



Ohio Water
Development Authority

Ohio Water Development Authority

\$37,400,000*
Drinking Water Assistance Fund
Refunding Revenue Bonds
Series 2019B

Investor Presentation

November 6, 2019

**Preliminary, subject to change.*



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Transaction Summary*

Drinking Water Assistance Fund Refunding Revenue Bonds, Series 2019B

Issuer:	Ohio Water Development Authority (the "Authority" or "OWDA")
Par Amount:	\$37,400,000*
Ratings:	Aaa (Moody's) / AAA (S&P)
Tax Status:	Tax-Exempt (Federal and State of Ohio)
Use of Funds:	The Series 2019B DWAF Bonds are to be issued to refund the Authority's Drinking Water Assistance Fund Revenue Bonds, Leverage Series 2010B, which were issued to make loans to Governmental Agencies to pay the costs of public water treatment systems
Security:	Principal of and interest on the Series 2019B DWAF Bonds are payable solely from, and are secured on a subordinate basis to the previously issued Leverage Bonds that the Authority has issued or may issue in the future to refund previously issued and outstanding Leverage Bonds, by a pledge and assignment of Pledged Revenues, consisting primarily of the principal and interest payments by Governmental Agencies pursuant to the DWAF Loan Agreements entered into pursuant to the Program, and by certain funds created by the Trust Agreement
Bond Structure:	Fixed rate bonds with a serial semiannual principal amortization from June 1, 2022 to December 1, 2030*
Optional Redemption:	The Series 2019B DWAF Bonds maturing on or after June 1, 2030 are subject to prior redemption by and at the sole option of the Authority in whole multiples of \$5,000, either in whole or in part (as selected by the Authority) on any date on or after December 1, 2029, at a redemption price equal to 100% of the principal amount redeemed, plus accrued interest to the redemption date
Interest:	Semiannually on June 1 and December 1, beginning on June 1, 2020
Pricing Date:	November 14, 2019*
Closing Date:	December 5, 2019*
Underwriters:	UBS (Bookrunning Joint Senior Manager), Robert W. Baird & Co. (Joint Senior Manager)

*Preliminary, subject to change.

Overview of OWDA

The Ohio Water Development Authority

- Created in 1968, the Authority has provided water and wastewater loans to communities throughout Ohio for over 50 years
- The Authority consists of eight members
 - Five members of the Authority are appointed by the Governor for eight-year, staggered terms, with the advice and consent of the State Senate
 - The Director of Natural Resources, the Director of Environmental Protection and the Director of the Development Services Agency of the State are members ex officio of the Authority
- Jointly administers (with Ohio EPA) the federally authorized bond funded Wastewater and Drinking Water revolving loan programs; and also funds its own bond funded revolving fund loan program (Fresh Water) and provides conduit financing for private businesses
- Established and administers non-bond funded programs that include: Solid Waste Program (established in 1991); R&D Grant Program (1991); Brownfield Program (1994); Local Economic Development Program (1995); Village Capital Improvement Fund Program (1996); Emergency Relief program (1997); Dam Safety Linked Deposit program (1999); County Coastal Erosion Loan Program (1999); Unsewered Area Planning Loan Program (2009); Alternative Stormwater Infrastructure Loan program (2010); Unsewered Area Assistance Program (2013); and Loan Advance Program (2015)



Drinking Water Assistance Fund Program Overview

- OWDA’s Drinking Water Assistance Fund Program is the State Revolving Fund program that funds qualified drinking water projects in the State of Ohio
- It is authorized at the federal level by the federal Safe Drinking Water Act that directs the U.S. EPA to create drinking water state revolving fund (“DWSRF”) programs to assist public water systems to finance the cost of infrastructure to achieve or maintain compliance with the Safe Drinking Water Act requirements and to protect public health
- In order to receive a federal capitalization grant, a state must provide a “state match” totaling 20% of the total federal grant and OWDA currently funds its State Match utilizing several approved funding mechanisms
- Since 1997, the DWAF has received over \$619 million of federal capitalization grants which have been matched with over \$123 million of State matching funds. The adjacent table shows this funding over the last five years
- OWDA utilized Capitalization Grants and State Match monies – combined with bond proceeds and excess loan repayments -- to make loans to borrowers in the DWAF
- As of July 31, 2019, OWDA has made over \$1.3 billion in DWAF loans since the program’s inception



Capitalization Grants

Federal Fiscal Years 2015-2019

Year	Capitalization Grant	State Match
2015	24,405,000	4,885,000
2016	23,107,000	4,621,400
2017	22,909,000	4,581,800
2018	27,935,000	5,587,000
2019	27,674,000	5,534,800
Total	\$126,030,000	\$25,210,000

DWAF Program Loan Terms & Interest Rates

- The DWAF Program's subsidized loan rates provide below market funding and therefore a strong incentive for extensive participation by communities throughout Ohio
- The DWAF Program loan rates are reset monthly and current rates are as follows:

Loan Rate	Rate Setting
Standard Intermediate-Term Rate (5 – 20 years)	8-week average of the MMD 20 Year GO rate less 0.95%
Standard Long-Term Rate (21 – 30 years)	8-week average of the MMD 30 Year GO rate less 1.00%
Small Communities	Standard rate less 0.50%
Hardship	0% to 1.0% depending on community service population

- DWAF Loans are not callable by the borrowers and may not be prepaid by the borrower prior to maturity

DWAF Loans Financed and Significant Government Agency Participants

As of July 31, 2019

- Currently, the DWAF portfolio includes 219 Governmental Agencies with 534 Projects financed through loans made by the Authority (the “Existing DWAF Loans”) pursuant to loan agreements with the Authority
- Total of \$1.36 billion in principal amount of Existing DWAF Loans has been made, with a principal balance of \$938.00 million outstanding

Top 10 Local Government Agencies by Percent of Projected Total Remaining Repayments

(As of July 31, 2019)

Local Governmental Agency	Number of Projects	Estimated Project Costs Funded with DWAF Loans	Projected Remaining Leverage and DWAF Revenue Series Repayments	Percent of Projected Total Remaining Loan Repayments
Columbus	37	\$193,324,641	\$220,680,213	20.77%
Cleveland	11	152,766,777	81,197,572	7.64
Cincinnati	44	69,709,730	62,965,582	5.92
Toledo	3	62,986,082	56,837,340	5.35
Miamisburg	5	31,312,485	35,616,833	3.35
Avon Lake	3	35,914,143	33,820,865	3.18
Bucyrus	2	29,085,678	30,089,142	2.83
Mahoning Valley Sanitary District	9	35,399,506	28,264,875	2.66
Canton	5	27,435,479	23,972,708	2.26
St. Mary’s	1	19,079,852	22,478,753	2.12
Totals	120	\$657,014,371	\$595,923,883	56.07%

Enforcement Process for Revenue Collection

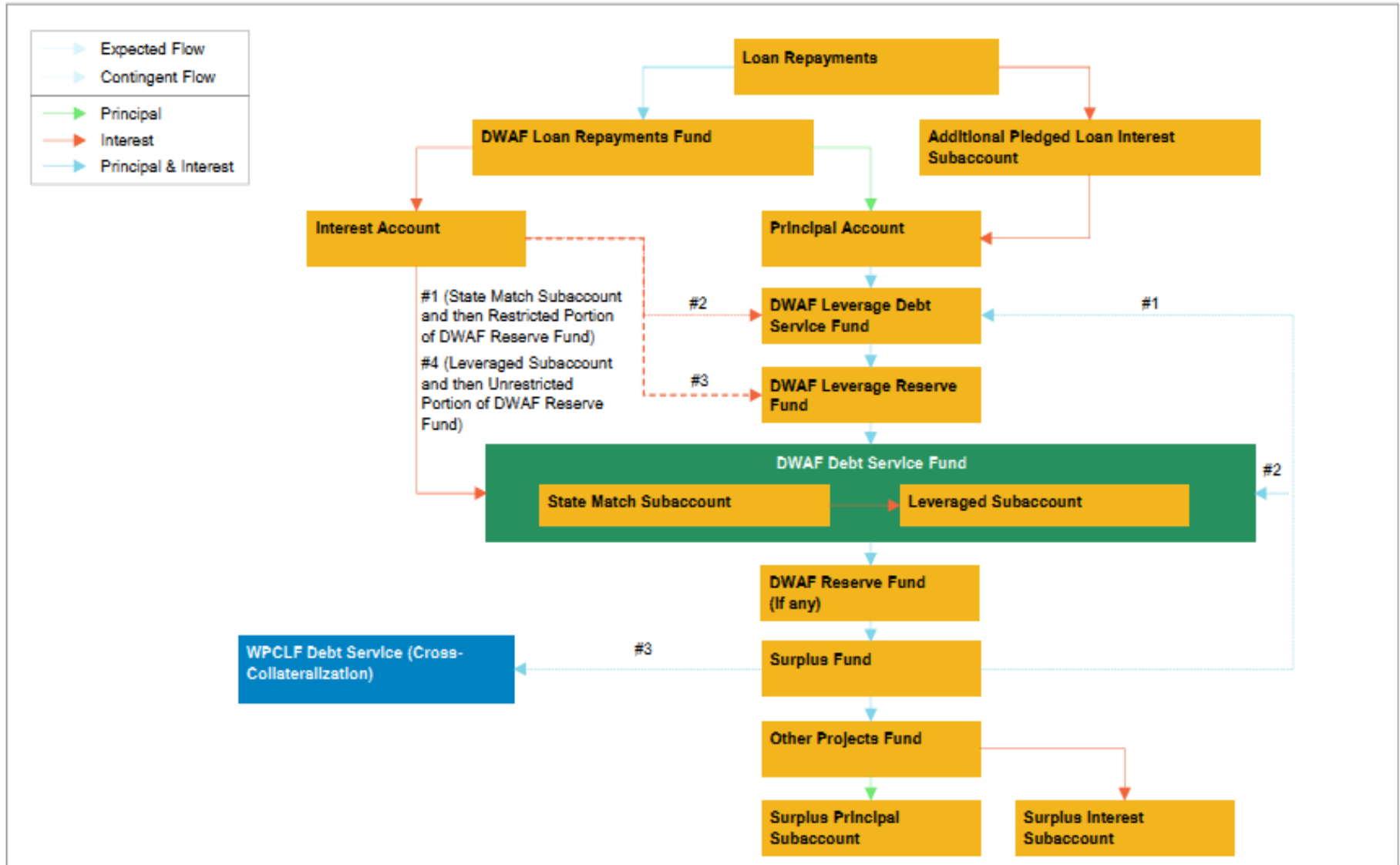
- The Authority has covenanted to its bondholders that it will take all necessary actions to collect all loan payments due to the Authority, including:
 - Sending invoices 15 days prior to due date
 - Making demand for payment within 20 days after any default
 - Giving notice that if the default is not remedied within 2 months the Authority will file suit to collect the moneys due
 - Filing suit within 3 months of the default date
- The Authority has a strong, 50-year record of enforcing its rights to loan payments
 - Only one DWAF Loan is currently in default
 - Village of Bridgeport, Ohio failed to make payments due on July 2, 2018, January 2, 2019 and July 3, 2019 with the delinquent amount totaling \$55,307.46
 - Prior to its failure to make its July 2, 2018 payment, Bridgeport had made full and timely payments
 - In October 2018, the Authority filed a complaint against Bridgeport in the Franklin County Court of Common Pleas
 - In June 2019, Bridgeport submitted a Financial Recovery Plan to the Ohio Auditor of State. The recovery plan included implementation of a 1% municipal income tax effective August 1, 2019 that will realize full collections in 2021
 - The Authority anticipates that its ability to pay Bond Service Charges on DWAF Bonds will not be materially adversely affected by any of the developments associated with the Bridgeport default
- Loan repayment dates are generally set five months prior to bond debt service payment dates to provide cushion for collections

DWAF Bondholder Security

Security Feature	Details
DWAF Revenues Pledged to Leverage & DWAF Bonds:	Principal and interest repayments on all pledged Loan Agreement loans which are secured by the Governmental Agency’s promise to pay from water rates and charges. OWDA has covenanted not to issue senior Leverage bonds except to refund outstanding leverage bonds
Coverage Pledge:	<p>Minimum 1.00x coverage from existing loan repayment for DWAF Bonds.</p> <ul style="list-style-type: none"> ▪ Payments from future loans made from DWAF bond proceeds ▪ Balance of and interest earnings on: <ul style="list-style-type: none"> – Debt Service Fund – Debt Service Reserve Fund (if any) – Direct Payments ▪ With respect to the DWAF Portion only: <ul style="list-style-type: none"> – Unencumbered balance of Net Bond Proceeds Fund – Unencumbered balance of Capitalization Grant Subaccount
Additional Coverage and Security:	
Debt Service Reserve Funds:	The Series 2019B DWAF Bonds will not be secured by a Debt Service Reserve Fund
Cross Collateralization:	<p>Cross-collateralization through investment between the WPCLF and DWAF Programs provides additional security and greater portfolio diversification for bonds issued under both programs</p> <p>Allows the WPCLF and DWAF to achieve an enhanced security through access to the other Program’s surpluses</p>
Additional Bonds Test:	<ul style="list-style-type: none"> ▪ Must meet coverage (100%) pledge with payments of loans already made, and ▪ DSRF balance for the series of DWAF Bonds being issued is equal to or exceeds the Required Reserve Fund Balance

Program Flow of Funds

DWAF Program Cash Flow and Pledged Funds



Note: Diagram is for illustrative purposes only and is in no way comprehensive or definitive.

Debt Service Coverage

Existing DWAF Loans as of July 31, 2019

	A	B	C = (A - B)	D	E = (C - D)	F = (A / (B + D))
	Estimated Total Project Repayments (a)	Outstanding Leverage Series Debt Service[^]	Estimated Net Revenues	Outstanding DWAF Series Debt Service (b)[^]	Estimated Surplus	DWAF Coverage
6/1/2020	34,529,460	17,342,232	17,187,227	9,352,375	7,834,852	129.35%
12/1/2020	34,966,044	14,919,551	20,046,493	12,852,375	7,194,118	125.90%
6/1/2021	35,181,172	14,062,945	21,118,227	14,782,375	6,335,852	121.96%
12/1/2021	36,144,230	12,540,139	23,604,092	16,679,875	6,924,217	123.70%
6/1/2022	37,605,322	8,449,457	29,155,864	18,017,375	11,138,489	142.08%
12/1/2022	37,466,073	8,912,028	28,554,045	17,792,375	10,761,670	140.30%
6/1/2023	37,849,753	4,198,549	33,651,204	22,067,375	11,583,829	144.10%
12/1/2023	36,767,377	4,103,715	32,663,662	21,729,875	10,933,787	142.32%
6/1/2024	36,373,530	4,063,614	32,309,916	21,392,375	10,917,541	142.89%
12/1/2024	36,037,120	3,334,107	32,703,014	21,054,875	11,648,139	147.76%
6/1/2025	34,982,015	3,310,795	31,671,220	20,717,375	10,953,845	145.59%
12/1/2025	34,825,815	3,286,428	31,539,387	20,392,375	11,147,012	147.08%
6/1/2026	34,334,533	3,266,005	31,068,528	20,054,875	11,013,653	147.23%
12/1/2026	31,284,925	3,238,512	28,046,412	18,717,375	9,329,037	142.49%
6/1/2027	30,620,482	3,214,728	27,405,754	17,904,875	9,500,879	144.99%
12/1/2027	30,436,395	3,189,507	27,246,888	17,604,875	9,642,013	146.37%
6/1/2028	28,481,627	3,162,852	25,318,775	16,304,875	9,013,900	146.30%
12/1/2028	26,796,852	3,134,761	23,662,091	15,529,875	8,132,216	143.57%
6/1/2029	25,072,018	3,105,234	21,966,784	15,767,375	6,199,409	132.85%
12/1/2029	24,540,659	3,074,272	21,466,387	15,510,000	5,956,387	132.05%
6/1/2030	23,654,417	2,446,874	21,207,543	11,257,400	9,950,143	172.61%
12/1/2030	22,755,473	1,975,123	20,780,350	11,140,100	9,640,250	173.50%

*Preliminary, subject to change. Please refer to the following page for footnotes to this table.

Debt Service Coverage

Existing DWAF Loans as of July 31, 2019

	A	B	C = (A - B)	D	E = (C - D)	F = (A / (B + D))
	Estimated Total Project Repayments ^(a)	Outstanding Leverage Series Debt Service [^]	Estimated Net Revenues	Outstanding DWAF Series Debt Service ^{(b) (c)^}	Estimated Surplus	DWAF Coverage
6/1/2031	21,759,856	-	21,759,856	12,522,800	9,237,056	173.76%
12/1/2031	21,226,395	-	21,226,395	12,385,950	8,840,445	171.37%
6/1/2032	20,434,721	-	20,434,721	12,249,100	8,185,621	166.83%
12/1/2032	20,042,256	-	20,042,256	12,112,250	7,930,006	165.47%
6/1/2033	19,603,928	-	19,603,928	11,975,400	7,628,528	163.70%
12/1/2033	19,011,484	-	19,011,484	10,838,550	8,172,934	175.41%
6/1/2034	18,460,261	-	18,460,261	11,211,250	7,249,011	164.66%
12/1/2034	18,110,849	-	18,110,849	11,084,400	7,026,449	163.39%
6/1/2035	17,252,543	-	17,252,543	9,957,550	7,294,993	173.26%
12/1/2035	16,665,922	-	16,665,922	10,325,250	6,340,672	161.41%
6/1/2036	16,460,351	-	16,460,351	10,195,900	6,264,451	161.44%
12/1/2036	16,089,994	-	16,089,994	10,066,550	6,023,444	159.84%
6/1/2037	15,664,015	-	15,664,015	9,937,200	5,726,815	157.63%
12/1/2037	14,769,134	-	14,769,134	9,307,850	5,461,284	158.67%
6/1/2038	13,182,547	-	13,182,547	7,191,000	5,991,547	183.32%
12/1/2038	11,531,512	-	11,531,512	7,124,150	4,407,362	161.87%
6/1/2039	10,766,582	-	10,766,582	6,057,300	4,709,282	177.75%
12/1/2039	10,157,458	-	10,157,458	-	10,157,458	-
6/1/2040 - 12/1/2044	40,837,411	-	40,837,411	-	40,837,411	-
6/1/2045 - 12/1/2049	9,495,740	-	9,495,740	-	9,495,740	-
6/1/2050 - 6/1/2051	520,574	-	520,574	-	520,574	-
	1,062,748,824	128,331,426	934,417,398	551,165,075	383,252,323	

*Preliminary, subject to change

[^] DWAF & DWAF Leverage Debt Service accounts have been fully funded to cover 12/1/2019 Debt Service due.

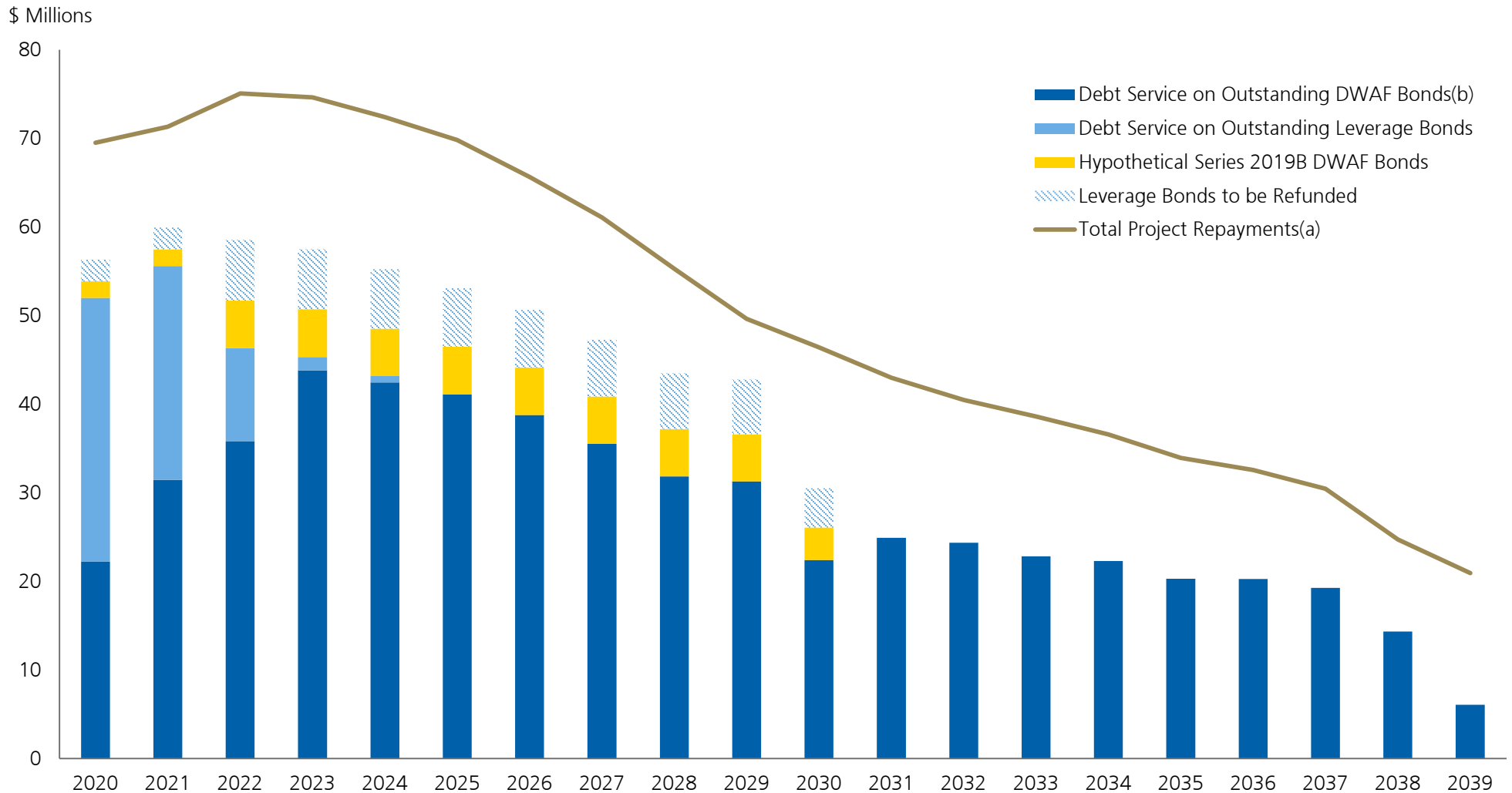
(a) The amounts shown are the pledged amounts required to be paid by Local Governmental Agencies under the Existing DWAF Loan Agreements as of 7/31/2019. Such amounts have been pledged as security for either currently issued or additional Leverage and DWAF Series Bonds. Amounts shown are semi-annual repayment amounts and do not include interest earnings thereon. Payments by the Local Governmental Agencies are due semi-annually on January 1 and July 1 of each year.

(b) DWAF Series 2019A has actual amortization through December 1, 2029 and hypothetical debt service of the \$136,000,000 December 1, 2029 bullet maturity at 1.91% for 10 years beginning December 1, 2029.

(c) The amounts shown include the debt service for the Series 2019B DWAF Refunded Bonds and do not reflect debt service for the Series 2019B Refunding Bonds.

Leverage and DWAF Debt Service Structure

Estimated Debt Service on Outstanding Leverage and DWAF Bonds After Issuance of Series 2019B*



*Preliminary, subject to change.

(a) The amounts shown are the pledged amounts required to be paid by Local Governmental Agencies under the Existing DWAF Loan Agreements as of 7/31/2019. Such amounts have been pledged as security for either currently issued or additional Leverage and DWAF Series Bonds.

(b) DWAF Series 2019A has actual amortization through December 1, 2029 and hypothetical debt service of the \$136,000,000 December 1, 2029 bullet maturity at 1.91% for 10 years beginning December 1, 2029.

Financing Summary*

Drinking Water Assistance Fund Refunding Revenue Bonds, Series 2019B

Principal	Semiannual serial maturities beginning on June 1, 2022 through December 1, 2030
Interest	Semiannually on June 1 and December 1, beginning on June 1, 2020
Optional Redemption	The Series 2019B DWAF Bonds maturing on or after June 1, 2030 are subject to prior redemption by and at the sole option of the Authority in whole multiples of \$5,000, either in whole or in part (as selected by the Authority) on any date on or after December 1, 2029, at a redemption price equal to 100% of the principal amount redeemed, plus accrued interest to the redemption date.

Sources of Funds⁽¹⁾

Par Amount of Series 2019B DWAF Bonds	\$37,400,000
Original Issue Premium (Discount)	
Funds on Hand	
Total	

Uses of Funds

Deposit to Series 2019B Escrow Fund
Costs of Issuance ⁽¹⁾
Total

Maturity Date	Par Amount
06/01/2022	1,775,000
12/01/2022	1,775,000
06/01/2023	1,865,000
12/01/2023	1,865,000
06/01/2024	1,955,000
12/01/2024	1,960,000
06/01/2025	2,055,000
12/01/2025	2,050,000
06/01/2026	2,155,000
12/01/2026	2,155,000
06/01/2027	2,265,000
12/01/2027	2,260,000
06/01/2028	2,370,000
12/01/2028	2,375,000
06/01/2029	2,485,000
12/01/2029	2,485,000
06/01/2030	1,775,000
12/01/2030	1,775,000
Total	\$37,400,000

⁽¹⁾ Including Underwriters' Discount, Bond Counsel fees, Trustee fees, Financial Advisor fees, rating agency fees, and other costs.

*Preliminary, subject to change.

Credit Highlights

- ✓ The Drinking Water Assistance Fund was created as a stand-alone, self-sufficient financing program in 1997
 - No reliance on State funding to the SRF Programs
- ✓ Credit strengths reflect the high quality of the Program
 - Rated Aaa/AAA by Moody's/S&P
 - 50-year track record of managing loan programs for communities throughout the State of Ohio
 - Strong record of enforcing revenue collection and legal enforcement
- ✓ The DWAF maintains a sizeable and diverse loan pool that provides significant overcollateralization for bondholders
 - As of July 31, 2019, there were 219 Governmental Agencies with 534 Projects financed through the DWAF
 - A total of \$1.36 billion in principal amount of loans has been made in the DWAF program, with a principal balance of \$938.00 million outstanding
 - Top 10 Borrowers constitute approximately 56.07% of the total projected remaining repayments pursuant to existing loan agreements
 - The City of Columbus (20.77%) and City of Cleveland (7.64%) are the programs two largest borrowers
- ✓ The DWAF is cross-collateralized with the Water Pollution Control Loan Fund ("WPCLF")
 - Cross-collateralization between the DWAF and the WPCLF provides for the investment of surplus funds between the WPCLF and the DWAF to enhance the security for bonds



Financing Schedule and Contact Information*

Activity	Date*	November							December						
		S	M	T	W	Th	F	S	S	M	T	W	Th	F	S
Release Preliminary Official Statement	Wednesday, November 6 th						1	2	1	2	3	4	5	6	7
Pricing	Thursday, November 14 th	3	4	5	6	7	8	9	8	9	10	11	12	13	14
BPA Signing	Thursday, November 14 th	10	11	12	13	14	15	16	15	16	17	18	19	20	21
Closing	Thursday, December 5 th	17	18	19	20	21	22	23	22	23	24	25	26	27	28
		24	25	26	27	28	29	30	29	30	31				

 Pricing
 Holiday
 Closing

Ohio Water Development Authority

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