal gross income of the Holdest thereof, In the opinion of Bond Counsel, interest on the 2021 Bonds and any profit made on the sale thereof are exempt from Massachusetts personal income taxes, and the 2021 Bonds are exempt from Massachusetts personal property trax. See "Tax Matters" herein.



MASSACHUSETTS WATER RESOURCES AUTHORITY \$60,635,000 General Revenue Bonds, 2021 Series B (Green Bonds) \$687,395,000 General Revenue Refunding Bonds, 2021 Series C (Federally Taxable) (Green Bonds)

Dated: Date of Initial Delivery

Due: As shown on the inside cover

The Massachusetts Water Resources Authority (the "Authority") will issue its General Revenue Bonds. 2021 Series B (the "2021 Series B Bonds") and its General Revuenue Refunding Bonds. 2021 Series G (Federally Taxable) (Green Bonds) (the "2021 Series C Bonds") and together with the 2021 Series B Bonds the "2021 Bonds" as fully registered bonds in the name of Cede & Co. as nomines for The Depository Trust Company ("DTC"). New York. New York. Purchases of the 2021 Bonds will be made in book-entry form only, in the denominations of \$5,000 or any integral multiple thereof, and no physical delivery of the 2021 Bonds will be made to purchasers. So long as Cede & Co. is the registered owner of the 2021 Bonds, principal and interest on the 2021 Bonds are payable to DTC by U.S. Bank National Association, as Trustee, See "The 2021 Bonds. Book-Entry-Ouly System."

The 2021 Bonds will bear interest at the fixed rates and mature in the years and in the principal amounts set forth on the inside cover pages hereof. Interest on the 2021 Bonds will accure from their date of delivery, Interest on the 2021 Bonds will be payable on February 1 and August 1 of each year, commencing February 1, 2022. The 2021 Bonds will be subject to redemotion prior to maturity, as more fully described herein.

The 2021 Bonds will constitute general obligations of the Authority. In addition, the 2021 Bonds will be secured by a lieu on and pledge of certain revenues and other moneys of the Authority, as described herein. Neither The Commonwealth of Massachusetts (the "Commonwealth") nor any political subdivision thereof shall be obligated to pay the principal of, or premium, if any, or interest on any 2021 Bond, and neither the faith and credit nor the taxing power of the Commonwealth or any political subdivision thereof is pledged to such payment. The Authority has no taxing power.

The 2021 Bonds are offered when, as and if issued by the Authority and received by the Underwriters, subject to the approval of jegality by Greenberg Truurig, LIP, Boston, Massachusett, Bond Comusel, and certain other conditions. Certain legal matters will be passed upon for the Authority by its Disclosure Commel, McCarter & English, LIP, Boston, Massachusett, and for the Underwriters by their commel, Mirt. Levin, Cohn, Fertis, Glossky and Popeo, P.C., Boston, Massachusetts. Settlement of the issue is expected at DTC in New York, New York on or about December 22, 2021.

December 9, 2021

Citigroup Barclays BofA Securities Jefferies Morgan Stanley
Goldman Sachs & Co. LLC
RBC Capital Markets

BofA Securities
Jefferies Morgan Stanley
Ramirez & Co., Inc.
UBS

Massachusetts Water Resources Authority S60,635,000 General Revenue Bonds, 2021 Series B (Green Bonds) Maturities, Amounts, Rates, Yields and CUSIP[†] Numbers

Year (August 1)	Amount	Interest Rate	Yield	CUSIP†
2022	\$2,000,000	5.000%	0.150%	576051YJ9
2023	5,330,000	5.000	0.250	576051YK6
2024	5,330,000	5.000	0.360	576051YL4
2025	5,325,000	5.000	0.470	576051YM2
2026	5,325,000	5.000	0.600	576051YN0
2027	5,325,000	5.000	0.730	576051YP5
2028	3,500,000	5.000	0.870	576051YO3
2029	3,500,000	5.000	0.970	576051YR1
2030	1,500,000	5.000	1.040	576051YS9
2031	2,000,000	5.000	1.090	576051YT7
2032	2,000,000	5.000	1.130 ^C	576051YU4
2033	2,000,000	5.000	1.190 ^C	576051YV2
2034	2,000,000	5.000	1.220 ^C	576051YW0
2035	2,000,000	5.000	1.260 ^C	576051YX8
2036	2,000,000	5.000	1.280 ^C	576051YY6
2037	2,000,000	5.000	1.310 ^C	576051YZ3
2038	2,000,000	5.000	1.340 ^C	576051ZA7
2039	2,500,000	5.000	1.370 ^C	576051ZB5
2040	2,500,000	5.000	1.400 ^C	576051ZC3
2041	2.500.000	5.000	1.410 ^C	576051ZD1

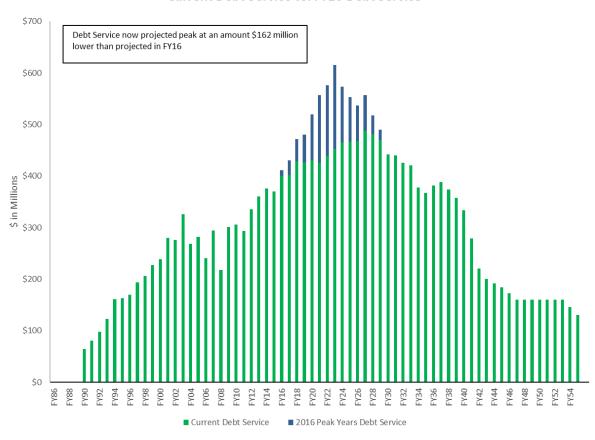
^{*}CUSIP is a registered trademark of the American Bankers Association, CUSIP Oldold Services (COS) in managed on behalf of the American Bankers Association by \$8F foliobla Market Intelligence Copyright C 2021 (USF) folioble Services, All rights reserved. The CUSIP mumbers herein are not intended to create a database and do not serve in any way as a substitute for CUSIP service. The CUSIP mumbers have been assigned by an independent company not affiliated with the Authority, the Trustee or the Underwriters and are included solvley for the convenience of the bondholders. None of the Authority, the Trustee or the Underwriters and like responsible for the selection or correctness of the CUSIP mumbers are independent of the intermediate of the CUSIP mumbers are understood to improve the form of the CuSIP mumbers with the convenience of the 2021 Bonds. So are of the Authority, the Trustee or the Underwriters shall be responsible for the selection or correctness of the cuSIP mumbers are independent actions including, but not limited to, a refunding in whole or in part of the 2021 Bonds. None of the Authority, the Trustee of the CUSIP mumbers to infect any damper or correction in the CUSIP mumbers or infect any damper or correction in the CUSIP mumbers or infect and the contract of the CUSIP mumbers or infect and the contract of the CUSIP mumbers or infect and the contract of the contract

C Yield to the first optional redemption date, August 1, 2031.



Active Debt Structuring

Current Debt Service vs. FY16 Debt Service





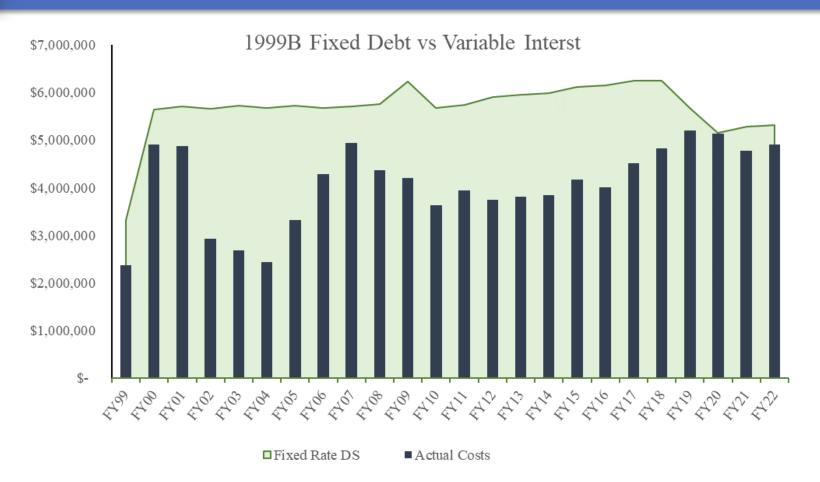
Refunding for Interest Rate Savings

			Present Value
Series	P	rincipal Refunded	Savings
1992B & 1993B	\$	822,405,000	\$ 25,552,000
1993C	\$	147,495,000	\$ 3,664,000
1997D & 1998B	\$	154,513,000	\$ 17,589,000
1998D	\$	182,230,000	\$ 12,280,000
2000A	\$	18,810,000	\$ 411,000
2000B & 2000C	\$	312,490,000	\$ 42,076,000
2002 C-G	\$	446,155,000	\$ 26,729,000
2002J	\$	428,090,000	\$ 23,760,000
2004A	\$	10,860,000	\$ 470,000
2004B	\$	68,350,000	\$ 5,209,000
2005A	\$	424,215,000	\$ 20,057,135
2005B	\$	80,290,000	\$ 5,499,022
2006B	\$	286,400,000	\$ 5,431,420
2007B	\$	647,950,000	\$ 4,941,170
2009B	\$	285,200,000	\$ 19,525,617
2010B	\$	183,570,000	\$ 6,365,918
2011C	\$	352,190,000	\$ 25,262,292
2012B	\$	102,915,000	\$ 5,242,652
2013A	\$	175,595,000	\$ 13,106,708
2014E	\$	38,405,000	\$ 4,945,700
2014F	\$	156,210,000	\$ 15,223,922
2016C	\$	761,430,000	\$ 111,311,251
2016D	\$	102,515,000	\$ 9,795,633
2017C	\$	277,400,000	\$ 57,506,361
2018C	\$	24,935,000	\$ 3,809,656
2019C	\$	20,430,000	\$ 1,550,686
2019F	\$	547,750,000	\$ 72,939,199
2019G	\$	22,825,000	\$ 349,086
2021C	\$	687,395,000	\$ 65,908,532
TOTAL	\$	7,769,018,000	\$ 606,511,959

31% of funded bonds 53% of the savings

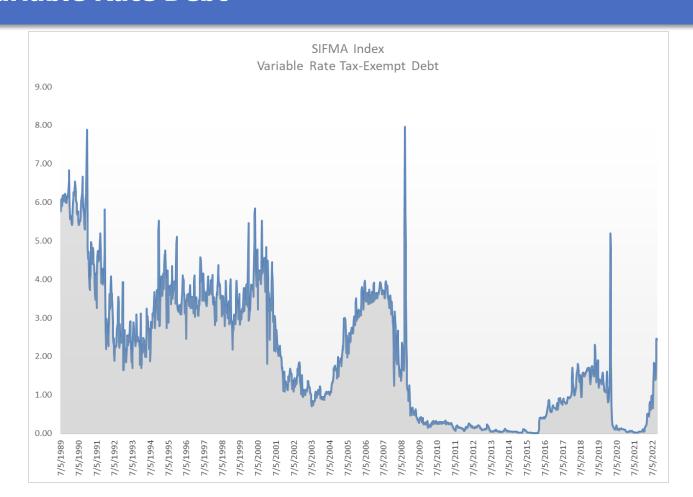


Variable Rate Debt



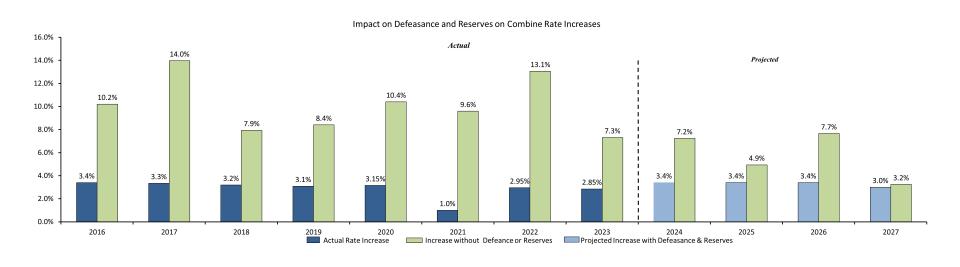


Variable Rate Debt





Impact of Defeasance and Use of Reserves on Debt Service





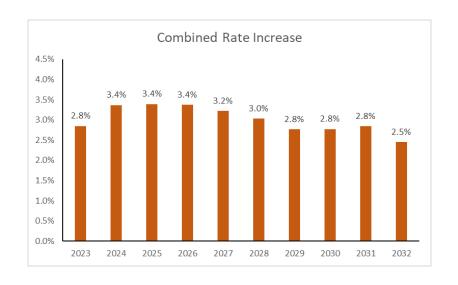
MWRA's Rate Projections

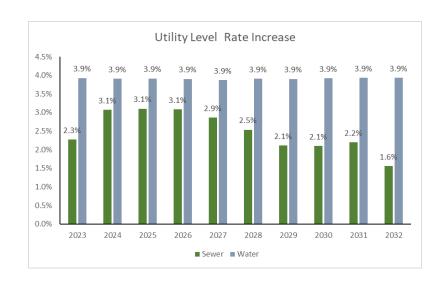
- Direct Expenses
 - 3.0% inflation for expenses
 - 2.7% inflation for salaries
- Indirect Expenses
 - Actuarial Studies
 - 3.0%-4.0% Inflation
- Debt Service
 - Actual
 - Projected
- Rates projections and assumptions reviewed every three years by MWRA Consulting Engineer

FY23 (#3.0)		MASS/	ACHUSETT				HORITY								$\overline{}$
` '	RATES AND BUDGET PROJECTIONS (\$000)														
See Comments															
	FY2022	FY2023	FY2024	FY2026	FY2028	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032		ASSUMPTI	ONS	
COMBINED UTILITIES EXPENSES			1 1								1	Run Date			23_lup.22
Direct Expenses	\$269,810	\$273,722	\$282.191	\$290,630	\$298,692	\$307.724	\$315.755	#324,710	\$333,931	\$343,466	\$363,143	Run Time			11:08 AM
Indirect Expenses	68,862	60,498	62,163	84,784	87,684	71,073	74,455	78,460	74,887	68,469	82,413		Future CEB In	offation	
Capital Financing (before offsets)	497.823	507.155	524,978	543.384	582,738	680.618	588,486	812,860	834,880	670.803	683,309	Salaries	FY2024-2	060	2.7%
Sub-Total Expenses	\$814,286	\$841,373	\$869,330	\$898,718	\$929,112	\$969,316	\$988,696	\$1,018,109	\$1,043,479	\$1,072,728	\$1,098,886	Other Directs	FY2024-2050		3.0%
Debt Service Assistance	(1,288)	(1,182)	0	0	0	0	0		0						
Bond Redemption Savings Variable Rate Savings	0		0	0	0	0	0		0	0	0		Use of Reserves for R	Bond	
Total Expenses	\$812,997	\$840,191	\$889.330	\$898,718	\$929,112	\$969,316	\$888.69E	\$1,018,109	\$1,043,479	\$1,072,728			Stabilization/HEEC	Redemption	Combined
- Company		40.00	400,000	4000,000	4020,2	***************************************	*****	41,010,100	*1,040,110	* 1,012,120	* 1,000,000	FY2028	980	0	880
REVENUE & INCOME			1 1								1	FY2024	1,106	0	1,106
Non-Member and Other Revenue	\$15,702	\$16,978	\$18,838	\$17,062	\$17,482	\$17,892	\$18,312	\$18,741	\$19,002	\$19,270	\$19,638	FY2026	917	0	817
Interest Income	3,961	8,687	9,626	10,138	10,833	11,849	12,442	13,033	13,486	13,831	14,202	FY2028	809		809
Rate Stabilization/HEEC Reserve	1,260 \$20,913	980 \$26,643	1,106 \$27,288	917 \$28 108	809 \$29,123	780 \$30,321	782 \$31,638	740 \$32,613	140 \$32,827	12 \$33,113	±33.738	FY2027 FY2028	780 782		780 782
Total Cities Revenue	+20,010	*20,0%	427,200	\$20,100	#20,120	+00,021	# 01,000	#a2,010	+02,021	****	+00,700	FY2029	740	i	740
Total Rate Revenue	\$792,084	\$814,648	\$842,084	\$870,810	\$899,989	\$928,994	\$867,168	\$983,596	\$1,010,862	\$1,039,616	\$1,086,127	FY2030	140	ě	140
Rate Revenue Change	3.0%	2.86%	3.4%	3.4%	3.4%	3.2%	3.0%	2.8%	2.8%	2.8%	2.6%		12	ō	12
												FY2032	<u>0</u>	<u>0</u>	<u>o</u>
Estimated Annual Household Charge **												TOTAL	8,284	0	6,284
Based on water use of 61k gpy (weighted) Based on water use of 90k gpy (weighted)	\$1,276 \$1,881	\$1,328 \$1,869	\$1,388 \$2,046	\$1,447 \$2,135	\$1,610 \$2,228	\$1,678 \$2,325	\$1,843 \$2,424	\$1,712 \$2,627	\$1,786 \$2,833	\$1,861 \$2,745	\$1,938 \$2,869	FY23 Begin Bal	40,286	26,108	88,402
WASTEWATER UTILITY	FY2022	FY2023	FY2024	FY2026	FY2028	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032		Debt Ten	-	$\overline{}$
EXPENSES	P12022	FIZUZO	F12024	F12026	F12020	F12027	F12U20	F12020	F12000	F12001	F12002	Туре	Fiscal Year	Term	Rate
Direct Expenses	\$169,080	\$178,649	\$181,662	\$188.681	\$191,913	\$197.917	\$202,978	\$208,749	\$214,696	\$220,739	\$228.862	1750	THOUSE TOUR		100
Indirect Expenses	21,704	22,384	23,027	24,086	26,311	26,866	28,320	30,214	27,319	16,300	18,104	Fixed Debt	FY23	26	6.00%
Capital Financing (before offsets)	334,146	337,367	360,060	380,668	371,691	381,113	390,109	396,584	406,879	424,847	427,373	Fixed Debt	FY24-FY60	30	6.00%
Sub-Total Wastewater Expenses	\$624,828	\$538,300	\$664,840	\$671,326	\$588,916	\$806,898	\$821,408	\$834,547	\$847,894	\$881,888	\$672,428				
Debt Service Assistance Bond Redemption Savings	(1,172)	(1,077)	0	0		0		0	0	0	0	SRF - Sewer	FY23-FY60 FY23-FY60	20	2.15%
Variable Rate Savings				0					0			SHOT - Water	FTZ3-FY60	20	2.16%
Total Wastewater Expenses	\$523.758	\$535,223	2554 840	\$571.325	\$588.91E	2005 200	±821.408	\$834.547	1847 884	1881 888	±872 428	Variable Rafe	FY23	Existing Issues	3,50%
	*****	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	422.,2.12	41	422,212	******	,,	****	********	,,	7	Variable Rate	FY24-FY60	Existing Issues	4.00%
REVENUE & INCOME															
Non-Member and Other Revenue	\$6,632	\$6,474	\$6,849	\$5,788	\$6,832	\$8,081	\$8,234	\$8,390	\$8,552	\$6,722	\$6,894	TECP	FY23-FY60		3.75%
Interest Income	2,306	6,062	6,890	5,841	8,004	6,434	6,812	7,074	7,289	7,386	7,662	Water Pipeline	FY23-FY60	20	3.25%
Rate Stabilization/HEEC Reserve Prior Year Utility Surplus/Deflot Transfer	1,260	980 (2,626)	800	676	425	350	300	200	140	12	0		FY23 Borrowt		2-4-
Total Revenuelincome/Utility Transfers	\$9.087	18.880	\$12,139	\$12.004	\$12.381	±12.888	\$13.346	\$13.884	\$13.962	\$14.120	214.44R	Type Fixed Debt	Amount 100,000	Term 26	Rate 6.00%
Total Revender Industrial Control of the Control of	***	40,000	\$12,100	\$12,004	#12,001	+12,000	*10,040	*10,004	#10,00Z	*14,120	*14,440	ARF-Aewer	25,000	20	2.16%
Wastewater Rate Revenue	\$614,669	\$528,343	\$642,601	\$669,321	\$578,664	\$683,030	\$808,082	\$820,883	\$833,933	\$847,888		SRF-Water	26,000	20	2.15%
Rate Revenue Change	2.7%	2.3%	3.1%	3.1%	3.1%	2.9%	2.5%	2.1%	2.1%	2.2%		TOTAL	\$ 160,000		
									633,933	647,866	667,882		Prepaid Debt		
Estimated Annual Household Charge ** Based on water use of 81k gay (weighted)	\$783	2794	\$ 828	2884	\$902	\$940	2979	\$1,019	\$1,081	\$1,104	\$1.148	FY23		FY28 FY29	1,600
Based on water use of 90k gpy (weighted)	\$1,128	\$1,171	\$1,222	\$1,276	\$1,330	\$1,387	\$1,445	\$1,504	\$1,585	\$1,829	\$1,683	FY26	6,000	FY30	.,
WATER UTILITY	FY2022	FY2023	FY2024	FY2026	FY2028	FY2027	F)'2028	FY2029	FY2030	FY2031	FY2032	FY26	6,000	FY31	
EXPENSES .												FY27		FY32	600
Direct Expenses	\$80,731	\$97,173	\$100,838	\$103,848	\$108,778	\$109,806	\$112,777	\$116,981	\$119,236	\$122,727	\$126,182				\$ 24,500
Indirect Expenses	34,948	38,112	38,138	40,708	42,373	44,208	48,135	48,238	47,588	42,168	44,310				
Capital Financing (before offsets)	163.678	169,788	174.916	182.838	191,044	189,405	208,376	217.368	228,781	245.856	255,936		Average Investm		
Sub-Total Water Expenses Debt Service Assistance	\$289,367 (118)	\$306,073 (105)	\$314,691	\$327,383	\$340,197	\$363,420 0	\$367,287	\$381,663	\$396,684	\$410,742	\$426,437	Fiscal Year	Short Te	_	Long Term
Bond Redemption Savings	(118)	(106)					ľ			;	"	FY23	1.00%		1,60%
Variable Rate Savings		· ·	0	0		o	ő		ő	,		FY24-FY60	1.60%		1.76%
Total Water Expenses	\$289,241	\$304,968	\$314,691	\$327,383	\$340,197	\$363,420	\$387,287	\$381,663	\$396,684	\$410,742	\$426,437				
REVENUE & INCOME	\$10,170						\$12,079								
Non-Member and Other Revenue Interest Income	\$10,170 1,868	\$10,602 3,638	\$10,987 3,836	\$11,264 4,488	\$11,549 4,829	\$11,811 6,216	\$12,079 5,630	\$12,362 6,968	\$12,449 8,218	\$12,647 8,448	\$12,842 8,861		Other Comm	nents	
Rate Stabilization/HEEC Reserve	1,808	0,606	306	342,282	383,638	430	482	6,660	0,216	0,446	0,001				
Prior Year Utility Surplus/Defloit Transfer		2,628	0	0	0	0	0	0	0		0	1) Baced on FY23 CEB Model #2.0			
Total Revenue/Income/Utility Transfers	\$11,828	\$18,883	\$15,127	\$18,106	\$18,782	\$17,466	\$18,191	\$18,849	\$18,886	\$18,983					
												7			
Water Rate Revenue	\$277,416	\$288,306	\$299,583	\$311,289	\$323,435	\$335,964	\$349,097	\$382,713	\$378,919	\$391,749	\$407,146				
Rate Revenue Change	3.5%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%	3.8%	3.8%				
Estimated Annual Household Charge ** Rased on water use of 81k gov (weighted)	\$612	\$634	2558	\$683	2009	2000	2004	\$693	\$724	\$757	\$790				
Estimated Annual Household Charge ** Based on water use of 81k gpy (weighted) Based on water use of 90k gpy (weighted)	\$612 \$766	\$634 \$788	\$668 \$823	\$683 \$880	\$609 \$888	\$636 \$938	\$884 \$979	\$693 \$1,023	\$724 \$1,069	\$767 \$1,118	\$790 \$1,168				



Projected Rate Revenue Requirement Increases

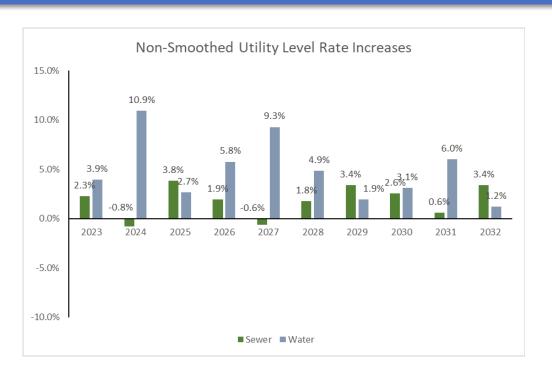






Debt Service Utility Smoothing

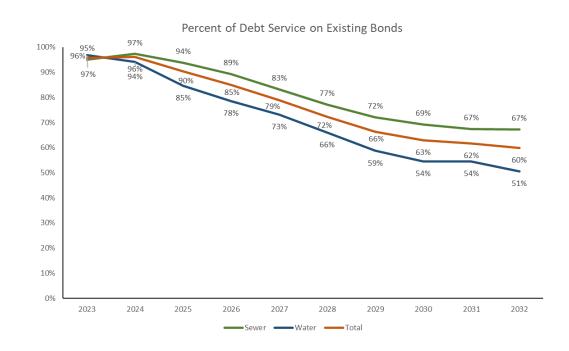
- Utility smoothing first utilized in FY17 Rates Model Projections.
- Existing Debt Service structured around combined rate increases.
- Projected Debt Service structured by model as level debt service based on a percentage sewer/water split.





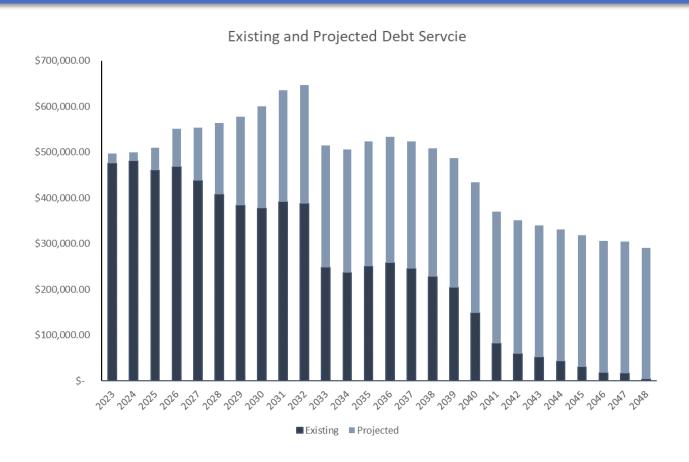
Debt Service Utility Smoothing

- Percentage of annual debt service structured by the model increases over time.
- Utility Smoothing helps to synthetically structure the bonds similar to how MWRA is likely to issue them.



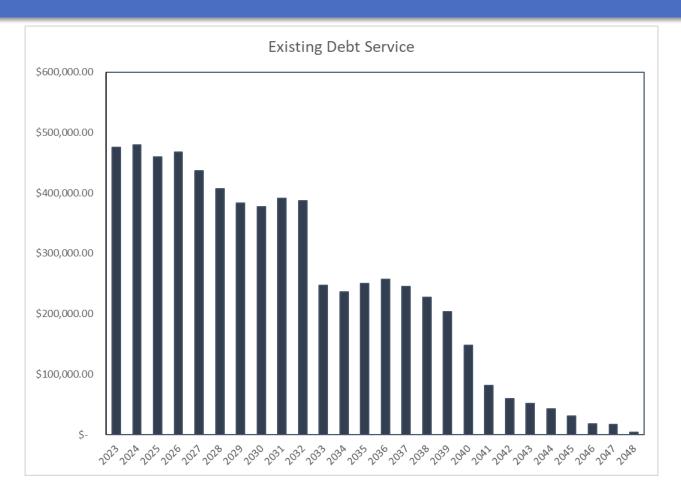


Structuring of a Bond Transaction



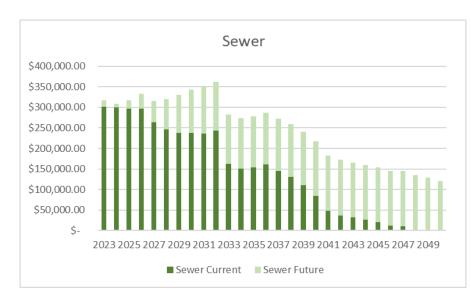


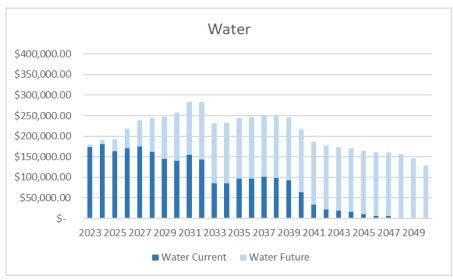
Structuring of a Bond Transaction





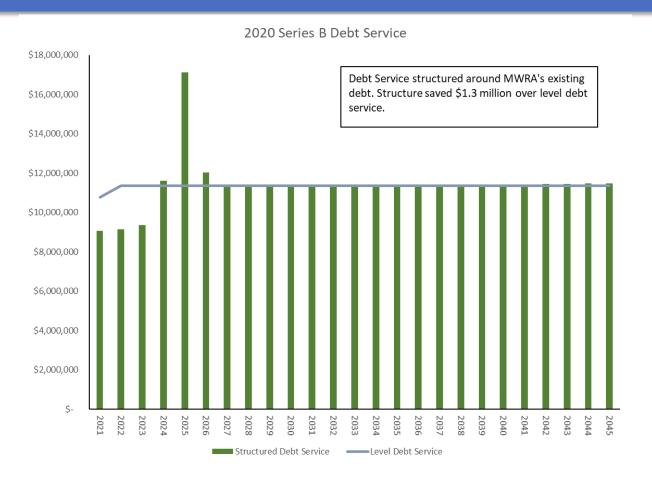
Structuring of a Bond Transaction





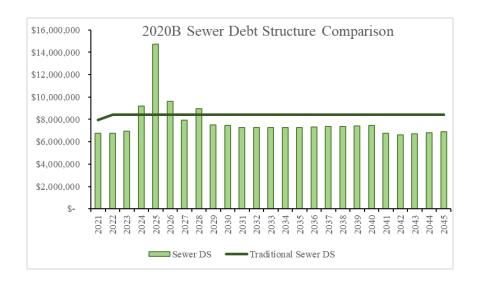


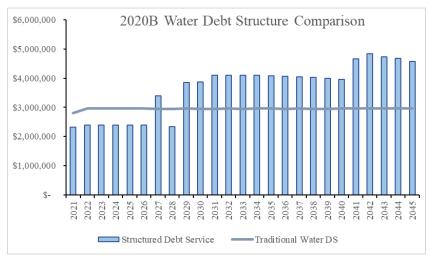
2020 Series B Structured Debt Service





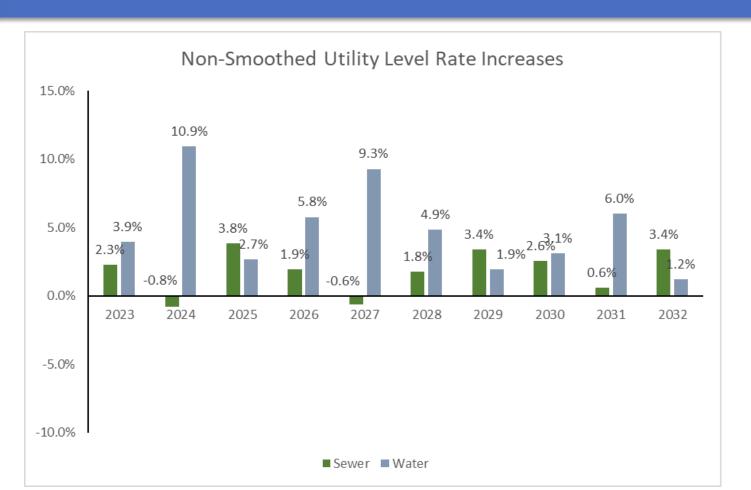
2020 Series B Structure Debt Service







Utility Level Increases without Smoothing





Projected Rate Revenue Requirement Increases

