



**TENNESSEE LOCAL DEVELOPMENT AUTHORITY**  
**AUGUST 20, 2018**  
**AGENDA**

1. Call Meeting to Order
2. Approval of minutes from the TLDA meeting of July 17, 2018
3. Request from the Water Authority of Dickson County to issue Water and Sewer Revenue Bonds in an amount not to exceed \$7,510,000 on parity with its outstanding SRF loans
4. Request from the City of Memphis to issue Revenue and Refunding Bonds in an amount not to exceed \$75,000,000 senior to its SRF loans
5. Consider for approval the following CWSRF loan:

	SRF Base	Principal	Total	Interest
	Loan	Forgiveness	SRF Funding	Rate
Rocky Top, SRF 2018-418	\$470,000	\$ -	\$ 470,000	0.50%

6. Update on Qualified Energy Conservation Bonds (QECBs)
7. Adjourn

**TENNESSEE LOCAL DEVELOPMENT AUTHORITY**

**July 17, 2018**

The Tennessee Local Development Authority (the Authority or TLDA) met on Tuesday, July 17, 2018, at 9:20 a.m. in the Conference Room G-11, Ground Floor, State Capitol, Tennessee. The Honorable Tre Hargett, Secretary of State, was present and presided over the meeting.

The following members were also present:

The Honorable Justin Wilson, Comptroller of the Treasury  
Joy Harris, Proxy for The Honorable David Lillard, State Treasurer  
Commissioner Larry Martin, Department of Finance and Administration

The following member participated telephonically as authorized by Tennessee Code Annotated Section 8-44-108:

Mr. Pat Wolfe, Senate Appointee

The following members were absent:

The Honorable Bill Haslam, Governor  
Dr. Kenneth Moore, House Appointee

Recognizing a physical quorum present, Mr. Hargett called the meeting to order, and asked Ms. Sandi Thompson, TLDA Assistant Secretary and the Director of the Office of State and Local Finance to perform a roll-call:

Mr. Wolfe—Present  
Mr. Martin—Present  
Mr. Hargett—Present  
Mr. Wilson—Present  
Ms. Harris—Present

Mr. Hargett asked for a motion to approve the minutes of the June 19, 2018, TLDA meeting. Mr. Wilson made a motion to approve the minutes, and Mr. Hargett seconded the motion. Ms. Thompson performed a roll-call vote:

Mr. Wolfe—Aye  
Mr. Martin—Aye  
Mr. Hargett—Aye  
Mr. Wilson—Aye  
Ms. Harris—Aye

The minutes were unanimously approved.

Mr. Hargett stated that the next item was consideration of a request from the City of Memphis to issue Sanitary Sewerage System Revenue Refunding Bonds with an amount not to exceed \$62,000,000 with a lien position senior to its outstanding State Revolving Fund (SRF) loan agreements. Mr. Hargett recognized Ms. Sandi Thompson, TLDA Assistant Secretary and the Director of the Office of State and Local Finance to present the request. Ms. Thompson stated that the OSLF had conducted an analysis and determined that the City met the criteria set forth in the Policy and Guidance to issue debt senior to its current SRF loans outstanding. Ms. Thompson explained that just as the City had issued its prior pursuant to its Master Indenture and senior to their SRF loans, the proposed debt would be as well. She stated that the structure of the debt under the Indenture, the proposed debt would be issued with a lien position senior to its SRF loans. Ms. Thompson also stated that the City's current and projected debt service coverage ratio exceeds the required 1.2 times, and that their unobligated state-shared taxes totaled \$55,627,072. Mr. Wilson asked if the request met the criteria set forth in the TLDA's subordination policy. Ms.

Thompson answered, affirmatively. Mr. Wilson questioned if this will result in a lower bond interest cost for the City of Memphis. Ms. Thompson confirmed that it should. Mr. Wilson asked if the City of Memphis was AA rated. Ms. Thompson responded Affirmatively. Mr. Wilson then asked Ms. Thompson if there was adequate debt service coverage to protect the SRF. Ms. Thompson stated that in the event coverage was not adequate, the City would be asked to increase its user rates. Mr. Wilson asked if the City's SRF loans are secured by a general obligation pledge with the full faith and credit of the City of Memphis. Ms. Thompson responded affirmatively.

Mr. Hargett made a motion to approve the request, and Mr. Wilson seconded the motion. Ms. Thompson performed a roll-call vote:

Mr. Wolfe—Aye  
Mr. Martin—Aye  
Mr. Hargett—Aye  
Mr. Wilson—Aye  
Ms. Harris—Aye

The motion was unanimously approved.

Mr. Hargett stated that the next item of business was consideration of approval for Clean Water State Revolving Fund loans (CWSRF). He asked Ms. Paula Mitchell, Deputy Director of Operations for the Tennessee Department of Environment and Conservation (TDEC) Division of Water Resources to present the requests. Ms. Mitchell first presented the unobligated fund balance. She stated the balance was \$38,545,183 as of June 19, 2018. The balance increased a total of \$13,253,975 due to loan decreases with a final balance of \$51,799,158. Upon approval of the loan requests to be presented totaling \$4,200,000, the funds available for loan obligations would be \$47,599,158. She then described the loan requests:

- Goodlettsville (CG6 2018-419)—Requesting \$1,000,000 (\$900,000 (90%) loan; \$100,000 (10%) principal forgiveness) for a city-wide sewer rehabilitation; recommended interest rate of 1.90% based on the Ability to Pay Index (ATPI).
- Goodlettsville (SRF 2018-420)—Requesting \$3,200,000 for a city-wide sewer rehabilitation; recommended interest rate of 1.90% based on the ATPI.

Mr. Wilson made a motion to approve the loan, and Mr. Martin seconded the motion. Ms. Thompson performed a roll-call vote:

Mr. Wolfe—Aye  
Mr. Martin—Aye  
Mr. Hargett—Aye  
Mr. Wilson—Aye  
Ms. Harris—Aye

The motion was unanimously approved.

Hearing no other business, Mr. Hargett asked for a motion to adjourn. Mr. Wilson made a motion to adjourn, and Mr. Martin seconded the motion. Ms. Thompson performed a roll-call vote:

Mr. Wolfe—Aye  
Mr. Martin—Aye  
Mr. Hargett—Aye  
Mr. Wilson—Aye  
Ms. Harris—Aye

The meeting was adjourned.

Approved on this \_\_\_\_\_ day of \_\_\_\_\_, 2018.

Respectfully submitted,

Sandra Thompson  
Assistant Secretary





JUSTIN P. WILSON  
*Comptroller*

JASON E. MUMPOWER  
*Chief of Staff*

**August 9, 2018**

**WATER AUTHORITY OF DICKSON COUNTY  
Request for TLDA Approval of Additional Debt issuance**

The Water Authority of Dickson County (the "Authority") has requested approval from the Tennessee Local Development Authority (TLDA) to issue Series 2018 Water and Sewer Revenue Bonds (the "Series 2018 Bonds") on parity with its outstanding State Revolving Fund (SRF) loan agreements.

Request for approval is required by provisions set forth in the SRF loan agreement and guidelines set forth in the *TLDA/SRF Policy and Guidance for Borrowers*. The proposed debt will be issued in an amount not to exceed \$7,510,000.

**1. The requestor is a:**

☒ **Water Authority** planning to issue Revenue Debt

☐ Will the proposed debt be secured by revenues other than revenues of the water/wastewater system (e.g. electric, gas)? ☐ Yes ☒ No

☐ **Municipality (town/city/county) planning to issue:**

☐ General Obligation Debt

☐ Revenue Debt – Will the proposed debt be secured by revenues other than revenues of the water/wastewater system (e.g. electric, gas)? ☐ Yes ☐ No

**2. Lien Position:**

☒ The borrower is requesting to issue the bonds with a parity lien position to its outstanding SRF loans.

☐ The borrower is requesting to subordinate its outstanding SRF debt to the refunding debt issuance.

☐ The borrower is not requesting a modification of lien position and the proposed debt will be issued subordinate to the SRF debt.

**3. The purpose of the proposed debt issuance is:**

☐ Refunding  
☒ New Money

**4. Description and Additional Information:**

The Authority plans to issue an estimated \$7,510,000 Series 2018 Bonds. The bond proceeds will be used for the following purposes:

- To finance upgrades, improvements and expansions to the treatment works at the Authority's Fairview wastewater treatment plant that will improve nutrient removal and enable the plant to increase the volume of outfall into its discharge stream;
- To finance the acquisition of up to 144 acres of land near its Dickson County wastewater treatment plant as a site for the future construction of a land-application discharge system;
- To pay engineering, design, permitting and other expenses related to the foregoing projects; and
- To pay costs of issuance of the Series 2018 Bonds.

**5. The debt rating of the borrower is:**

*Please indicate N/R if not rated.*

☐ N/A Moody's  
☐ AA- Standard and Poor's  
☐ N/A Fitch

**6. The following SRF loans are currently authorized/outstanding:**

Loan Type	Loan #	Status	Disbursements	Available to Draw	% Principal Forgiveness	Edison Balance @6/30/18	MADS*
Sewer	SRF 00-150	Repayment	\$ 414,156	\$ -	0%	\$ 156,375	\$ 27,444
Sewer	SRF 06-194	Repayment	258,981	-	0%	162,383	15,228
Sewer	CWA 09-247	Repayment	1,440,000	-	40%	950,200	83,460
Sewer	CW0 12-295	Repayment	9,493,050	-	20%	6,805,474	424,392
Sewer	CG5 17-384	Repayment	1,340,185	-	80%	264,007	14,835
Sewer	SRF 17-385	Construction	1,934,033	2,125,782	0%	1,934,033	224,703
			<u>\$ 14,880,405</u>	<u>\$ 2,125,782</u>		<u>\$ 10,272,472</u>	<u>\$ 790,062</u>

\*MADS is an estimate until final expenses have been determined

\*Before funds are disbursed on a loan, a security deposit equal to MADS is required to be deposited with the TLDA

**7. Compliance with SRF Loan Agreement:**

**a. Timely repayments [4.(a)]**

☒ Yes ☐ No

**b. Security Deposit (UDs and Authorities) [8.]**

☒ Yes ☐ No

Amount on deposit: \$790,062 (fully funded)

**c. GAAP Accounting and Audited Annual Financial Statement Requirement [7.(g) and (m)(2)]**

The Authority has timely filed its audited financial statements with the Division of Local Government Audit through the fiscal year ended December 31, 2017. The audit was filed within six months after the Authority's fiscal year end.

**d. Sufficient Revenues [7.(k)]**

☒ Yes ☐ No

For the fiscal year ended December 31, 2017, the Authority reported operating income of \$1,273,082 and a positive change in net position of \$3,007,801 in its audited financial statements. The positive change in net position includes capital contributions of \$2,302,532. The Authority reported income before capital contributions of \$705,269 which demonstrates that its rate structure provides sufficient revenues to meet the Authority's expenses including depreciation, and support continued customer growth.

As reported on the cash flow statement, debt service payments for fiscal year 2017 were \$2,775,554 consisting of principal payments of \$2,198,741 and interest payments of \$576,813.

As of the fiscal year ended December 31, 2017, the Authority reported \$14,555,850 in unrestricted cash and \$947,224 in cash restricted for debt service, which includes debt service reserves.

**e. Debt Service Coverage Ratios [7.(l) and (m)(3) & (4)]**

The current and projected Debt Service Coverage Ratio meets or exceeds 1.2 times.

☒ Yes ☐ No

If no, include a schedule of revised rates and fees. ☐ Included ☒ N/A



*Most Recent Fiscal Year (m)(3):*

The Authority's debt service coverage ratio was 2.31x for fiscal year ended December 31, 2017, and is estimated to be 2.39x for fiscal year ended December 31, 2018 (from the debt service calculation worksheet provided by the Authority). The Authority has met the debt service coverage requirement for fiscal year ended December 31, 2017.

*Next Three Fiscal Years After Debt Issuance (m)(4):*

The Authority prepared forecasted debt service coverage ratios and projects that it will meet the debt service coverage requirement with estimated debt service to net revenues ranging from 2.42x to 2.63x for fiscal years 2019 through 2021 after the issuance of the Series 2018 Bonds.

**f. Is the entity currently under the jurisdiction of the Utility Management Review Board (UMRB) or the Water and Wastewater Financing Board (WWFB)?**

[7.(n)]

☐ Yes ☒ No

If yes, reason for referral: \_\_\_\_\_ Financial Distress ☒ N/A

If the reason is for financial distress, include a schedule of revised rates and fees along with a copy of the corrective action order from the respective board. ☐ Included ☒ N/A

**8. State-Shared Taxes (SST): (Towns, Cities, Counties):** N/A

\$ _____	Received in prior fiscal year
\$ _____	Total Maximum Annual Debt Service
\$ _____	Unobligated SSTs

**9. Conclusion**

Based upon our analysis, the Authority will have sufficient cash and revenues to meet its obligations. The Authority appears to meet TLDA's guidelines for approval to issue additional bonds with a parity lien position to its outstanding State Revolving Fund (SRF) loan agreements.

**Attachment:**

Financial Projections and Debt Service Coverage

## Water Authority of Dickson County, Tennessee

### Financial Projections - Debt Service Coverage

	Actual	Forecast	Pro Forma		
	2017	2018	2019	2020	2021
Operating Revenues	\$ 16,759,095	\$ 17,094,277	\$ 17,436,162	\$ 17,784,886	\$ 18,140,583
Operating Expenses	(10,007,439)	(10,107,513)	(10,208,589)	(10,310,674)	(10,413,781)
Operating Income	\$ 6,751,656	\$ 6,986,764	\$ 7,227,573	\$ 7,474,212	\$ 7,726,802
Interest Income	20,999	26,249	32,811	41,014	51,267
Cash from Operations	\$ 6,772,655	\$ 7,013,013	\$ 7,260,384	\$ 7,515,226	\$ 7,778,069
Annual Debt Service	\$ 2,935,625	\$ 2,938,748	\$ 2,948,956	\$ 3,102,204	\$ 2,962,921
Debt Service Coverage (Times)	2.31	2.39	2.46	2.42	2.63

# Water Authority of Dickson County

101 Cowan Road, Dickson, Tennessee 37055  
615.441.4188 Fax 615.441.9987



August 1, 2018

Ms. Sandra W. Thompson  
Director  
Office of State and Local Finance  
Tennessee Comptroller of the Treasury  
Cordell Hull Building  
425 Fifth Avenue North, 4<sup>th</sup> Floor  
Nashville, TN 37243-3400

**Tennessee Comptroller of the Treasury**  
**Office of State and Local Finance**

**Received Date:** August 7, 2018

The purpose of this correspondence is for the Water Authority of Dickson County (Tennessee) ("WADC") to request that the Tennessee Local Development Authority consider approving the issuance of approximately \$7,510,000 in Water and Sewer Revenue Bonds, Series 2018 (the "WADC Series 2018 Bonds") on parity of lien with WADC's outstanding SRF Wastewater Loans at its upcoming meeting scheduled to occur on August 20, 2018. The WADC SRF/CG5 Water & Wastewater Loans presently outstanding include the following:

WADC SRF/CG5 Water & Wastewater Loans Outstanding				
Loan ID	Interest Rate		Balance	Maturity
00-150	2.95%	\$	167,606.00	2024
06-194	1.66%	\$	168,615.00	2030
09-247	1.51%	\$	984,830.00	2030
12-295	1.11%	\$	6,978,865.00	2036
17-384	1.03%	\$	268,037.00	2038
17-385	1.03%	\$	4,059,815.00	2038
			<u>\$ 12,627,768.00</u>	

*Note: The 17-385 Loan is presently not in principal repayment which is expected to commence in December 2019 upon substantial completion of the Project funded by the Loan.*

## The Water Authority of Dickson County (Tennessee) – General Description:

WADC was formed as a regional water and wastewater service provider in 1990 by private act of the Tennessee General Assembly, and commenced active operations in 2002 upon the consolidation of the City of Dickson Water and Wastewater System, Turnbull-White Bluff Utility District, and Harpeth Utility District. Combining these entities resulted in centralized water service to approximately 75% of the land mass and population of Dickson County as well as portions of surrounding counties. In 2006 the City of Fairview's Water and Wastewater systems were acquired, as well as the Wastewater Systems from the Town of White Bluff in 2015, bringing WADC's total customer base to approximately 20,700 water customers and 8,800 wastewater customers. Since the original consolidation, WADC has been used as a

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model throughout Tennessee for other utility districts interested in combining to provide regional services.

Purpose for Issuing the Proposed WADC Series 2018 Bonds:

1. Upgrades, improvements, and expansions to the treatment works at the Authority's Fairview wastewater treatment plant, to improve nutrient removal and enable the plant to increase the volume of outfall into its discharge stream while maintaining level or diminished overall nutrient loading in the stream.
2. Acquisition of up to 144 acres, more or less, of real property in the near vicinity of the Authority's Jones Creek (Dickson County) wastewater treatment plant, for eventual construction of a land-application discharge system.
3. Payment of engineering, design, permitting, and related expenses incurred in connection with the foregoing.
4. Payment of costs of issuance associated with the issuance of the 2018 Bonds.

Security for the WADC Series 2018 Bonds:

The Bonds shall be payable solely from and secured by a pledge of the Net Revenues. The punctual payment of principal of and premium, if any, and interest on the outstanding indebtedness of WADC, the Bonds and any Parity Bonds, as applicable, shall be secured equally and ratably by the Net Revenues without priority by reason of series, number, or time of sale or delivery. The Bonds do not constitute a debt of the State of Tennessee, or any political subdivision thereof, or municipal corporation therein, other than the District, and no holder of the Bonds shall have recourse to the taxing power of any such entities.

WADC Financial Information:

Attached to this correspondence are the following financial schedules:

1. FY2007-FY2017 Historical Summary of Balance Sheet Changes (i.e. Assets and Liabilities + Net Position listed on successive pages);
2. FY2007-FY2017 Historical Summary of Income Statement Changes;
3. FY2018-FY2038 Summary of Estimated Total Annual Debt Service Requirements;
4. FY2007-FY2028 Historical and Proforma Debt Service Coverage Ratio Analysis;
5. WADC Series 2018 Water and Sewer Revenue Bonds Estimated Financial Calculations (i.e. the estimated WADC Series 2018 Bonds debt service requirements have been included in the Summary of Estimated Debt Service Requirements + Historical and Proforma Debt Service Coverage Ratio Analysis).

We appreciate your attention to this matter and the assistance of the Office of the Comptroller of the Treasury of Tennessee. If you require additional information, or we can further assist your efforts please contact me at 615-441-4188, Ben Regen – Bond Counsel for WADC at 615-218-8334, or Larry Kidwell – Kidwell & Company Municipal Advisor for the Authority at 615-714-4525.

Regards,



Michael Adams

Executive Director

Water Authority of Dickson County (Tennessee)

**THE WATER AUTHORITY OF  
DICKSON COUNTY, TENNESSEE  
HISTORICAL SUMMARY OF BALANCE SHEET CHANGES  
(FISCAL YEARS ENDED DECEMBER 31)**

**BALANCE SHEET PERFORMANCE -- ASSETS**

<b>ASSETS</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
<b>UTILITY PLANT AND EQUIPMENT</b>											
Cost of Plant in Service	105,148,192	113,516,084	116,662,267	120,650,385	123,591,733	126,797,221	131,595,507	134,485,212	140,324,835	151,393,979	154,233,596
Equipment/Other	0	233,211	0	0	0	0	0	0	0	0	0
Construction in Progress	6,351,904	695,016	53,521	709,862	555,320	1,673,356	375,585	1,472,541	5,742,926	720,871	3,914,618
Accumulated Depreciation	(32,382,044)	(35,882,210)	(39,738,484)	(43,784,542)	(47,573,511)	(51,596,422)	(55,608,452)	(59,666,077)	(64,329,353)	(69,547,493)	(74,820,871)
Net Utility Plant and Equipment	79,118,052	78,562,101	76,977,304	77,575,705	76,573,542	76,874,155	76,362,640	76,291,676	81,738,408	82,567,357	83,327,343
<b>CURRENT ASSETS</b>											
Cash	1,630,758	1,544,673	2,199,091	3,567,763	4,445,176	4,546,821	8,941,446	8,155,578	10,962,414	12,978,240	14,555,850
Accounts Receivable	962,050	769,541	812,099	1,043,708	985,822	966,287	1,711,935	886,362	983,582	890,014	1,126,649
Other Receivables	636,508	649,026	695,365	840,379	768,302	130,133	383,431	383,431	253,394	1,154,173	679,220
Inventory	324,877	454,936	430,459	390,488	382,336	388,093	372,570	361,920	386,590	358,526	352,695
Prepaid Expenses	160,713	180,537	166,282	126,478	126,216	137,599	216,644	0	0	0	0
Unbilled Revenues/Other	0	0	0	71,040	168,363	756,941	85,148	1,125,569	975,877	219,380	1,065,113
Total Current Assets	3,714,906	3,598,713	4,303,296	6,039,856	6,876,215	6,925,874	11,327,743	10,912,860	13,561,857	15,600,333	17,779,527
Net Deferred Bond Issuance Costs	497,813	456,375	417,058	383,390	349,722	316,055	720,792	642,962	570,096	502,437	440,062
<b>RESTRICTED ASSETS</b>											
Construction Fund	861,105	5,544	0	31,772	0	1,279,637	0	0	154,362	0	23,765
Debt Service Fund	154,192	150,428	146,669	142,919	139,167	135,418	192,790	192,029	191,229	182,471	157,162
Debt Service Reserve Fund	882,355	927,142	2,750,363	2,828,462	2,827,570	2,096,394	572,352	630,823	572,352	572,352	790,062
Less: Current Portion of Restricted Assets	0	0	0	0	0	0	0	0	0	0	0
Total Restricted Assets	1,897,652	1,083,114	2,897,032	3,003,153	2,966,737	3,511,449	765,142	822,852	917,943	754,823	970,989
NET PENSION ASSETS						224,093	295,246	363,767			
<b>TOTAL ASSETS</b>	<b>\$ 85,228,423</b>	<b>\$ 83,700,303</b>	<b>\$ 84,594,690</b>	<b>\$ 87,002,104</b>	<b>\$ 86,766,216</b>	<b>\$ 87,851,626</b>	<b>\$ 89,471,563</b>	<b>\$ 89,034,117</b>	<b>\$ 96,788,304</b>	<b>\$ 99,424,950</b>	<b>\$ 102,517,921</b>
<b>DEFERRED OUTFLOWS OF RESOURCES</b>											
Loss on Debt Refunding/Cost of Pension						19,710	16,179	12,930	340,797	1,004,042	518,983
Total Deferred Outflows of Resources						19,710					
<b>TOTAL ASSETS AND DEFERRED OUTFLOWS</b>	<b>\$ 85,228,423</b>	<b>\$ 83,700,303</b>	<b>\$ 84,594,690</b>	<b>\$ 87,002,104</b>	<b>\$ 86,766,216</b>	<b>\$ 87,871,336</b>	<b>\$ 89,487,742</b>	<b>\$ 89,047,047</b>	<b>\$ 97,129,101</b>	<b>\$ 100,428,992</b>	<b>\$ 103,036,904</b>



**THE WATER AUTHORITY OF  
DICKSON COUNTY, TENNESSEE  
HISTORICAL SUMMARY OF BALANCE SHEET CHANGES  
(FISCAL YEARS ENDED DECEMBER 31)**

**BALANCE SHEET PERFORMANCE -- LIABILITIES AND NET POSITION**

LIABILITIES AND AUTHORITY EQUITY	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>LONG TERM LIABILITIES</b>											
Bonds/Notes/Net Pension	32,873,178	30,738,096	31,373,930	30,788,868	27,380,891	27,668,136	28,970,746	26,988,024	29,009,508	28,819,597	26,672,080
Unamortized Deferred Amount	0	0	0	0	0						
Less: Current Debt Maturities	0	0	0	0	0		226,305	189,651			
<b>Total Long Term Debt</b>	<b>32,873,178</b>	<b>30,738,096</b>	<b>31,373,930</b>	<b>30,788,868</b>	<b>27,380,891</b>	<b>27,668,136</b>	<b>29,197,051</b>	<b>27,177,675</b>	<b>29,009,508</b>	<b>28,819,597</b>	<b>26,672,080</b>
<b>CURRENT LIABILITIES</b>											
Current Maturities of Long Term Debt	2,098,902	2,135,071	1,946,300	1,942,293	3,594,767	1,979,546	1,705,000	1,760,837	2,176,685	2,225,183	1,959,036
Current Maturities of Capital Lease						71,064	55,554	48,313	50,142	38,847	
Accounts Payable	668,821	352,028	238,657	310,996	513,714	764,345	313,161	532,636	1,083,889	326,150	2,391,859
Payroll/Deferred/Unearned Revenue	302,723	898,883	960,304	577,095	562,898	368,448	460,637	478,011	661,889	557,184	549,461
Customer Deposits	0	0	0	0	0						
Accrued Expenses/Accrued Compensated Absens	613,436	380,336	479,843	555,287	605,986	525,991	698,655	568,558	286,978	254,433	254,368
Accrued Interest/Other Liabilities	109,439	109,450	103,527	91,903	91,903	91,903	48,062	45,221	375,176	414,926	409,627
<b>Total Current Liabilities</b>	<b>3,793,321</b>	<b>3,875,768</b>	<b>3,728,631</b>	<b>3,477,574</b>	<b>5,369,268</b>	<b>3,801,297</b>	<b>3,281,069</b>	<b>3,433,576</b>	<b>4,634,759</b>	<b>3,816,723</b>	<b>5,564,351</b>
<b>TOTAL LIABILITIES</b>	<b>36,666,499</b>	<b>34,613,864</b>	<b>35,102,561</b>	<b>34,266,442</b>	<b>32,750,159</b>	<b>31,469,433</b>	<b>32,478,120</b>	<b>30,611,251</b>	<b>33,644,267</b>	<b>32,636,320</b>	<b>32,236,431</b>
<b>DISTRICT EQUITY</b>											
Net Capital Assets	44,331,065	45,567,793	45,367,306	46,474,529	47,224,294	48,349,163	45,200,995	47,000,753	49,979,193	52,500,401	53,486,193
Restricted for Debt service	927,108	968,120	1,033,505	1,184,267	1,241,863	1,745,767	717,079	719,159	684,962	699,615	899,429 ✓
Unrestricted	3,303,751	2,550,526	3,091,318	5,076,866	5,742,757	6,306,973	11,091,718	10,715,884	12,820,679	14,592,656	16,414,851
<b>TOTAL NET POSITION</b>	<b>48,561,924</b>	<b>49,086,439</b>	<b>49,492,129</b>	<b>52,735,662</b>	<b>54,208,914</b>	<b>56,401,903</b>	<b>57,009,792</b>	<b>58,435,796</b>	<b>63,484,834</b>	<b>67,792,672</b>	<b>70,800,473</b>
<b>TOTAL LIABILITIES AND NET POSITION</b>	<b>\$ 85,228,423</b>	<b>\$ 83,700,303</b>	<b>\$ 84,594,690</b>	<b>\$ 87,002,104</b>	<b>\$ 86,959,073</b>	<b>\$ 87,871,336</b>	<b>\$ 89,487,912</b>	<b>\$ 89,047,047</b>	<b>\$ 97,129,101</b>	<b>\$ 100,428,992</b>	<b>\$ 103,036,904</b>
<b>ANNUAL NON-CASH EXPENSES</b>	<b>7,900,508</b>	<b>8,390,939</b>	<b>7,977,561</b>	<b>8,033,811</b>	<b>8,408,943</b>	<b>8,319,205</b>	<b>8,371,427</b>	<b>8,817,397</b>	<b>9,439,252</b>	<b>9,639,599</b>	<b>10,007,439</b>
<b>DAILY NON- CASH EXPENSES</b>	<b>21,645</b>	<b>22,989</b>	<b>21,856</b>	<b>22,010</b>	<b>23,038</b>	<b>22,792</b>	<b>22,935</b>	<b>24,157</b>	<b>25,861</b>	<b>26,410</b>	<b>27,418</b>
<b>ANNUAL UNRESTRICTED CASH ON HAND</b>	<b>\$3,303,751</b>	<b>\$2,550,526</b>	<b>\$3,091,318</b>	<b>\$5,076,866</b>	<b>\$5,742,757</b>	<b>\$6,306,973</b>	<b>\$11,091,718</b>	<b>\$10,715,884</b>	<b>\$12,820,679</b>	<b>\$14,592,656</b>	<b>\$16,414,851</b> ✓
<b>UNRESTRICTED DAYS CASH ON HAND</b>	<b>153</b>	<b>111</b>	<b>141</b>	<b>231</b>	<b>249</b>	<b>277</b>	<b>484</b>	<b>444</b>	<b>496</b>	<b>553</b>	<b>599</b>

**THE WATER AUTHORITY OF  
DICKSON COUNTY, TENNESSEE  
HISTORICAL SUMMARY OF INCOME STATEMENTS  
(FISCAL YEARS ENDED DECEMBER 31)**

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>OPERATING INCOME</b>											
Water Revenues	8,513,875	8,163,169	8,222,798	9,466,986	9,307,747	9,317,015	9,294,769	9,763,076	9,953,667	11,026,284	11,072,364
Wastewater Revenues	4,628,121	4,401,503	4,244,132	4,858,902	4,699,725	4,836,520	4,484,260	4,679,984	5,432,772	5,765,048	5,716,134
Penalties											
Service Charges						(40,035)	(34,882)	(66,881)	(59,051)	(9,506)	(29,403)
Meter and Tap Fees											
Other Income/(Expense)		(128,550)	(50,498)	(27,830)	(61,102)						
<b>Total Operating Income</b>	<b>13,141,996</b>	<b>12,436,122</b>	<b>12,416,432</b>	<b>14,298,058</b>	<b>13,946,370</b>	<b>14,113,500</b>	<b>13,744,147</b>	<b>14,376,179</b>	<b>15,327,388</b>	<b>16,781,826</b>	<b>16,759,095</b>
<b>OPERATING EXPENSES</b>	<b>7,900,508</b>	<b>8,390,939</b>	<b>7,977,561</b>	<b>8,033,811</b>	<b>8,408,943</b>	<b>8,319,205</b>	<b>8,371,427</b>	<b>8,817,397</b>	<b>9,439,252</b>	<b>9,639,599</b>	<b>10,007,439</b>
Operating Income Before Depreciation	5,241,488	4,045,183	4,438,871	6,264,247	5,537,427	5,794,295	5,372,720	5,558,782	5,888,136	7,142,227	6,751,656
<b>DEPRECIATION</b>	<b>(3,542,782)</b>	<b>(3,863,172)</b>	<b>(3,979,565)</b>	<b>(4,059,938)</b>	<b>(4,185,877)</b>	<b>(4,277,446)</b>	<b>(4,383,010)</b>	<b>(4,608,937)</b>	<b>(4,896,582)</b>	<b>(5,174,072)</b>	<b>(5,478,574)</b>
<b>Net Operating Income</b>	<b>1,698,706</b>	<b>182,011</b>	<b>459,306</b>	<b>2,204,309</b>	<b>1,351,550</b>	<b>1,516,849</b>	<b>989,710</b>	<b>949,845</b>	<b>991,554</b>	<b>1,968,155</b>	<b>1,273,082</b>
<b>OTHER INCOME</b>											
Interest Income	189,130	115,131	68,094	63,285	43,189	35,780	17,369	10,638	12,135	14,612	20,999
Other Income	52,656	33,496	33,187	30,018	44,933	39,900	43,545	36,964	42,470	24,812	23,374
Interest Expense	(1,450,765)	(1,515,094)	(1,423,903)	(1,377,904)	(1,307,923)	(1,276,054)	(1,130,957)	(680,905)	(610,295)	(599,050)	(612,186)
Amortization of Bond Discount											
Gain (Loss) on Disposal of Equipment											
Contributions in Aid of Construction					1,574		109,092				
<b>Total Other Income (Expense)</b>	<b>(1,208,979)</b>	<b>(1,366,467)</b>	<b>(1,322,622)</b>	<b>(1,284,601)</b>	<b>(1,218,227)</b>	<b>(1,200,374)</b>	<b>(960,951)</b>	<b>(633,303)</b>	<b>(555,690)</b>	<b>(559,626)</b>	<b>(567,813)</b>
<b>Income Before Capital Contributions</b>	<b>489,727</b>	<b>(1,184,456)</b>	<b>(863,316)</b>	<b>919,708</b>	<b>133,323</b>	<b>316,475</b>	<b>28,759</b>	<b>316,542</b>	<b>435,864</b>	<b>1,408,529</b>	<b>705,269</b>
Special Item	0	0	0	0	0						
Capital Contributions	2,737,845	1,708,971	1,269,006	2,293,282	1,339,929	1,876,514	579,130	1,109,462	2,472,803	2,899,309	2,302,532
<b>CHANGE IN NET POSITION</b>	<b>3,227,572</b>	<b>524,515</b>	<b>405,690</b>	<b>3,212,990</b>	<b>1,473,252</b>	<b>2,192,989</b>	<b>607,889</b>	<b>1,426,004</b>	<b>2,908,667</b>	<b>4,307,838</b>	<b>3,007,801</b>
<b>BEGINNING NET POSITION</b>	<b>45,334,352</b>	<b>48,561,924</b>	<b>49,086,439</b>	<b>49,492,129</b>	<b>52,735,662</b>	<b>54,208,914</b>	<b>56,401,903</b>	<b>57,009,928</b>	<b>58,435,796</b>	<b>63,484,834</b>	<b>67,792,672</b>
RESTATEMENT GASB 68 (NOTE 4)									(785,579)		
RESTATEMENT WHITE BLUFF (NOTE 5)									2,925,950		
<b>ENDING NET POSITION</b>	<b>48,561,924</b>	<b>49,086,439</b>	<b>49,492,129</b>	<b>52,705,119</b>	<b>54,208,914</b>	<b>56,401,903</b>	<b>57,009,792</b>	<b>58,435,932</b>	<b>63,484,834</b>	<b>67,792,672</b>	<b>70,800,473</b>

**THE WATER AUTHORITY OF  
DICKSON COUNTY, TENNESSEE  
HISTORICAL AND PROFORMA DEBT SERVICE COVERAGE ANALYSIS  
(FISCAL YEARS ENDED DECEMBER 31)**

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Operating Revenues	13,141,996	12,436,122	12,416,432	14,298,058	13,946,370	14,113,500	13,744,147	14,376,179	15,327,388	16,781,826	16,759,095
Operating Expenses	(7,900,508)	(8,390,939)	(7,977,561)	(8,033,811)	(8,408,943)	(8,319,205)	(8,371,427)	(8,817,397)	(9,439,252)	(9,639,599)	(10,007,439)
Interest Income	189,130	115,131	68,094	63,285	43,189	35,780	17,369	10,638	12,135	14,612	20,999
Revenues Available for Debt Service	5,430,618	4,160,314	4,506,965	6,327,532	5,580,616	5,830,075	5,390,089	5,569,420	5,900,271	7,156,839	6,772,655
Annual Debt Service	3,670,708	3,613,966	3,626,113	3,377,621	3,291,196	3,607,576	2,184,521	2,619,362	2,948,989	2,937,117	2,935,625
Debt Service Coverage (Times)	1.4794	1.1512	1.2429	1.8734	1.6956	1.6161	2.4674	2.1263	2.0008	2.4367	2.3071
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Operating Revenues	17,094,277	17,436,162	17,784,886	18,140,583	18,503,395	18,873,463	19,250,932	19,635,951	20,028,670	20,429,243	20,837,828
Operating Expenses	(10,107,513)	(10,208,589)	(10,310,674)	(10,413,781)	(10,517,919)	(10,623,098)	(10,729,329)	(10,836,622)	(10,944,989)	(11,054,439)	(11,164,983)
Interest Income	26,249	32,811	41,014	51,267	64,084	80,105	100,131	125,164	156,455	195,568	244,461
Revenues Available for Debt Service	7,013,012	7,260,385	7,515,225	7,778,069	8,049,560	8,330,470	8,621,734	8,924,492	9,240,136	9,570,373	9,917,306
Annual Debt Service	2,938,748	2,948,956	3,102,204	2,962,921	2,873,461	3,085,702	2,883,310	2,834,398	2,802,991	2,764,540	2,582,908
Debt Service Coverage (Times)	2.3864	2.4620	2.4225	2.6251	2.8013	2.6997	2.9902	3.1486	3.2965	3.4618	3.8396

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**DICKSON COUNTY, TENNESSEE**  
**SUMMARY OF TOTAL DEBT SERVICE REQUIREMENTS**  
**(FISCAL YEARS ENDED DECEMBER 31)**

**EXISTING AND ESTIMATED LONG TERM ANNUAL AND TOTAL DEBT SERVICE REQUIREMENTS**

<b>FISCAL YEAR</b>	<b>2000 SRF</b>	<b>2006 SRF</b>	<b>2009 SRF</b>	<b>2012 SRF</b>	<b>2013 BONDS</b>	<b>2017 CG5-384*</b>	<b>2017 SRF-385*</b>	<b>2018 BONDS*</b>	<b>TOTAL DS*</b>
2018	27,444	15,226	83,472	424,392	1,885,943	5,018		497,253	2,938,748
2019	27,444	15,226	83,472	424,392	1,869,083	15,042	18,484.83	495,812	2,948,956
2020	27,444	15,226	83,466	424,392	1,818,420	15,030	220,813.74	497,412	3,102,204
2021	27,444	15,227	83,460	424,392	1,674,705	15,030	223,951.16	498,712	2,962,921
2022	27,444	15,226	83,466	424,392	1,584,205	15,018	228,997.60	494,712	2,873,461
2023	27,444	15,227	83,466	424,392	1,797,585	15,006	227,020.00	495,562	3,085,702
2024	20,573	15,226	83,460	424,392	1,603,510	14,994	225,042.40	496,112	2,883,310
2025		15,226	83,466	424,392	1,576,905	14,982	223,064.80	496,362	2,834,398
2026		15,226	83,472	424,392	1,548,235	14,970	221,087.20	495,609	2,802,991
2027		15,226	83,466	424,392	1,508,135	14,958	223,104.46	495,259	2,764,540
2028		15,227	83,460	424,392	1,316,228	14,958	229,034.16	499,609	2,582,908
2029		15,226	83,460	424,392	1,282,028	14,946	226,932.96	498,509	2,545,494
2030		3,113	83,844	424,392	1,242,258	14,934	224,831.76	497,109	2,490,482
2031				424,392	1,207,073	14,922	222,730.56	495,409	2,364,526
2032				424,392	1,171,320	14,910	220,629.36	498,409	2,329,660
2033				424,392		14,898	226,504.14	495,959	1,161,753
2034				424,392		14,886	228,287.94	498,209	1,165,775
2035				424,392		14,874	226,063.14	499,459	1,164,788
2036				70,853		14,862	223,838.34	495,240	804,793
2037						14,850	221,613.54	495,360	731,824
2038						9,877	222,386.16		232,263
2039							210,076.36		210,076
	<b>\$185,237</b>	<b>\$185,828</b>	<b>\$1,085,430</b>	<b>\$7,709,909</b>	<b>\$23,085,633</b>	<b>\$298,965</b>	<b>\$4,494,495</b>	<b>\$9,936,076</b>	<b>\$46,771,497</b>

\* Estimated

**\$7,510,000**

**THE WATER AUTHORITY OF DICKSON COUNTY, TENNESSEE  
WATER AND SEWER REVENUE BONDS  
SERIES 2018**

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**\$7,510,000**

THE WATER AUTHORITY OF DICKSON COUNTY, TENNESSEE  
WATER AND SEWER REVENUE BONDS  
SERIES 2018

**Sources & Uses**

Dated 09/01/2018 | Delivered 09/01/2018

**Sources Of Funds**

Par Amount of Bonds	\$7,510,000.00
Reoffering Premium	163,288.15

<b>Total Sources</b>	<b>\$7,673,288.15</b>
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**Uses Of Funds**

Total Underwriter's Discount (0.750%)	56,325.00
Costs of Issuance	112,736.78
Deposit to Project Construction Fund	7,500,000.00
Rounding Amount	4,226.37

<b>Total Uses</b>	<b>\$7,673,288.15</b>
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**\$7,510,000**

THE WATER AUTHORITY OF DICKSON COUNTY, TENNESSEE  
WATER AND SEWER REVENUE BONDS  
SERIES 2018

**Pricing Summary**

Maturity	Type of Bond	Coupon	Yield	Maturity Value	Price	Dollar Price
12/01/2018	Serial Coupon	3.000%	1.300%	440,000.00	100.421%	441,852.40
12/01/2019	Serial Coupon	3.000%	1.400%	280,000.00	101.974%	285,527.20
12/01/2020	Serial Coupon	3.000%	1.590%	290,000.00	103.102%	298,995.80
12/01/2021	Serial Coupon	3.000%	1.750%	300,000.00	103.930%	311,790.00
12/01/2022	Serial Coupon	3.000%	1.850%	305,000.00	104.677%	319,264.85
12/01/2023	Serial Coupon	3.000%	2.000%	315,000.00	104.958%	330,617.70
12/01/2024	Serial Coupon	3.000%	2.150%	325,000.00	104.944%	341,068.00
12/01/2025	Serial Coupon	3.210%	2.300%	335,000.00	106.042%	355,240.70
12/01/2026	Serial Coupon	3.000%	2.400%	345,000.00	104.464%	360,400.80
12/01/2027	Serial Coupon	3.000%	2.550%	355,000.00	103.684%	368,078.20
12/01/2028	Serial Coupon	3.000%	2.650%	370,000.00	103.121%	381,547.70
12/01/2029	Serial Coupon	3.000%	2.800%	380,000.00	101.916%	387,280.80
12/01/2030	Serial Coupon	3.000%	2.850%	390,000.00	101.539%	396,002.10
12/01/2031	Serial Coupon	3.000%	2.900%	400,000.00	101.090%	404,360.00
12/01/2032	Serial Coupon	3.000%	2.950%	415,000.00	100.575%	417,386.25
12/01/2033	Serial Coupon	3.000%	3.000%	425,000.00	100.000%	425,000.00
12/01/2034	Serial Coupon	3.125%	3.050%	440,000.00	100.952%	444,188.80
12/01/2035	Serial Coupon	3.125%	3.100%	455,000.00	100.329%	456,496.95
12/01/2036	Serial Coupon	3.200%	3.150%	465,000.00	100.686%	468,189.90
12/01/2037	Serial Coupon	3.200%	3.200%	480,000.00	100.000%	480,000.00
<b>Total</b>	-	-	-	<b>\$7,510,000.00</b>	-	<b>\$7,673,288.15</b>

**Bid Information**

Par Amount of Bonds	\$7,510,000.00
Reoffering Premium or (Discount)	163,288.15
Gross Production	\$7,673,288.15
Total Underwriter's Discount (0.750%)	\$(56,325.00)
Bid (101.424%)	7,616,963.15
Total Purchase Price	\$7,616,963.15
Bond Year Dollars	\$78,892.50
Average Life	10.505 Years
Average Coupon	3.0751674%
Net Interest Cost (NIC)	2.9395866%
True Interest Cost (TIC)	2.9070029%



**\$7,510,000**

THE WATER AUTHORITY OF DICKSON COUNTY, TENNESSEE  
WATER AND SEWER REVENUE BONDS  
SERIES 2018

**Debt Service Schedule**

Date	Principal	Coupon	Interest	Total P+I
12/01/2018	440,000.00	3.000%	57,253.06	497,253.06
12/01/2019	280,000.00	3.000%	215,812.26	495,812.26
12/01/2020	290,000.00	3.000%	207,412.26	497,412.26
12/01/2021	300,000.00	3.000%	198,712.26	498,712.26
12/01/2022	305,000.00	3.000%	189,712.26	494,712.26
12/01/2023	315,000.00	3.000%	180,562.26	495,562.26
12/01/2024	325,000.00	3.000%	171,112.26	496,112.26
12/01/2025	335,000.00	3.210%	161,362.26	496,362.26
12/01/2026	345,000.00	3.000%	150,608.76	495,608.76
12/01/2027	355,000.00	3.000%	140,258.76	495,258.76
12/01/2028	370,000.00	3.000%	129,608.76	499,608.76
12/01/2029	380,000.00	3.000%	118,508.76	498,508.76
12/01/2030	390,000.00	3.000%	107,108.76	497,108.76
12/01/2031	400,000.00	3.000%	95,408.76	495,408.76
12/01/2032	415,000.00	3.000%	83,408.76	498,408.76
12/01/2033	425,000.00	3.000%	70,958.76	495,958.76
12/01/2034	440,000.00	3.125%	58,208.76	498,208.76
12/01/2035	455,000.00	3.125%	44,458.76	499,458.76
12/01/2036	465,000.00	3.200%	30,240.00	495,240.00
12/01/2037	480,000.00	3.200%	15,360.00	495,360.00
<b>Total</b>	<b>\$7,510,000.00</b>	<b>-</b>	<b>\$2,426,076.48</b>	<b>\$9,936,076.48</b>

**Yield Statistics**

Bond Year Dollars	\$78,892.50
Average Life	10.505 Years
Average Coupon	3.0751674%
Net Interest Cost (NIC)	2.9395866%
True Interest Cost (TIC)	2.9070029%
Bond Yield for Arbitrage Purposes	2.8215375%
All Inclusive Cost (AIC)	3.0809282%

**IRS Form 8038**

Net Interest Cost	2.8244631%
Weighted Average Maturity	10.441 Years



**\$7,510,000**

THE WATER AUTHORITY OF DICKSON COUNTY, TENNESSEE  
WATER AND SEWER REVENUE BONDS  
SERIES 2018

## **Detail Of Underwriter's Discount**

Dated 09/01/2018 | Delivered 09/01/2018

### **UNDERWRITER'S EXPENSES DETAIL**

Total Underwriter's Expense (0.750%)	\$56,325.00
<b>TOTAL</b>	<b>\$56,325.00</b>

**\$7,510,000**

THE WATER AUTHORITY OF DICKSON COUNTY, TENNESSEE  
WATER AND SEWER REVENUE BONDS  
SERIES 2018

**Detail Costs Of Issuance**

Dated 09/01/2018 | Delivered 09/01/2018

**COSTS OF ISSUANCE DETAIL**

Municipal Advisor	\$75,100.00
Bond Counsel	\$15,020.00
Disclosure Counsel	\$8,397.32
Underwriters Counsel	\$4,198.66
Registrar & Paying Agent	\$503.84
Rating Agency Fee	\$8,397.32
Advertising	\$1,119.64
<b>TOTAL</b>	<b>\$112,736.78</b>

**\$7,510,000**

THE WATER AUTHORITY OF DICKSON COUNTY, TENNESSEE  
WATER AND SEWER REVENUE BONDS  
SERIES 2018

**Derivation Of Form 8038 Yield Statistics**

Maturity	Issuance Value	Coupon	Price	Issuance Price	Exponent	Bond Years
09/01/2018	-	-	-	-	-	-
12/01/2018	440,000.00	3.000%	100.421%	441,852.40	0.2500000x	110,463.10
12/01/2019	280,000.00	3.000%	101.974%	285,527.20	1.2500000x	356,909.00
12/01/2020	290,000.00	3.000%	103.102%	298,995.80	2.2500000x	672,740.55
12/01/2021	300,000.00	3.000%	103.930%	311,790.00	3.2500000x	1,013,317.50
12/01/2022	305,000.00	3.000%	104.677%	319,264.85	4.2500000x	1,356,875.61
12/01/2023	315,000.00	3.000%	104.958%	330,617.70	5.2500000x	1,735,742.93
12/01/2024	325,000.00	3.000%	104.944%	341,068.00	6.2500000x	2,131,675.00
12/01/2025	335,000.00	3.210%	106.042%	355,240.70	7.2500000x	2,575,495.08
12/01/2026	345,000.00	3.000%	104.464%	360,400.80	8.2500000x	2,973,306.60
12/01/2027	355,000.00	3.000%	103.684%	368,078.20	9.2500000x	3,404,723.35
12/01/2028	370,000.00	3.000%	103.121%	381,547.70	10.2500000x	3,910,863.93
12/01/2029	380,000.00	3.000%	101.916%	387,280.80	11.2500000x	4,356,909.00
12/01/2030	390,000.00	3.000%	101.539%	396,002.10	12.2500000x	4,851,025.73
12/01/2031	400,000.00	3.000%	101.090%	404,360.00	13.2500000x	5,357,770.00
12/01/2032	415,000.00	3.000%	100.575%	417,386.25	14.2500000x	5,947,754.06
12/01/2033	425,000.00	3.000%	100.000%	425,000.00	15.2500000x	6,481,250.00
12/01/2034	440,000.00	3.125%	100.952%	444,188.80	16.2500000x	7,218,068.00
12/01/2035	455,000.00	3.125%	100.329%	456,496.95	17.2500000x	7,874,572.39
12/01/2036	465,000.00	3.200%	100.686%	468,189.90	18.2500000x	8,544,465.68
12/01/2037	480,000.00	3.200%	100.000%	480,000.00	19.2500000x	9,240,000.00
<b>Total</b>	<b>\$7,510,000.00</b>	<b>-</b>	<b>-</b>	<b>\$7,673,288.15</b>	<b>-</b>	<b>\$80,113,927.49</b>

**Description of Bonds**

Final Maturity Date	12/01/2037
Issue price of entire issue	7,673,288.15
Stated Redemption at Maturity	7,510,000.00
Weighted Average Maturity = Bond Years/Issue Price	10.441 Years
Bond Yield for Arbitrage Purposes	2.8215375%

**Uses of Proceeds of Issue**

Proceeds used for accrued interest	-
Proceeds used for bond issuance costs (including underwriters' discount)	169,061.78
Proceeds used for credit enhancement	-
Proceeds allocated to reasonably required reserve or replacement fund	-



JUSTIN P. WILSON  
*Comptroller*

JASON E. MUMPOWER  
*Chief of Staff*

**August 8, 2018**

**CITY OF MEMPHIS**  
**Request for TLDA Approval of Additional Debt issuance**

The City of Memphis (the "City") is requesting a new approval from the Tennessee Local Development Authority (TLDA) to issue an increased amount of the Sanitary Sewerage System Revenue and Refunding Bonds, Series 2018 (the "Series 2018 Bonds") with a lien position senior to its outstanding State Revolving Fund (SRF) loan agreements. Request for approval is required by provisions set forth in the State Revolving Fund (SRF) loan agreement and guidelines set forth in the *TLDA/SRF Policy and Guidance for Borrowers*. The proposed debt will be issued in an amount not to exceed \$75,000,000.

**1. The requestor is a:**

☐ **Utility City** planning to issue Revenue Debt

☐ Will the proposed debt be secured by revenues other than revenues of the water/wastewater system (e.g. electric, gas)? ☐ Yes ☒ No

☒ **Municipality (town/city/county) planning to issue:**

☐ General Obligation Debt

☒ Revenue Debt – Will the proposed debt be secured by revenues other than revenues of the water/wastewater system (e.g. electric, gas)? ☐ Yes ☒ No

**2. Lien Position:**

☐ The borrower is requesting to issue the refunding and improvement bonds with a parity lien position to its outstanding SRF loan(s).

☒ The borrower is requesting to subordinate its outstanding SRF debt to the refunding debt issuance.

☐ The borrower is not requesting a modification of lien position and the proposed debt will be issued subordinate to the SRF debt.



### 3. The purpose of the proposed debt issuance is:

☒ Refunding  
☒ New Money

### 4. Description and Additional Information:

The City plans to issue an estimated \$66,830,000 Series 2018 Bonds by competitive sale at a premium of \$8,391,152. The proceeds of the Series 2018 Bonds will be used to finance approximately \$50,000,000 of various capital projects for its Sewer System and to currently refund \$11,145,000 Sanitary Sewerage System Revenue Bonds, Series 2007 and advance refund \$12,360,000 Sanitary Sewerage System Revenue Bonds (Direct Payment Build America Bonds) on a tax-exempt basis to produce projected net present value savings of \$1,531,094 or approximately 6.56% of the refunded principal amount of \$23,505,000.

### 5. The debt rating of the borrower is:

*Please indicate N/R if not rated.*

☒ Moody's  
☒ Standard and Poor's  
☒ Fitch

### 6. The following SRF loans are currently authorized/outstanding:

Borrower City of Memphis  
Date 8/8/2018

Loan Type	Loan #	Status	Disbursements	Available to Draw	% Principal Forgiveness	Edison Balance @6/30/2018	MADS*	See Footnote
Sewer	SRF 06-195	Repayment	3,988,541.00	-	-	3,190,205.00	255,732.00	
Sewer	SRF 13-309	Repayment	9,466,276.00	12,533,724.00	-	9,319,856.00	509,844.00	1
Sewer	SRF 13-311	Construction	71,387,637.00	28,612,363.00	-	71,387,637.00	5,385,931.00	2
Sewer	SRF 15-355	Construction	-	25,000,000.00	-	-	1,346,483.00	2
Sewer	SRF 18-409	Construction	-	11,000,000.00	-	-	595,938.00	2
							<u>8,093,928.00</u>	

\*MADS is an estimate until final expenses have been determined

\*The borrower pledges its unobligated state-shared taxes in an amount equal to MADS

Footnotes:

- Loan is amortizing under repayment option 2 using expenses to date. Borrower may submit one additional pay request to draw remaining funds within a one-year period.
- Estimate

### 7. Compliance with SRF Loan Agreement:

#### a. Timely repayments [4.(a)]

☒ Yes ☐ No

**b. Security Deposit (UDs and Authorities) [8.]**

☐ Yes ☐ No

Amount on deposit: \_\_\_\_\_

**c. GAAP Accounting and Audited Annual Financial Statement Requirement [7.(g) and (m)(2)]**

The City has timely filed its audited financial statements with the Division of Local Government Audit through the fiscal year ended June 30, 2017. The audit was filed within six months after the City's fiscal year end.

**d. Sufficient Revenues [7.(k)]**

☒ Yes ☐ No

For the fiscal year ended June 30, 2017, the City reported operating income of \$41,063,000 and a positive change in net position of \$31,422,00 in its audited financial statements. As reported on the cash flow statement, debt service payments for fiscal year 2017 were \$28,792,000 consisting of principal payments of \$24,689,000 and interest payments of \$4,103,000.

As of the fiscal year ended June 30, 2017, the City reported \$44,483,000 in cash and \$17,160,000 in investments.

**e. Debt Service Coverage Ratios [7.(l) and (m)(3) & (4)]**

The current and projected Debt Service Coverage Ratio meets or exceeds 1.2 times.

☒ Yes ☐ No

If no, include a schedule of revised rates and fees. ☐ Included ☒ N/A

*Most Recent Fiscal Year (m)(3):*

The City's debt service coverage ratio was 1.88X for fiscal year ended June 30, 2017 (calculation performed by OSLF from information in the fiscal year 2017 financial statements. The City estimates that the debt service coverage ratio for fiscal year 2018 will be 3.53X (from the debt service coverage ratio calculation worksheet provided by the City). The City has met the debt service coverage requirement for fiscal year ended June 30, 2017.

*Next Three Fiscal Years After Debt Issuance (m)(4):*

The City prepared forecasted debt service coverage ratios and projects that it will meet the debt service coverage requirement with estimated debt service to net revenues ranging from 3.28x to

2.36x for fiscal years 2019 through 2022 after the issuance of the Series 2018 Bonds. The City estimates that the debt service coverage ratio for fiscal year 2018 will be 3.53X.

**f. Is the entity currently under the jurisdiction of the Utility Management Review Board (UMRB) or the Water and Wastewater Financing Board (WWFB)?**

[7.(n)]

☐ Yes ☒ No

If yes, reason for referral: ☐ Water Loss ☐ Financial Distress ☒ N/A

If the reason is for financial distress, include a schedule of revised rates and fees along with a copy of the corrective action order from the respective board. ☐ Included ☒ N/A

**8. State-Shared Taxes (SST): (Towns, Cities, Counties):**

\$	<u>63,721,000</u>	Received in prior fiscal year
\$	<u>8,093,928</u>	Total Maximum Annual Debt Service
\$	<u>55,627,072</u>	Unobligated SSTs

**9. Conclusion**

Based upon our analysis, the City will have sufficient cash and revenues to meet its obligations. The City appears to meet TLDA's guidelines for approval to issue additional bonds with senior lien position to its outstanding State Revolving Fund (SRF) loan agreements.

**Attachment:**

Debt Service Coverage and Three-year Financial Projections

**City of Memphis, Tennessee**  
**Current and Projected Debt Service Coverage**

**Attachment B**

<b>Fiscal Year</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<b>Effective Date of Rate Increase</b>	Jan-18		Jan-20		
	<b>Base Year</b>				
<b>Revenues and Expenses (\$000)</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Operating Revenues	109,900	122,800	132,475	142,150	142,150
Operating Expenses	55,000	65,000	70,000	72,000	72,000
<b>Net Revenues Available to Fund Debt Service</b>	<b>54,900</b>	<b>57,800</b>	<b>62,475</b>	<b>70,150</b>	<b>70,150</b>
<b>Debt Service</b>					
Existing Revenue Bonds	15,281	12,503	13,066	11,466	11,431
Proposed Revenue Bonds	-	3,119	5,280	8,683	9,972
Debt Service from Other Debt	256	2,009	8,277	8,277	8,277
<b>Total All Debt Service</b>	<b>15,537</b>	<b>17,631</b>	<b>26,623</b>	<b>28,426</b>	<b>29,680</b>
<b>Total Revenue Bond Debt Service Coverage (<math>\geq 1.25x</math>)</b>	<b>3.59</b>	<b>3.70</b>	<b>3.41</b>	<b>3.48</b>	<b>3.28</b>
<b>Total All Debt Service Coverage (<math>\geq 1.20x</math>)</b>	<b>3.53</b>	<b>3.28</b>	<b>2.35</b>	<b>2.47</b>	<b>2.36</b>
<b>Cash Reserves (\$000)</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Beginning Cash Reserves on Hand	43,498	90,380	71,927	47,353	44,396
Future Principal and Interest Payments	(17,631)	(26,623)	(28,426)	(29,680)	(27,199)
Reimbursement from SRF	69,000				
Surplus Cash	39,363	40,169	35,852	41,724	40,470
PAYGO	(43,850)	(32,000)	(32,000)	(15,000)	(15,000)
<b>Ending Cash Reserves on Hand</b>	<b>90,380</b>	<b>71,927</b>	<b>47,353</b>	<b>44,396</b>	<b>42,667</b>
<b>Required Days Cash on Hand (<math>\geq 180</math> days)</b>	<b>600</b>	<b>404</b>	<b>247</b>	<b>225</b>	<b>216</b>
<b>Total Funded from Revenue Bonds After PAYGO (Net Proceeds)</b>	<b>-</b>	<b>50,000</b>	<b>50,000</b>	<b>50,000</b>	

**Definitions**

Revenue Bond Debt Service Coverage ( $\geq 1.25x$ ) - Revenue Bond Debt as a percent Net Revenues.

All Bond Debt Service Coverage ( $\geq 1.00x$ ) - All Bond Debt as a percent Net Revenues.

Days Cash on Hand - Unrestricted cash/liquid investments times 365 divided by operating and maintenance expenses, expressed in days. Does not include DSRF or bond proceeds.

Future Principal and Interest Payments - Principal and Interest for next fiscal year funded in current fiscal year.





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**ANDRÉ D. WALKER**

Deputy Director of Finance-Debt Management

**Division of Finance**

Andre.Walker@memphistn.gov



TENNESSEE

JIM STRICKLAND  
MAYOR

DIVISION OF FINANCE  
Shirley Ford  
Chief Financial Officer

August 2, 2018

Ms. Sandra Thompson, Director  
Office of State and Local Finance  
Tennessee Comptroller of the Treasury  
Cordell Hull Building  
425 Fifth Avenue North, 4<sup>th</sup> Floor  
Nashville, TN 37243-3400

Office of State and Local Finance/COT

AUG 07 2018

Time Received

Re: City of Memphis, Tennessee – Request for State Revolving Fund Lien Modification

Dear Ms. Thompson:

The City of Memphis, Tennessee (the “City”) submitted a request to the Tennessee Local Development Authority (“TLDA”) on June 20, 2018 to modify the lien position of the City’s existing State Revolving Fund Loans (“SRF Loans”) in order to allow for the issuance of certain revenue and revenue refunding bonds (the “Revenue Bonds”).

On July 17, 2018, the TLDA approved the request to issue the Revenue Bonds in an amount not-to-exceed \$62 million in a position senior to its existing SRF Loans. The City has now identified an additional series of bonds to refinance for debt service savings and has deemed it prudent to refund said series together with the previously approved refunding in order to maximize savings and minimize issuance costs. Therefore, the City is resubmitting its request to the TLDA for reconsideration to modify the lien position of the existing SRF Loans.

Since 1981, the City has managed an active revenue bond program to finance its Sanitary Sewer System (“Sewer System”) infrastructure needs. Over the last several years, the City has also been the recipient of five (5) SRF Loans administered through the State of Tennessee’s Clean Water State Revolving Fund and Drinking Water State Revolving Fund programs (together, the “SRF Program”). The City plans to issue the Revenue Bonds upon approval by TLDA.

The City proposes to issue the Revenue Bonds pursuant to the City’s 1981 Sewer System bond resolution (the “Bond Resolution”) on parity with the City’s outstanding Sewer System revenue bonds and senior to the City’s SRF Loans. The Bond Resolution states that no indebtedness, other than that issued under the Bond Resolution, may “rank on a parity with or have priority

over the charge and lien on Revenues.” Therefore, the SRF Loans must be placed in a subordinate security position prior to the issuance of the Revenue Bonds.

It is the City’s position that granting the City’s lien modification request will not adversely affect the security for or timely payment of the SRF Loans from available Sewer System revenues. The City is currently in compliance with its SRF Loans and covenants, and is timely with payments and submissions of its financial information. The Sewer System is fiscally sound and maintains sufficient cash on hand at all times. The City Council has raised user fees as necessary and appropriate in order to fund its capital program. The City’s outstanding Sewer System revenue debt is highly rated (“AA+” by S&P and “Aa3” by Moody’s). Currently, as demonstrated by the financial projections provided as Attachment B, projected debt service coverage (“DSC”) will significantly exceed the minimum 1.25x DSC required for all revenue bonds and the minimum 1.20x DSC for all revenue bonds including the SRF Loans over the next ten years.

It is the City’s intention to continue to utilize the SRF Program, in conjunction with an active revenue bond program. Without the requested lien modification for the proposed and future revenue bond issues, the City’s cost of capital for Sewerage System Revenue Bonds could increase significantly which would put a strain on the City’s ability to meet its significant capital needs (see “Final Consent Decree” below) thus placing the health, safety and welfare of the citizens of Memphis at risk.

## **Background**

The Sewer System serves approximately 261,000 industrial, commercial and residential customers. Annual revenues (FY2018) exceed \$109 million with annual expenditures in excess of \$55 million. The City also maintains at all times over 180 days of operating cash (approximately \$35 - \$40 million annually) in order to manage the Sewer System effectively. The City’s capital improvement program (“CIP”) for the Sewer System is expected to exceed \$800 million over the next ten years. A large portion of these CIP needs consist of three large capital outlays: 1) the settlement of a consent decree (see explanation of the Final Consent Decree below) in the amount of \$325 million; and 2) major upgrades to the City’s sewage treatment plants, the Maxson (South) plant and the Stiles (North) plant, in the amounts of \$170 million and \$151 million, respectively. Other CIP needs include routine expenditures associated with environmental, safety and maintenance improvements necessary to maintain a sound and functioning Sewer System. A summary of the City’s Sewer System CIP program is shown below:

Projected Capital Expenditures  
Sewer System  
(In Thousands of Dollars)

Type of Assets (\$000)	Fiscal Year										Total
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	
Sewer System Projects											
Consent Decree	50,000	50,000	40,000	40,000	40,000	35,000	30,000	15,000	15,000	10,000	325,000
Maxson (South) Process Upgrades	20,000	37,500	37,500	37,500	37,500						170,000
Stiles Biosolids		5,000	10,000	7,000	7,000	7,000	7,000	7,000			50,000
Urban Service Area Improvements				8,000	8,000	8,000	8,000	8,000	8,000	8,000	56,000
Stiles (North) Process Upgrades					5,750	10,750	15,000	40,000	40,000	40,000	151,500
System Maintenance	8,000	8,000	8,000	8,000	8,000	8,000	8,000	10,000	10,000	10,000	86,000
Total	78,000	100,500	95,500	100,500	106,250	68,750	68,000	80,000	73,000	68,000	838,500

### Final Consent Decree

On September 20, 2012, U.S. District Judge Samuel H. Mays, Jr., entered an Order Granting Joint Motion of Consent Decree ("Consent Decree") requested by the United States Department of Justice, the Environmental Protection Agency ("EPA"), the Tennessee Department of Environment and Conservation ("TDEC"), the Tennessee Clean Water Network and the City (collectively, the "Parties"). Pursuant to the terms of the Consent Decree, in addition to establishing priority geographical areas for rehabilitation and assessment of sewer infrastructure and stipulating penalties for any future violations, the Parties negotiated the following obligations of the City: 1) payment of a civil penalty; 2) development and implementation of management operations and maintenance programs; 3) requirement to submit certain quarterly, semi-annual and annual reports to the EPA and TDEC; and 4) completion of certain operational and capital improvements to the City's wastewater collection and treatment system at an approximate cost of \$325 million over a ten-year period. The Consent Decree officially started on September 20, 2012. The City has completed approximately \$100 million of the Consent Decree expenditures to date.

### City Participation in the SRF Loan Program

Based on the Consent Decree mandate and the size of the City's CIP budget, the City began to seek out federal and state programs which offered lower cost financing opportunities to help finance the Sewer System's aging infrastructure. Subsequently, the City began utilizing the SRF Program more aggressively in 2013. Currently, there are five (5) SRF loans outstanding or approved in the approximate principal amount of \$151 million:

SRF Loans Outstanding (000)		Authorized	Outstanding	Status
Existing	Purpose	Loan Size	Balance	
SRF #1 - 2006 - 195	Loosahatchie Interceptor	\$ 3,989	\$ -	Amortizing
SRF #2 - 2013 - 309	Stiles (North) Plant	11,000	1,550	Expending
SRF #3 - 2013 - 311	Consent Decree	100,000	28,600	Expending
SRF #4 - 2015 - 355	Maxson (South) Plant	25,000	N/A	Approved
SRF #5 - 2018 - 409	Maxson (South) Plant	11,000	N/A	Approved
<b>Total SRF Loans</b>		<b>\$ 150,989</b>	<b>\$ 30,150</b>	

### City's Sewer System Revenue Bond Program

Prior to entering into the SRF Program, the City financed its Sewer System infrastructure needs through its existing revenue bond program. Currently, the City has revenue and revenue refunding bonds outstanding in the aggregate principal amount of \$78 million.

Due to the City's sizable capital needs and the responsibility to complete certain projects within specific mandated deadlines, the City seeks to strategically utilize a fiscal approach of: 1) continuing to participate in the SRF Program; and 2) from time to time, issue revenue bonds to finance its capital needs or refund outstanding revenue bond issues for debt service savings.

The City is authorized to issue revenue and revenue refunding bonds through the Bond Resolution. However, the Bond Resolution states, "the City will not hereafter create or permit the creation of or issue any revenue bonds, notes, warrants or other obligations or create any additional indebtedness which rank on a parity with or have priority over the charge and lien on Revenues except that additional series of Bonds [issued under this Bond Resolution], including Bonds to refund any Bond or Bonds may be issued from time to time..."

As a requirement for the issuance of additional revenue bonds under the Bond Resolution, a minimum of 1.25x DSC must be maintained at all times as a historical test or 1.50x DSC as a future test. Pursuant to the TLDA SRF Policy & Guidance for Borrowers, a minimum of 1.20x DSC for SRF Loans must be maintained at all times. Currently, as demonstrated by the financial projections provided as Attachment B, the City expects to exceed 2.0x DSC for all debt outstanding, including SRF Loans. This projected DSC also assumes the City will issue several additional revenue bond issues over the next ten years. It is the City's opinion that the request for lien modification would not, in any way, limit the City's ability to pay debt service on the revenue bonds and SRF Loans or to provide adequate DSC as long as the SRF Loans are outstanding.

### Sewer System Rate Increases

In anticipation of the need to fund this challenging capital program, the City Council has instituted several rate increases over the last eight (8) years. A general rate increase was implemented effective in 2011 to increase operating reserves as well as fund anticipated costs



from the Consent Decree. More recently, two rate increases were implemented: the first became effective January 2018, and the second, a future rate increase, is set to become effective January 2020. The last two rate increases were instituted specifically to fund or finance a portion of the Sewer System's future capital needs. It is also anticipated that the City will request additional rate increases in the future as necessary and required.

The City's sewer management team has also developed a plan to minimize debt issuance by creating a PAYGO program to fund a portion of its capital expenditures from cash on hand in order to fund more projects and lower overall interest cost. This effort, together with the SRF Program, will save the City millions of dollars in interest cost over the next 20 years. This strategy will also allow the City financing flexibility of using PAYGO, the SRF Program, the issuance of revenue bonds or another available low-cost financing program.

#### **Factors for Consideration of Lien Modification**

- Compliance with SRF Loans, including the covenants and representations in SRF Loans – *As provided above, the City believes that it is in compliance with the terms of its outstanding SRF Loans.*
- Borrower's history of timely repayments of SRF Loans – *The City confirms that it has consistently made timely payments on its outstanding SRF Loans.*
- Borrower's timely filing of financial statements with the Division of Local Government Audit, Tennessee Comptroller of the Treasury – *The City believes it has timely filed its financial statements with the Division of Local Government Audit, Tennessee Comptroller of the Treasury on behalf of all its outstanding SRF Loans.*
- Borrower's credit rating – *The City's Sewer System bonds are currently rated "AA+" by S&P Global Ratings and "Aa3" by Moody's Investors Service. See Attachment A.*
- Purpose and amount of proposed debt issuance – *The City plans to issue its Sanitary Sewerage System Revenue and Revenue Refunding Bonds as a single series (the "Series 2018 Bonds"). The Series 2018 Bonds will include a refunding component and a new money component. The refunding component of the Series 2018 Bonds will be issued in a not-to-exceed principal amount of \$25 million and is presently expected to generate net present value savings of \$1,541,093 or 6.55449% as a percent of the refunded par amount of the bonds. The new money component of the Series 2018 Bonds will be issued to fund \$50 million of various CIP projects as discussed above under "Background". The Series 2018 Bonds will be issued in accordance with the City's Debt Management Policy and Procedures dated April 19, 2016.*
- Current and pro-forma (projected) debt service coverage – *The current and pro forma (projected) DSC currently exceeds two 2.0x DSC for all Sewer System bonds and SRF Loans, including the proposed bonds. See Attachment B.*

- Amount of unobligated state-shared taxes – *The City will not secure the Revenue Bonds with unobligated state shared tax revenues.*
- The Sewer System's reliance on revenues generated from its largest user(s) as a percentage of total system revenues – *The System's ten largest users represent \$25.9 million of Sewer System revenues of \$98.7 million; or 26.2% of all Sewer System revenues. See Attachment C.*
- The lien position of the existing SRF debt remains the same or is improved – *The security for and the ability to make timely payments for all SRF Loans remains unchanged if the City's Revenue Bonds are granted a senior lien position. As required by applicable bond and loan documents, the City will maintain at all times a minimum coverage of 1.20x DSC for all Sewer System revenue bonds and SRF Loans. Pursuant to the SRF Loan Agreements, the City has also made an additional pledge of state-shared taxes for the repayment of the SRF Loans.*
- Impact on the health, safety, and well-being of the people of the State of Tennessee – *The City is currently under a Consent Decree to fund a significant portion of its capital program over the next ten years. Permitting this lien modification will allow the City to more efficiently fund its capital program according to the timeline mandated by the Consent Decree. The inability to strategically fund the City's sizeable capital program would be detrimental to the health, safety and well-being of the citizens of Memphis.*

### **Summary**

The City would like to emphasize that the Sewer System is represented by an experienced sewer management staff, maintains sufficient revenues at all times in order to service its debt obligations, has the support of the City Council to enact necessary rate increases, maintains strong cash balances in the case of an emergency, and maintains the financial flexibility to adjust its debt decisions when necessary and prudent.

The City is very appreciative of the opportunity to participate in the SRF Program and respectfully requests the TLDA to grant the lien modification. Thank you for the opportunity to present to the TLDA. If you have any questions, please do not hesitate to contact me at (901) 636-6374 or [shirley.ford@memphistn.gov](mailto:shirley.ford@memphistn.gov), or André D. Walker, Deputy Director of Finance at (901) 636-6324 or [andre.walker@memphistn.gov](mailto:andre.walker@memphistn.gov).

Sincerely,

  
Shirley Ford  
Chief Financial Officer

c:     André D. Walker, Deputy Director of Finance  
       Carol Ward, Debt Coordinator  
       Cherrell Hawkins, Financial Analyst  
       Cheryl Hearn, Assistant City Attorney  
       Pamela Z. Clary, Co-Financial Advisor  
       Lauren Lowe, Co-Financial Advisor  
       Ricardo Callender, Co-Financial Advisor  
       Lillian M. Blackshear, Esquire, Co-Disclosure Counsel  
       Jeff Oldham, Esquire, Co-Disclosure Counsel  
       T. Kevin Bruce, Co-Disclosure Counsel  
       Charles E. Carpenter, Esquire, Co-Bond Counsel  
       Corbin I. Carpenter, Esquire, Co-Bond Counsel  
       Michael J. Bradshaw Jr., Esquire, Co-Bond Counsel





## ATTACHMENT A

# Moody's

## INVESTORS SERVICE

World Trade Center  
250 Greenwich Street  
New York, NY 10007  
[www.moodys.com](http://www.moodys.com)

June 11, 2014

Mr. Brian Collins  
City of Memphis, TN, Sanitary Sewer Enterprise  
125 N. Main Street  
Memphis, TN 38103

Dear Mr. Collins :

We wish to inform you that on June 3, 2014, Moody's Investors Service reviewed and assigned a rating of **Aa3** to the City of Memphis, TN, Sanitary Sewer Enterprise, Sanitary Sewerage System Revenue Refunding Bonds, Series 2014.

In assigning such rating, Moody's has relied upon the truth, accuracy and completeness of the information supplied by you or on your behalf to Moody's. Moody's expects that you will, on an ongoing basis, continue to provide Moody's with updated information necessary for the purposes of monitoring the rating, including current financial and statistical information.

Moody's will monitor this rating and reserves the right, at its sole discretion, to revise or withdraw this rating at any time in the future.

The rating, as well as any revisions or withdrawals thereof, will be publicly disseminated by Moody's through normal print and electronic media and in response to verbal requests to Moody's Rating Desk.

In accordance with our usual policy, assigned ratings are subject to revision or withdrawal by Moody's at any time, without notice, in the sole discretion of Moody's. For the most current rating, please visit [www.moodys.com](http://www.moodys.com).

Should you have any questions regarding the above, please do not hesitate to contact me or the analyst assigned to this transaction, Moses Kopmar at 212-553-7106.

Sincerely,



Julie Beglin  
VP-Senior Analyst/Manager

cc: Ms. Pamela Clary  
Comcap Advisors  
1708 Monroe Avenue  
Memphis, TN 38174



500 North Akard Street  
Lincoln Plaza, Suite 3200  
Dallas, TX 75201  
tel (214) 871-1400  
reference no.: 1348069

May 30, 2014

City of Memphis  
125 N. Main Street  
Memphis, TN 38103  
Attention: Mr. Brian Collins, Director of Finance

Re: ***US\$29,870,000 City of Memphis, Tennessee, Sanitary Sewerage System Revenue Refunding Bonds, Series 2014, dated: Date of delivery, due: July 1, 2027***

Dear Mr. Collins:

Pursuant to your request for a Standard & Poor's Ratings Services ("Ratings Services") rating on the above-referenced obligations, Ratings Services has assigned a rating of "AA+". Standard & Poor's views the outlook for this rating as stable. A copy of the rationale supporting the rating is enclosed.

This letter constitutes Ratings Services' permission for you to disseminate the above-assigned ratings to interested parties in accordance with applicable laws and regulations. However, permission for such dissemination (other than to professional advisors bound by appropriate confidentiality arrangements) will become effective only after we have released the rating on [standardandpoors.com](http://standardandpoors.com). Any dissemination on any Website by you or your agents shall include the full analysis for the rating, including any updates, where applicable.

To maintain the rating, Standard & Poor's must receive all relevant financial and other information, including notice of material changes to financial and other information provided to us and in relevant documents, as soon as such information is available. You understand that Ratings Services relies on you and your agents and advisors for the accuracy, timeliness and completeness of the information submitted in connection with the rating and the continued flow of material information as part of the surveillance process. Please send all information via electronic delivery to: [pubfin\\_statelocalgovt@standardandpoors.com](mailto:pubfin_statelocalgovt@standardandpoors.com). If SEC rule 17g-5 is applicable, you may post such information on the appropriate website. For any information not available in electronic format or posted on the applicable website,

Please send hard copies to:

Standard & Poor's Ratings Services  
Public Finance Department  
55 Water Street  
New York, NY 10041-0003

The rating is subject to the Terms and Conditions, if any, attached to the Engagement Letter applicable to the rating. In the absence of such Engagement Letter and Terms and Conditions, the

rating is subject to the attached Terms and Conditions. The applicable Terms and Conditions are incorporated herein by reference.

Ratings Services is pleased to have the opportunity to provide its rating opinion. For more information please visit our website at [www.standardandpoors.com](http://www.standardandpoors.com). If you have any questions, please contact us. Thank you for choosing Ratings Services.

Sincerely yours,

A handwritten signature in cursive script that reads "Standard & Poor's".

Standard & Poor's Ratings Services

th  
enclosures

cc: Ms. Belinda Bouler Whitaker  
Mr. Dana Jeanes  
Ms. Pamela Z. Clary





## **Standard & Poor's Ratings Services**

### **Terms and Conditions Applicable To Public Finance Credit Ratings**

General. The credit ratings and other views of Standard & Poor's Ratings Services ("Ratings Services") are statements of opinion and not statements of fact. Credit ratings and other views of Ratings Services are not recommendations to purchase, hold, or sell any securities and do not comment on market price, marketability, investor preference or suitability of any security. While Ratings Services bases its credit ratings and other views on information provided by issuers and their agents and advisors, and other information from sources it believes to be reliable, Ratings Services does not perform an audit, and undertakes no duty of due diligence or independent verification, of any information it receives. Such information and Ratings Services' opinions should not be relied upon in making any investment decision. Ratings Services does not act as a "fiduciary" or an investment advisor. Ratings Services neither recommends nor will recommend how an issuer can or should achieve a particular credit rating outcome nor provides or will provide consulting, advisory, financial or structuring advice. Unless otherwise indicated, the term "issuer" means both the issuer and the obligor if the obligor is not the issuer.

All Credit Rating Actions in Ratings Services' Sole Discretion. Ratings Services may assign, raise, lower, suspend, place on CreditWatch, or withdraw a credit rating, and assign or revise an Outlook, at any time, in Ratings Services' sole discretion. Ratings Services may take any of the foregoing actions notwithstanding any request for a confidential or private credit rating or a withdrawal of a credit rating, or termination of a credit rating engagement. Ratings Services will not convert a public credit rating to a confidential or private credit rating, or a private credit rating to a confidential credit rating.

Publication. Ratings Services reserves the right to use, publish, disseminate, or license others to use, publish or disseminate a credit rating and any related analytical reports, including the rationale for the credit rating, unless the issuer specifically requests in connection with the initial credit rating that the credit rating be assigned and maintained on a confidential or private basis. If, however, a confidential or private credit rating or the existence of a confidential or private credit rating subsequently becomes public through disclosure other than by an act of Ratings Services or its affiliates, Ratings Services reserves the right to treat the credit rating as a public credit rating, including, without limitation, publishing the credit rating and any related analytical reports. Any analytical reports published by Ratings Services are not issued by or on behalf of the issuer or at the issuer's request. Ratings Services reserves the right to use, publish, disseminate or license others to use, publish or disseminate analytical reports with respect to public credit ratings that have been withdrawn, regardless of the reason for such withdrawal. Ratings Services may publish explanations of Ratings Services' credit ratings criteria from time to time and Ratings Services may modify or refine its credit ratings criteria at any time as Ratings Services deems appropriate.

Reliance on Information. Ratings Services relies on issuers and their agents and advisors for the accuracy and completeness of the information submitted in connection with credit ratings and the surveillance of credit ratings including, without limitation, information on material changes to information previously provided by issuers, their agents or advisors. Credit ratings, and the maintenance of credit ratings, may be affected by Ratings Services' opinion of the information received from issuers, their agents or advisors.



Confidential Information. Ratings Services has established policies and procedures to maintain the confidentiality of certain non-public information received from issuers, their agents or advisors. For these purposes, "Confidential Information" shall mean verbal or written information that the issuer or its agents or advisors have provided to Ratings Services and, in a specific and particularized manner, have marked or otherwise indicated in writing (either prior to or promptly following such disclosure) that such information is "Confidential."

Ratings Services Not an Expert, Underwriter or Seller under Securities Laws. Ratings Services has not consented to and will not consent to being named an "expert" or any similar designation under any applicable securities laws or other regulatory guidance, rules or recommendations, including without limitation, Section 7 of the U.S. Securities Act of 1933. Rating Services has not performed and will not perform the role or tasks associated with an "underwriter" or "seller" under the United States federal securities laws or other regulatory guidance, rules or recommendations in connection with a credit rating engagement.

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No Third Party Beneficiaries. Nothing in any credit rating engagement, or a credit rating when issued, is intended or should be construed as creating any rights on behalf of any third parties, including, without limitation, any recipient of a credit rating. No person is intended as a third party beneficiary of any credit rating engagement or of a credit rating when issued.

## ATTACHMENT B

**City of Memphis, Tennessee**  
**Current and Projected Debt Service Coverage**

**Attachment B**

<b>Fiscal Year</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<b>Effective Date of Rate Increase</b>	Jan-18		Jan-20		
	<b>Base Year</b>				
	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<b>Revenues and Expenses (\$000)</b>					
Operating Revenues	109,900	122,800	132,475	142,150	142,150
Operating Expenses	55,000	65,000	70,000	72,000	72,000
<b>Net Revenues Available to Fund Debt Service</b>	54,900	57,800	62,475	70,150	70,150
<b>Debt Service</b>					
Existing Revenue Bonds	15,281	12,503	13,066	11,466	11,431
Proposed Revenue Bonds	-	3,119	5,280	8,683	9,972
Debt Service from Other Debt	256	2,009	8,277	8,277	8,277
<b>Total All Debt Service</b>	15,537	17,631	26,623	28,426	29,680
<b>Total Revenue Bond Debt Service Coverage (<math>\geq 1.25x</math>)</b>	3.59	3.70	3.41	3.48	3.28
<b>Total All Debt Service Coverage (<math>\geq 1.20x</math>)</b>	3.53	3.28	2.35	2.47	2.36
<b>Cash Reserves (\$000)</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Beginning Cash Reserves on Hand	43,498	90,380	71,927	47,353	44,396
Future Principal and Interest Payments	(17,631)	(26,623)	(28,426)	(29,680)	(27,199)
Reimbursement from SRF	69,000				
Surplus Cash	39,363	40,169	35,852	41,724	40,470
PAYGO	(43,850)	(32,000)	(32,000)	(15,000)	(15,000)
Ending Cash Reserves on Hand	90,380	71,927	47,353	44,396	42,667
<b>Required Days Cash on Hand (<math>\geq 180</math> days)</b>	600	404	247	225	216
<b>Total Funded from Revenue Bonds After PAYGO (Net Proceeds)</b>	-	50,000	50,000	50,000	

**Definitions**

Revenue Bond Debt Service Coverage ( $\geq 1.25x$ ) - Revenue Bond Debt as a percent Net Revenues.

All Bond Debt Service Coverage ( $\geq 1.00x$ ) - All Bond Debt as a percent Net Revenues.

Days Cash on Hand - Unrestricted cash/liquid investments times 365 divided by operating and maintenance expenses, expressed in days. Does not include DSRF or bond proceeds.

Future Principal and Interest Payments - Principal and interest for next fiscal year funded in current fiscal year.

## ATTACHMENT C

**City of Memphis, Tennessee  
Sanitary Sewerage System  
Ten Largest Industrial Customers  
Fiscal Year 2017**

<b>Name</b>	<b>Total Sewer Fee <sup>(a)</sup> (Thousands of Dollars)</b>	<b>Annual Flow (Millions of Gallons)</b>
Solae (Protein Technologies)	\$ 8,375	1,278
Chemours (DuPont)	3,818	1,684
Memphis Cellulose (Buckeye)	3,454	1,322
KTG USA	2,763	1,000
PMC Biogenix (Chemtura Corp.)	1,560	534
Valero (Premcor) Refining	1,547	682
American Yeast	1,432	276
Blues City Brewery	1,023	308
Riviana Foods	994	151
Fleischmann's Yeast Inc.	927	202
<b>Total of 10 Largest Customers</b>	<b>\$ 25,893</b>	<b>7,437</b>
<b>Percent of Overall System Total</b>	<b>26.2%</b>	<b>14.2%</b>
<b>Total</b>	<b>\$ 98,726</b>	<b>52,195</b>

(a) Total Sewer Fee includes charges for biochemical oxygen demand, suspended solids and flow.



DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF WATER RESOURCES

Clean Water State Revolving Fund (CWSRF) Loan Program  
Funds Available for Loan Obligation  
August 20, 2018

Unobligated Balance as of July 17, 2018 \$ 47,599,158

Increases:

Loan Decrease (See note below)	*	\$ 164,624	
			\$ 164,624

Unobligated Balance as of August 20, 2018 \$ 47,763,782

Applicants:

	<u>Loan Number</u>	<u>Loan Amount</u>	
Rocky Top	SRF 2018-418	\$ 470,000	
			\$ 470,000

Remaining Funds Available for Loan Obligations \$ 47,293,782

\* Loan Decrease

Camden	SRF 2016-366	\$ 164,624
--------	--------------	------------

# FACT SHEET

AUGUST 20, 2018

**Borrower:** City of Rocky Top  
**Population:** 1,781  
**County:** Anderson/Campbell Counties  
**Consulting Engineer:** Cannon & Cannon, Inc  
**Project Number:** SRF 2018-418  
**Priority List Ranking/Points:** 27(FY 2017)/30  
**Recommended Term:** 5 years  
**Recommended Rate:**  $(1.87 \times 40\%) - (0.25\%) = 0.50\%$   
**Project Description:** Wastewater Collection System Improvements Planning and Design loan.

**Total Project Cost:** \$ 470,000

**Sources of Funding:**

SRF Loan Principal	\$ 470,000
Other Funds	\$ -0-
Local Funds	\$ -0-

**State-Shared Taxes:** \$ 223,127

**Debt Service:**

Prior Loans: (including SRF)	\$ -0-	0%
Proposed Loan:	\$ 95,199	42.66%
Total:	\$ 95,199	42.66%

**Residential User Charge:** (5,000 gal/month)

Current Rate: \$ 42.66

**Audit Report:**

Due Date 12/31/17  
Received Date: 03/27/2018 (Late)

**Public Meeting:** July 19, 2018

**REPRESENTATION OF THE LOCAL GOVERNMENT  
AS TO LOANS AND STATE-SHARED TAXES  
City of Rocky Top SRF 2018-418**

The Local Government hereby represents that:

- (1) The total amount of State-Shared Taxes received by the Local Government in the prior fiscal year of the State is \$223,127.
- (2) (a) The prior loans which have been funded for which the Local Government has pledged its State-Shared Taxes are as follows:

Loan Type	Loan #	Original \$/Amt	Max: Annual Debt Service
N/A			

- (b) The maximum aggregate annual debt service is \$0.
- (3) (a) The loans which have been applied for or have been approved with funding not yet provided, for which the Local Government has pledged its State-Shared Taxes are as follows:

Loan Type	Anticipated Interest Rate	Original \$/Amt	Anticipated Max. Annual Debt Service
SRF/Sewer	0.50%	\$470,000	\$95,199

- (b) The anticipated maximum aggregate annual debt service is \$95,199.
- (4) (a) State-Shared Taxes have been pledged by the Local Government to secure other obligations describe below:

Type of Obligation	Identifying #	Original \$/Amt	Max. Annual Pledge of State-Shared Taxes
N/A			

- (b) The anticipated maximum aggregate annual pledge of State-Shared Taxes pursuant of other obligations is \$0.
- (5) The amount of Local Government indebtedness Subparagraphs (2)(b), (3)(b) and (4)(b) having a lien on the State-Shared Taxes referred above is \$95,199.
- (6) The amount set forth in Subparagraph (1) less the amount set forth in Subparagraph (5) is \$127,928.

Duly signed by an authorized representative of the Local Government on this 18<sup>th</sup> day of May, 2018

*This is the Comptroller's certificate as required by TCA 4-31-108. The approval of the loan(s) is contingent upon approval by the Tennessee Local Development Authority.*



LOCAL GOVERNMENT

BY:

  
**Michael Lovely**, The Honorable Mayor

## QECB Update – Total State Allocation (August 2018)

<b>Total State Allocation</b>	<b>64,676,000</b>		
Allocation for Large Local Jurisdictions (LLJs)			35,998,072
Allocation to State			28,677,928
		<b>Utilized/Retained</b>	<b>Reallocated</b>
<b>Allocation for LLJs</b>	<b>35,998,072</b>		
Chattanooga <sup>1</sup>			
Clarksville <sup>2</sup>		1,240,000	
Hamilton County <sup>3</sup>		1,668,015	
Memphis <sup>4</sup>		7,014,356	
Metro Nashville/Davidson County <sup>5</sup>		6,441,971	
Other LLJs' Reallocations to State			19,633,730
		16,364,342	19,633,730
<b>Amount Made Available for Suballocation / RFP (State Allocation Plus Reallocations)</b>			<b>48,311,658</b>
<b>Closed Issuances</b>			
Memphis <sup>4</sup>			3,657,644
Knox County <sup>6</sup>			12,450,000
City of Lebanon <sup>7</sup>			3,500,000
City of Paris <sup>8</sup>			2,530,000
Williamson County <sup>9</sup>			10,115,000
Memphis <sup>10</sup>			2,142,850
<b>Remaining Allocation</b>			<b>13,916,164</b>

<sup>1</sup> On December 14, 2017, TDEC's Office of Energy Programs received a letter from the City of Chattanooga, requesting to reallocate the City's LLJ allocation of \$1,767,919 back to the State.

<sup>2</sup> Clarksville issued an RFP for a street light improvement project. Bond issuance closed for this project (\$1,240,000) on March 23, 2016. On June 10, 2016, the City of Clarksville submitted a letter to the Tennessee Department of Environment and Conservation's Office of Energy Programs (TDEC OEP), noting that it would like to reallocate the \$1,344 in unissued bonds from its LLJ allocation back to the State.

<sup>3</sup> As of September 2017, Hamilton County had not yet identified a project for which they will use QECBs.

<sup>4</sup> Memphis combined its initial \$7,014,356 QECB allocation and its RFP suballocation of \$3,657,644 to support energy improvement projects under its Green Communities Program. Bond issuance closed for one project, Sears Crosstown (\$8,316,000), on February 18, 2015. Bond issuance for two other projects, Universal Life Insurance Building / Self Tucker (\$2,015,300) and Knowledge Quest (\$340,700), closed on April 29, 2015.

<sup>5</sup> Metropolitan Nashville issued its QECB allocation (\$6,440,000) in August 2012 for energy improvements to its arena.

<sup>6</sup> The bond issuance for Knox County's suballocation project (\$12,450,000), which funded the installation of solar PV on 13 targeted sites across the county, closed on June 30, 2015.

<sup>7</sup> The bond issuance for Lebanon's suballocation project (\$3,500,000), which funded the installation of a waste-to-energy gasification unit, closed on April 24, 2015.

<sup>8</sup> The bond issuance for Paris' suballocation project (\$2,530,000), which funded the upgrade of street lights to LED technology, conversion of lighting within select City-owned buildings to LED lighting technology, the addition of intelligent thermostats on HVAC systems, the addition of energy-saving vending machine controls, and an upgrade to the Civic Center's indoor pool dehumidifier, closed on June 5, 2017. Note: The City of Paris originally requested and TLDA approved a \$2,532,500 suballocation for this project. On September 1, 2017, the City of Paris submitted a letter to TDEC OEP, noting that it would like to reallocate the \$2,500 in unissued bonds from its approved allocation back to the State.

<sup>9</sup> The bond issuance for Williamson County's suballocation project (\$10,115,000), which financed energy conservation measures within 14 Williamson County School buildings, closed on September 30, 2017. Note: Williamson County originally requested and TLDA approved a \$10,200,000 suballocation for this project. On September 7, 2017, Williamson County submitted a letter to TDEC OEP, noting that it would like to reallocate the \$85,000 in unissued bonds from its approved allocation back to the State.

<sup>10</sup> The bond issuance for a fourth Memphis' Green Communities Program suballocation project (\$2,142,850), which supported energy efficiency upgrades to the Southbrook Towne Center, closed on September 18, 2017.



## QECB Suballocation Program Updates

*The updates below are current as of July 30, 2018.*

On December 22, 2017, President Trump signed the Tax Cuts and Jobs Act (HR 1), which made widespread amendments to the Internal Revenue Code. Specifically, Section 13404 of HR 1 provided for the repeal of tax credit bonds, including Qualified Energy Conservation Bonds (QECBs). This amendment repealed QECB issuances effective after December 31, 2017. Although new issuances will no longer occur, TDEC OEP will continue to collect and report on data related to previously issued QECB bonds and the related projects. Within the last six months, TDEC OEP has continued working with the local jurisdictions that were awarded QECB suballocations during a second Request for Proposal (July – September 2014) and third Request for Proposal (March 2015-December 2017) to ensure that the local jurisdictions' efforts were on track for the following projects:

- **Memphis:** The City of Memphis combined its initial \$7,014,356 QECB allocation and its second RFP suballocation of \$3,657,644 to support energy improvement projects under its Green Communities Program: The Crosstown Concourse issuance of \$8,316,000 closed on February 18, 2015. The Self Tucker/Universal Life and Knowledge Quest issuances, which had allocations of \$2,015,300 million and \$340,700, respectively, closed on April 29th, 2015. These three projects all focus on building energy efficiency retrofits. Under the third RFP, OEP recommended and TLDA approved a \$2,142,850 suballocation, which will support energy efficiency upgrades to the Memphis Green Communities Program's Southbrook Towne Center. The project includes the replacement of the roof with an energy efficient roof system, an upgraded HVAC system, and an upgrade to the building's electrical power grid. Issuance on this project closed on September 18, 2017.
  - **Crosstown Concourse:** To date, Crosstown Building Owner LLC has successfully drawn down \$8,151,608.37 in QECB proceeds from Regions Bank (serving as Trustee) over 12 draw requests, exhausting all proceeds available. Draw requests are accompanied by a Buy American certification and statement of energy conservation to ensure compliance. The data collection for this project is currently in the discovery phase; data is collected over 15-minute intervals (consumption and demand) for all tenants in the building. The data being collected will ultimately determine the best strategy for managing energy use. Some analytics that are currently being captured include: 24-hour energy profiles displayed in a heat chart, daily energy use as compared to peak demand, visualization of the amount of time spent at various demand loads, and specific building data (occupancy, fans, cooling, etc.) to compare actual energy use of various spaces. Within the second calendar quarter of 2018, data collected within the quarter shows benchmark comparisons for core meters at Crosstown compared to the first month the meters were installed. The energy data was normalized based on weather conditions and demonstrates that the facility is tracking better energy-wise from the baseline. Crosstown is continuing to update their information from Energy Star scoring and plans to have this reporting in the next several months.
  - **Knowledge Quest:** To date, Knowledge Quest has successfully drawn down \$328,119.81 in QECB proceeds from Regions Bank (serving as Trustee) over 12 draw requests, exhausting all proceeds available. Draw requests are accompanied by a Buy American certification and statement of energy conservation to ensure compliance. As of June, Knowledge Quest has purchased doors, windows, roofing material, plumbing materials, hot water heaters, electrical equipment, and HVAC equipment for the Green

Leaf Apartments building. Construction completion is expected to occur by the end of August 2018.

- **Universal Life Insurance Building:** To date, Self Tucker Properties, LLC has successfully drawn down \$1,975,000 in QECB proceeds over six draw requests, exhausting all proceeds available. Draw requests are accompanied by a Buy American certification and statement of energy conservation to ensure compliance. To date, Self Tucker has installed high efficiency roofing, thermal envelope upgrades, high efficiency elevator system, high efficiency HVAC equipment, and high efficiency LED lighting fixtures and electrical wiring. Self Tucker expects to be able to begin tracking energy data for the Universal Life Insurance Building in the third calendar quarter of 2018.
- **Southbrook Town Centre:** All QECB-related measures were installed and completed in the fourth calendar quarter of 2017. Phase two renovations are currently underway; the development team anticipates a completion date of October 30, 2018. Energy tracking has not yet begun, due to the continued construction on site; this is expected to commence upon project completion.
- **Knox County:** OEP recommended and TLDA approved a \$12,500,000 suballocation for the installation of solar PV on 14 targeted sites across the county, notably public school rooftops. Issuance on this project closed on June 30, 2015.
  - Systems are reporting through the DrakeR system to capture energy generation data. Within the second calendar quarter of 2018, the 14 sites reported a total of 2,075,555 kWh of generation.
- **City of Lebanon:** OEP recommended and TLDA approved a \$3.5M suballocation for the construction and installation of a waste-to-energy gasification unit. The City of Lebanon worked with Aries Clean Energy (formerly PHG Energy) on this project. Issuance on this project closed on April 24th, 2015.
  - Plant operations are becoming more standard in procedure, and process conditions continue to improve, allowing for more sustainable operation at or above target availability and uptime. Within the second calendar quarter of 2018, several mechanical issues were identified and resolved. Total uptime for the quarter was 69%, which is below target. However, when discounting each of the three largest downtime events for maintenance during the quarter, uptime was calculated to be greater than the target of 85%. Regarding power generation at the facility, the average gross power production was 220-240kW across operations during the second quarter. Gross power generation has reached levels greater than 300kW for brief intervals lasting as long as 5 hours during the reporting period as well. Feedstock consumption for the quarter averaged ~30 tons per day (tpd), which is just shy of the targeted 32tpd average. This shortage is associated primarily with attempts to control feedstock at target rates for improved management feedstock from processing through delivery at the Lebanon site. Maximum feedstock throughput for a single day within the reporting period was ~45 tons.
- **City of Paris:** The City of Paris utilized \$2,532,500 for an energy savings performance contract that includes the upgrade of street lights to LED technology, conversion of lighting within select City-owned buildings to LED lighting technology, the addition of intelligent thermostats on HVAC systems, the addition of energy-saving vending machine controls, and an upgrade to the Civic Center's indoor pool dehumidifier. Issuance on this project closed on June 5, 2017.
  - The project was completed on June 15, 2018. The City of Paris is beginning to reap the energy savings associated with this project; energy costs associated with street lights have dropped 84% since the project's inception. A measurement and verification study will be completed in May of 2019 after a full year of operation is achieved. This data will be reported in the second calendar quarter of 2019.

- **Williamson County** utilized \$10,115,000 to finance the first of at least three phases of an energy savings performance contract. During the first phase, various energy conservation measures were performed within 13 Williamson County Schools. Issuance on this project closed on August 30, 2017.
  - Within the second calendar quarter of 2018, the following measures were completed:
    - **Brentwood High School:** Demand control ventilation, exterior site lighting upgrade, network BAS controls, vending and snack misers, interior lighting upgrade in the athletic building and in portables
    - **Centennial High School:** Demand control ventilation, network BAS controls, and WSHP pump variable frequency drives and valves
    - **Chapman's Retreat Elementary School:** Network BAS controls, ventilation control, and WSHP unit water side T&B
    - **Fairview High School:** Ductless split in housekeeping area, exterior site lighting upgrade, network BAS controls, vending and snack misers, WSHP pump variable frequency drives and valves, interior lighting upgrade in the athletic building
    - **Fairview Middle School:** Demand control ventilation, exterior site lighting upgrade, interior lighting upgrade, network BAS controls, vending and snack misers, WSHP pump variable frequency drives and valves
    - **Franklin High School:** Demand control ventilation, environmental HVAC ductless split IT, network BAS controls, WSHP pump variable frequency drives and valves
    - **Grassland Middle School:** Demand control ventilation, interior lighting upgrade, network BAS controls
    - **Westwood Elementary School:** Network BAS controls
  - Scheduled completion for this project will occur in the third calendar quarter of 2018.