



Great Lakes Water Authority

Presentation to the Audit Committee Summary of 2018 Financing Results

September 21, 2018

Executive Summary

The recent bond transactions for both the water and sewer systems achieved a number of favorable results.

- Successfully refinanced \$178.8 million of water system bonds and \$207.7 million of sewer system bonds
 - Water system gross cashflow savings of \$30.9 million (\$24.9 million of present value savings, or 13.9%)
 - Sewer system gross cashflow savings of \$54.0 million (\$34.5 million of present value savings, or 16.6%)
- Issued \$81.6 million of new money sewer bonds for the Local System, achieving a very favorable long-term average interest cost of 4.03% for 30-year debt and meeting the project funding target of \$91 million
- Rating upgrades or positive outlooks achieved from all three rating agencies, including a three notch upgrade to AA- on the Water System from S&P
 - Senior lien ratings of AA-/A2/A for Water and A+/A2/A for Sewer
 - Second lien ratings of A+/A3/A- for Water and A/A3/A- for Sewer
- Extensive outreach to investors, with an electronic roadshow, investor meetings, and one on one investor calls
 - Over 100 investors reached in the outreach process
 - 42 different institutional investors placed orders for GLWA bonds, with substantial retail orders as well
- As a result of the rating upgrades and investor outreach, GLWA substantially narrowed its credit spreads (relative to benchmark indices) and afforded lower interest rates and greater debt service savings
- Achieved further consents on the DSRF springing amendment for the potential future elimination of the Bond Reserve Funds once GLWA attains two AA category ratings (S&P achieved on the Water System)

The goals for the Series 2018 financing were achieved and provide the Authority with a strong base with which to achieve future rating upgrades and financial goals.



Secure Rating Upgrades



Highlight Strong Financial Results and Expand the Investor Base for GLWA credits



Lock-in Favorable Interest Rates and Substantial Savings



Enhance GLWA's Future Flexibility

Bond Rating Upgrades Attained

As part of the financing process, the Great Lakes Water Authority team sought and received rating improvements from all three rating agencies including a three notch upgrade to AA- from S&P on the Water System.

Sewer System

S&P

Senior Lien **A-**
(Positive) **2 notch improvement** → **A+**
(Positive)

Second Lien **BBB+**
(Positive) **2 notch improvement** → **A-**
(Positive)

Moody's

Senior Lien **A3**
(Stable) **1 notch improvement** → **A2**
(Stable)

Second Lien **Baa1**
(Stable) **1 notch improvement** → **A3**
(Stable)

Fitch

Senior Lien **A**
(Stable) **Outlook Upgrade** → **A**
(Positive)

Second Lien **A-**
(Stable) **Outlook Upgrade** → **A-**
(Positive)

Water System

S&P

Senior Lien **A-**
(Positive) **3 notch improvement** → **AA-**
(Stable)

Second Lien **BBB+**
(Positive) **3 notch improvement** → **A+**
(Stable)

Moody's

Senior Lien **A3**
(Stable) **1 notch improvement** → **A2**
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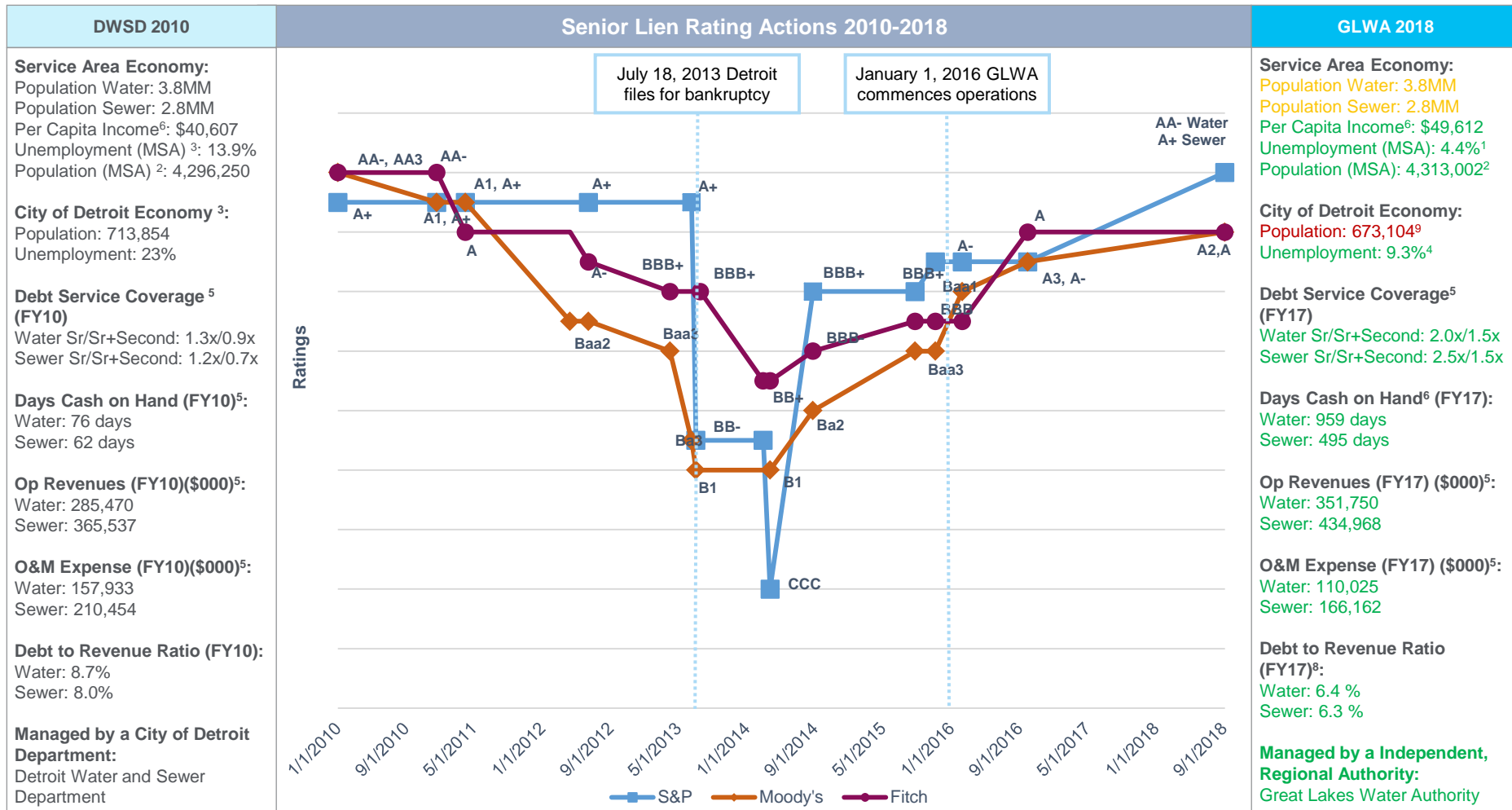
Second Lien **Baa1**
(Stable) **1 notch improvement** → **A3**
(Stable)

Fitch

Senior Lien **A**
(Stable) **Outlook Upgrade** → **A**
(Positive)

Second Lien **A-**
(Stable) **Outlook Upgrade** → **A-**
(Positive)

The Systems Have Been Transformed



- (1) Detroit-Dearborn-Livonia MSA Bureau of Labor Statistics Data August 2018
 (2) Detroit-Dearborn-Livonia MSA Census Factfinder 2017
 (3) Appendix III GLWA Water Revenue Series 2016 OS
 (4) U.S. Department of Labor, Bureau of Labor Statistics as of August 2018
 (5) Moody's Financial Ratio Analysis
 (6) Great Lakes Water Authority Comprehensive Annual Financial Report June 30, 2017
 (7) Detroit Water and Sewer Department FY2010 Audit
 (8) Consolidated Regional and Local perspective as described in the Master Bond Ordinance
 (9) Credit Scope, US Census Bureau as of 12/31/2017

Green- Stronger
 Red-Weaker
 Orange- Same

Comprehensive Marketing Outreach

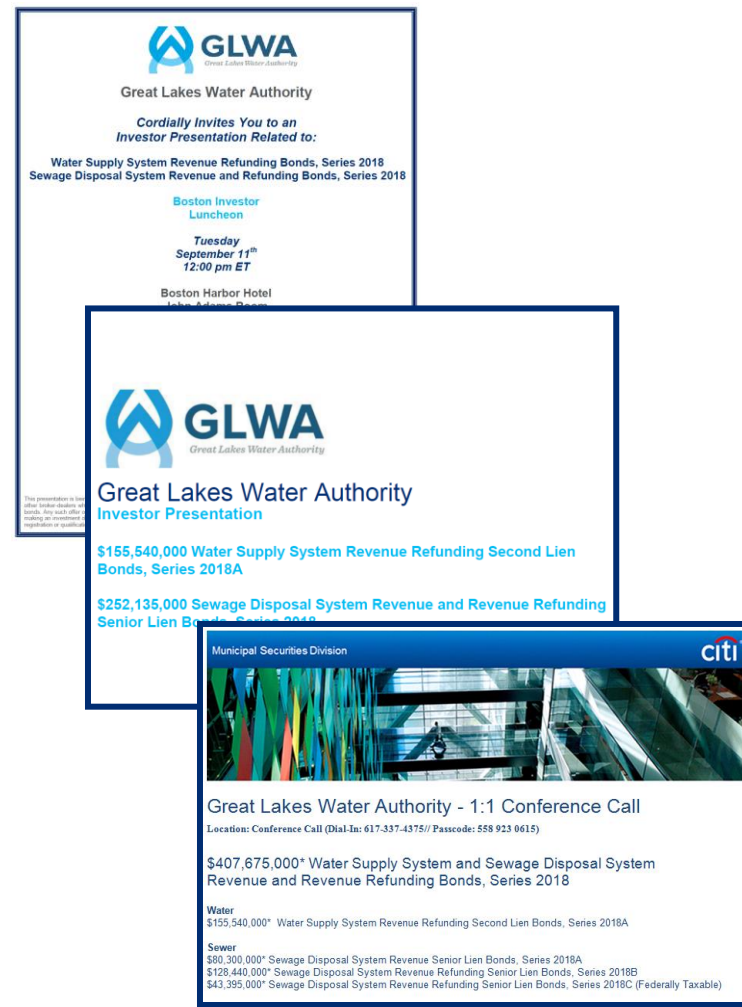
Citi and Wells used a comprehensive marketing campaign including an investor luncheon, investor conference, an internet roadshow presentation and one-on-one investor calls to educate investors and explain the transaction.

Marketing Outreach

1. Internet Roadshow (September 5th – September 17th)
 - 67 investors viewed the electronic roadshow
2. Live Investor Presentation and Luncheon in Boston, MA (September 11th)
 - Presentations from GLWA Management
 - 12 investors attended
3. In-person New York Investor Conference (September 12th)
 - Presentation during Citi's High-Yield Conference
 - 89 investors attended
4. One-on-One Calls/Meetings with Key Institutional Accounts (September 12th – September 14th)
 - 3 individual one-on-one calls & meetings with key investors

Results

- Over \$921 million of orders were received for the Series 2018 bonds, including \$454 million of Water System orders and \$467 million of Sewer System orders
- 42 distinct institutional investors placed orders
 - Existing holders added to positions
 - New investors came in to buy the System's bonds for the 1st time
 - Variety of account types participated including asset managers, mutual funds, insurance companies, SMAs, and relative value funds
- "Top Tier" investors, including the some of the largest bond funds and insurance companies in the municipal market, came in for significant orders



Summary of Financing Results

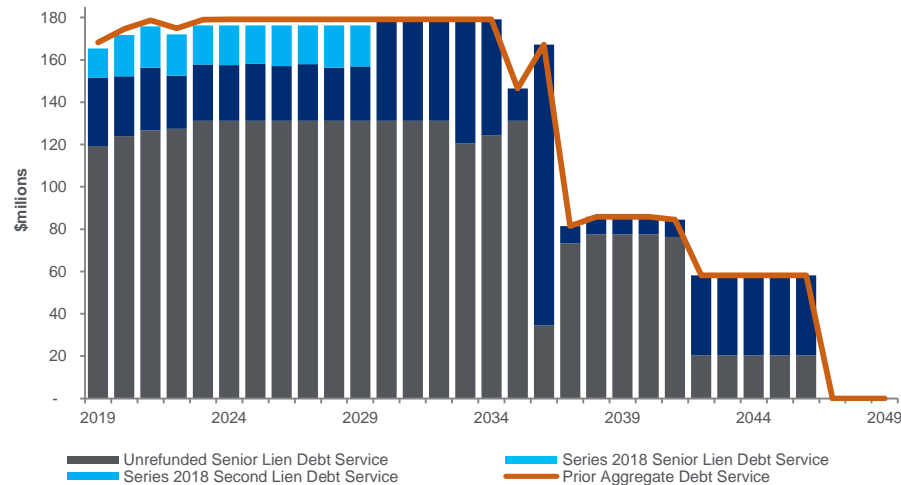
The Series 2018 Bonds were sold at an attractive all-in interest rate and produced a significant amount of debt service savings for the systems.

- Issued \$413 million of total bonds including \$155.6 million of water system bonds and \$257.5 million of sewer system bonds
 - All-in interest rate on the water system bonds of 2.88%
 - All-in interest rate on the sewer system bonds of 3.54%
- Issued \$81.6 million of new money sewer bonds for the Local System at a favorable long-term all-in interest rate of 4.03% and meeting the project funding target of \$91 million
- \$85 million in debt service savings generated to provide future financial flexibility
 - Savings structured for level annual savings on each system and in aggregate
- Released \$12.8 million of Bond Reserve Funds to reduce the amount of refunding bonds issued
- Increased debt service coverage levels on both GLWA credits
- Achieved further consents on the springing amendment for the potential future elimination of the Bond Reserve Funds once GLWA attains two AA category ratings (S&P achieved on the Water System)

Series 2018 – Financing Results

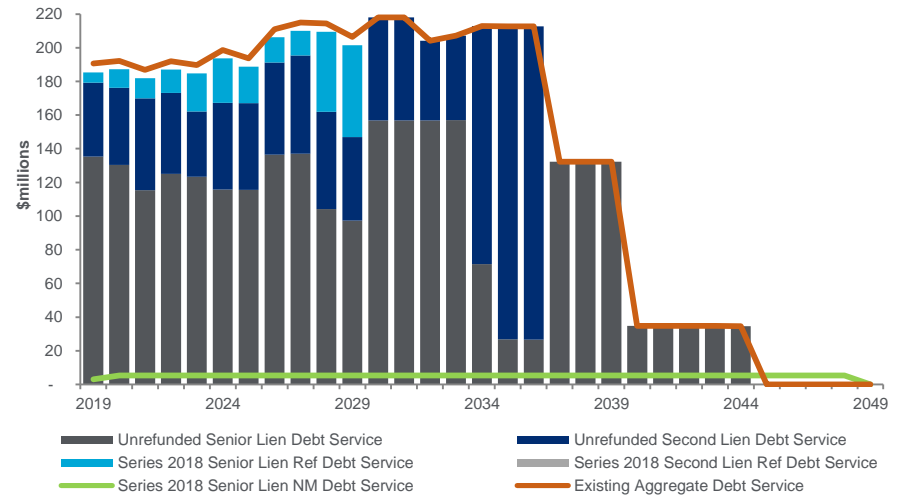
Water System - Summary of Results

	Series 2018A
Par Amount	\$155,595,000
Premium / OID	19,731,395
DSF Release	5,589,194
DSRF Cash Release	1,602,152
Total Sources	\$182,517,740
Deposit to Escrow Fund	\$181,333,455
Deposit to Construction Fund	-
COI / UW's Discount	1,182,854
Additional Proceeds	1,432
Total Uses	\$182,517,740
All-In TIC (%)	2.88%
Arb Yield (%)	2.76%
Weighted Avg. Maturity	6.45 yrs
Par of Refunded Bonds	\$178,735,000
Cashflow Savings	30,880,652.08
Net PV Savings (\$)	24,896,770.98
Net PV Savings (%)	13.93%



Sewer System - Summary of Results

	Series 2018A	Series 2018B	Series 2018C	Total
Sources of Funds				
Par Amount	\$81,595,000	\$131,690,000	\$44,180,000	\$257,465,000
Premium / OID	9,936,771	22,385,349	-	32,322,120
DSF Release	-	-	3,791,028	3,791,028
DSRF Cash Release	-	8,608,089	2,593,402	11,201,491
Total Sources	\$91,531,771	\$162,683,438	\$50,564,430	\$304,779,639
Uses of Funds				
Deposit to Escrow Fund	\$-	\$161,820,126	\$50,272,414	\$212,092,540
Deposit to Construction Fund	91,000,000	-	-	91,000,000
COI / UW's Discount	530,730	858,416	289,315	1,678,461
Additional Proceeds	1,041	4,895	2,702	8,638
Total Uses	\$91,531,771	\$162,683,438	\$50,564,430	\$304,779,639
Financing & Refunding Results				
All-In TIC (%)				3.54%
Arb Yield (%)				3.10%
Weighted Avg. Maturity				11.76 yrs
Par of Refunded Bonds	\$-	\$159,605,000	\$48,085,000	\$207,690,000
Cashflow Savings	\$-	\$36,669,181	\$17,379,702	\$54,048,882
Net PV Savings (\$)	\$-	\$25,591,857	\$8,927,565	\$34,519,422
Net PV Savings (%)	-	16.03%	18.57%	16.62%



Note: For purposes of this analysis reserve releases are treated as an upfront adjustment (reduction) to PV savings

Series 2018 Cashflow Savings From Refunding

Through a combination of refunding structure optimization and aggressive pricing, the refunding was able to achieve \$85 million of total debt service savings and nearly \$7.7 million per year between 2019 and 2029.

Bond Year	Water System Second Lien Savings	Sewer System Senior Lien Savings	Aggregate Savings
2019	\$2,805,990	\$5,325,799	\$8,131,788
2020	2,811,200	4,865,005	7,676,205
2021	2,804,188	4,875,900	7,680,088
2022	2,809,300	4,870,148	7,679,448
2023	2,804,875	4,873,158	7,678,033
2024	2,808,800	4,846,108	7,654,908
2025	2,809,600	4,899,650	7,709,250
2026	2,807,825	4,849,575	7,657,400
2027	2,805,750	4,898,125	7,703,875
2028	2,805,363	4,847,725	7,653,088
2029	2,807,763	4,897,688	7,705,450
Total	\$30,880,652	\$54,048,882	\$84,929,534

Note: For purposes of this analysis reserve releases are treated as an upfront adjustment (reduction) to PV savings

GLWA's Credit Spreads Continue to Improve

In conjunction with continued financial out performance and rating upgrades, the additional credit yield investors charge to buy GLWA's bonds has continued to decline.

Senior Lien Credit Spreads

	Series 2014	Series 2015	Series 2016	Series 2018 Water	Series 2018 Sewer	Net Change ¹
1	--	--	--	--	--	
2	+84	+33	--	--	--	
3	+94	--	--	--	--	
4	--	+49	--	--	--	
5	--	+58	--	--	--	
6	--	+65	+63	--	+30	-35
7	--	+75	+65	--	+33	-42
8	--	--	+67	--	+37	-30
9	--	--	+69	--	+40	-29
10	--	--	+71	--	+40	-31
11	--	--	+73	--	+42	-31
12	--	+85	+75	--	+44	-41
13	--	--	+77	--	+45	-32
14	--	+85	+79	--	+45	-40
15	+190	+87	+81	--	+45	-145
16	+189	+86	+81	--	+45	-144
17	+190	+85	+81	--	+45	-145
18	+187	+85	+81	--	+45	-142
19	+185	+83	+81	--	+45	-140
20	+185	+83	--	--	+45	-140
21						
22						
23						
24						
25	--	--	--	--	+47	
26						
27						
28						
29						
30	--	--	+81	--	+48	-33

Second Lien Credit Spreads

	Series 2014	Series 2015	Series 2016	Series 2018 Water	Series 2018 Sewer	Net Change ¹
1	--	--	--	+19	--	
2	+120	+55	--	+22	--	-98
3	+128	--	--	+26	--	-102
4	+136	--	--	+29	--	-107
5	--	--	--	+30	--	
6	--	--	--	+33	--	
7	--	--	--	+36	--	
8	--	--	+82	+40	--	-42
9	--	--	+84	+42	--	-42
10	--	--	+86	+42	--	-44
11	--	+105	+88	+45	--	-60
12	--	+110	+90	--	--	
13	--	+110	+92	--	--	
14	--	--	+94	--	--	
15	--	--	+96	--	--	
16	--	--	--	--	--	
17	--	+110	--	--	--	
18	--	+107	--	--	--	
19	--	+103	+96	--	--	
20	--	+103	+96	--	--	
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30	--	--	+96	--	--	

Note: Only shows credit spreads for uninsured, non-AMT, 5% coupon, tax-exempt bonds
1. Net Change is the difference in spread from Series 2018 to the earliest other spread

Springing Amendment to GLWA Master Bond Ordinances

In conjunction with the refunding transactions, GLWA continues to implement a “springing amendment” in both the Water and Sewer bond ordinances related to the Debt Service Reserve Fund (“DSRF”) requirement.

- Springing amendment would allow GLWA the *option* to reduce the reserve requirement when:
 - Senior lien rating is in AA category or higher by two rating agencies
 - Confirmation that the reduction in the DSRF will not result in a downgrade
 - 51% of the outstanding bondholders have consented to the provision
- GLWA has funded the DSRFs for both water and sewer system bonds (senior and second lien) with a combination of bond proceeds and surety bonds by a qualified credit provider
- Cost of maintaining bond proceeds in the DSRF is high
 - Interest rates on debt are higher than GLWA can invest the DSRF money
- Existing sureties are scheduled to begin expiring in 2022, which may require GLWA to put in more cash to the DSRF or fund new surety policies, both at potentially higher costs
- The springing amendments could significantly reduce the cost to GLWA when it obtains AA category ratings

Water System (Sr rating of AA-/A2/A)	Consents Obtained (After 2018 Bonds)	DSRF Requirement	Cash and Securities in DSRF (After 2018 Releases)
Senior Lien	32.9%	\$120.7 million	\$14.4 million
Second Lien	84.0%	\$50.8 million	\$5.0 million

Sewage System (Sr rating of A+/A2/A)	Consents Obtained (After 2018 Bonds)	DSRF Requirement	Cash and Securities in DSRF (After 2018 Releases)
Senior Lien	20.0%	\$127.2 million	\$23.5 million
Second Lien	39.2%	\$71.6 million	\$30.3 million

History of Debt Service Savings Achieved Since 2014

Through the leadership of the Authority's management team, the financing team has been able to achieve nearly \$678 million of debt service savings for the systems since the tender and refunding transaction in 2014.

