



## LEHIGH COUNTY AUTHORITY

**LCA Main Office:**  
1053 Spruce Road  
Wescosville, PA 18106  
610-398-2503

**Agendas & Minutes Posted:**  
[www.lehighcountyauthority.org](http://www.lehighcountyauthority.org)

Published: February 20, 2017

### BOARD MEETING AGENDA – February 27, 2017

1. Call to Order

- NOTICE OF MEETING RECORDINGS

Meetings of Lehigh County Authority's Board of Directors that are held at LCA's Main Office at 1053 Spruce Road, Wescosville, PA, may be recorded for viewing online at [lehighcountauthority.org](http://lehighcountauthority.org). Recordings of LCA meetings are for public convenience and internal use only and are not considered as minutes for the meeting being recorded, nor are they part of public record. Recordings may be retained or destroyed at LCA's discretion.

- *Public Participation Sign-In Request*

2. Review of Agenda / Executive Sessions

3. Approval of Minutes

- *February 13, 2017 Board meeting minutes*

4. Public Comments

5. Action / Discussion Items:

#### **FINANCE AND ADMINISTRATION**

- *Board Officer Election*

- *Report of Nominating Committee*
- *Other Nominations*
- *Election*

- *Resolution #2-2017-1 - Connection Fees & Allentown Division Tapping Fees (yellow)*

- *2017 Goals (blue)*

#### **WATER**

#### **WASTEWATER**

6. Monthly Project Updates / Information Items (1<sup>st</sup> Board meeting per month)

7. Monthly Financial Review (2<sup>nd</sup> Board meeting per month) – **January 2017 report – to be mailed under separate cover**

8. Monthly System Operations Overview (2<sup>nd</sup> Board meeting per month) – **January 2017 report attached**

9. Staff Comments

10. Solicitor's Comments

11. Public Comments / Other Comments

12. Executive Sessions

13. Adjournment

#### **UPCOMING BOARD MEETINGS**

*Meetings begin at Noon at LCA's Main Office, unless noted otherwise below.*

March 13, 2017

March 27, 2017

April 10, 2017

#### PUBLIC PARTICIPATION POLICY

In accordance with Authority policy, members of the public shall record their name, address, and discussion item on the sign-in sheet at the start of each meeting; this information shall also be stated when addressing the meeting. During the Public Comment portions of the

meeting, members of the public will be allowed 5 minutes to make comments/ask questions regarding non-agenda items, but time may be extended at the discretion of the Chair; comments/questions regarding agenda items may be addressed after the presentation of the agenda item. Members of the public may not request that specific items or language be included in the meeting minutes.

**REGULAR MEETING MINUTES**  
**February 13, 2017**

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The Regular Meeting of the Lehigh County Authority was called to order at 12:01 p.m. on Monday, February 13, 2017, Vice Chairman Scott Bieber presiding. Other Members present at the commencement of the meeting were: Linda Rosenfeld, Richard Bohner, Norma Cusick, and Deana Zosky. Authority Staff present were Liesel Gross, Ed Klein, Pat Mandes, Brad Landon, John Parsons, Chuck Volk, Phil DePoe, Chris Moughan and Lisa Miller.

**REVIEW OF AGENDA**

Liesel Gross announced that today's Board meeting is being videotaped as a trial run and will be used only as a test. The meeting room has been equipped with a camera and two microphones and will be using Livestream as a platform for posting meeting videos to the Authority's website in the future. A statement regarding the live video recording will be noted on the agenda and signage placed in the room to inform anyone attending that the meetings are being recorded.

Some Board members noted that there seems to be a change to their Authority email accounts format. Ms. Gross will notify the IT department and see if anything has changed with the recent server upgrade. Any new instructions will be sent to the Board.

Tom Muller and Ted Lyons arrived at 12:03 p.m.

Ms. Gross introduced Mr. Chris Moughan, the Authority's new Chief Information Officer at which time, the updated 2017 LCA Organization Chart was distributed to Board and Staff. The Board asked that Mr. Moughan give a brief description of his background.

Vice Chairman Bieber stated there will be one item for Executive Session regarding personnel. A decision is expected after the Executive Session.

**APPROVAL OF MINUTES**

**January 23, 2017 Regular Meeting Minutes**

Richard Bohner suggested a correction on the second page, second paragraph that the word *spare* be added after the word *some*.

On a motion by Richard Bohner, seconded by Norma Cusick, the Board approved the Minutes of the January 23, 2017 meeting as revised with the above noted changes (7-0).

**PUBLIC COMMENTS**

None.

**ACTION AND DISCUSSION ITEMS**

**Wynnewood and Sand Spring Wastewater Treatment Plant Replacement**

Chuck Volk gave an overview of the design and bid phase of the project. Mr. Volk is requesting approval of the Capital Project Authorization – Design & Bid Phase in the amount of \$340,000.00 which includes the Professional Services Authorization - Contract Award (consultant) for the Design & Bid Phase to Entech Engineering, Inc. in the amount of \$280,500.00.

Deana Zosky inquired about the cost of these projects and how they are recovered through the rates, if all Authority customers contribute to paying for these projects. Liesel Gross explained that the Authority's satellite sewer systems are on a common rate so costs are shared among customers who receive similar services from the Authority. However, customers who are connected to the Western Lehigh Interceptor do not share in these costs as rates are established via agreements with the municipalities served by the regional system.

On a motion by Norma Cusick, seconded by Linda Rosenfeld, the Board approved the Capital Project Authorization – Design & Bid Phase in the amount of \$340,000.00 which includes the Professional Services Authorization - Contract Award (consultant) for the Design & Bid Phase to Entech Engineering, Inc. in the amount of \$280,500.00 (7-0).

**Allentown Division – Kline’s Island WWTP Phase 1 AO Improvements: Conceptual Design Development Amendment No. 1**

Phil DePoe gave an overview of the project. The project is an Administrative Order (AO) project and will be funded by the City of Allentown. The amendment is requested to add scope to the project the Board authorized at a prior meeting, so that all Phase 1 improvements are included in the conceptual design being prepared by the consultant. Mr. DePoe is requesting approval of the Professional Services Authorization Amendment No. 1- Kleinfelder in the amount of \$69,200.00.

On a motion by Norma Cusick, seconded by Linda Rosenfeld, the Board approved the Professional Services Authorization Amendment No. 1- Kleinfelder in the amount of \$69,200.00 (7-0).

**Flow Metering / Rehabilitation Effectiveness Monitoring**

Pat Mandes reviewed the Professional Services Authorization Amendment. TFE Resources will provide additional metering for sewer and rainfall monitoring services to be conducted before and after certain sewer rehabilitation projects are completed to determine how effective the source removal work is at reducing the peak flows. Ms. Mandes is requesting approval of the Professional Services Authorization Amendment not to exceed \$255,000.00 to TFE Resources.

On a motion by Tom Muller, seconded by Norma Cusick, the Board approved the Professional Services Authorization Amendment not to exceed \$255,000.00 to TFE Resources (7-0).

**Administrative Order Update on Cost-Sharing Agreements & Methodology**

Jim Shelton from Arcadis was present and gave a presentation updating the Authority on the status of the Administrative Order in regard to the Western Interceptor connected systems to eliminate sanitary sewer overflows. The focus of the presentation is to provide more detail of the proposed cost-sharing mechanisms for future phases of capital improvements. The municipalities involved in the Administrative Order are currently discussing sharing the cost of Phase 1 improvements based on treatment allocation, and the cost of Phase 2 improvements based on peak flows. He presented information on both the contractual and regulatory mechanisms that will be in place to guide the work and the funding allocation among the municipalities named in the Administrative Order. The Western Lehigh Sewerage Partnership is in the process of drafting a Memorandum of Cooperation that will describe the capital improvements plan, responsibilities each Partner has, and how costs will be allocated. The City and its signatories are working on a draft Memorandum of Understanding that cover the same issues.

The Board expressed concerns regarding enforcement of peak flows, especially for those communities who have excess leakage remaining after Phase 1 work is complete. Some discussion followed.

Art Persing, resident of Lower Macungie Township, commented that it was an excellent presentation but he was concerned in regard to sewer customers being sufficiently notified about how the costs will be distributed from the Township to the residents. It was suggested Mr. Persing discuss this issue and the impact it will have on the residents with the Township Commissioners who are responsible for setting user rates.

Pat Mandes announced the roll-out of the Rainstorm Ready website. Liesel Gross said the intention of the site is to be a resource of information and updates by the signatories and communities on the work being done on the Administrative Order which will be posted and shared with the public. It will include contact information along with descriptions of how and why the work is being done.

**PROJECT UPDATES/INFORMATION ITEMS**

Liesel Gross brought to the attention of the Board items listed in the report for upcoming meetings.

**STAFF COMMENTS**

Liesel Gross informed the Board that she would be attending the City of Allentown's Environmental Advisory Council meeting that night. The topic is the Administrative Order.

**SOLICITOR'S COMMENTS**

None.

**PUBLIC COMMENTS / OTHER COMMENTS**

Scott Bieber asked for an update on the plans to construct stormwater injection wells at the DCT Industrial Warehouse in Upper Macungie Township. Chuck Volk said that the Authority has not seen any updates but he will look into it. When the plan is received by the Authority, it will be reviewed by Al Guiseppe of Spotts, Stevens and McCoy, the hydrogeologist consultant for the Authority.

**EXECUTIVE SESSION**

Vice Chairman Bieber called an Executive Session at 1:38 p.m. to discuss personnel at which time all Authority Staff were excused.

The Executive Session ended at 2:21 p.m.

On a motion by Tom Muller, seconded by Richard Bohner, the Board set the salary for Liesel Gross, Chief Executive Officer, at \$135,000.00 (6-1). Deana Zosky opposed.

**ADJOURNMENT**

There being no further business, the Vice Chairman adjourned the meeting at 2:22 p.m.

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Richard H. Bohner  
Secretary

# **RESOLUTION No. 2-2017-1**

(Duly adopted 27 February 2017)

***A RESOLUTION ESTABLISHING THE VARIOUS COMPONENTS OF CERTAIN OF THE LEHIGH COUNTY AUTHORITY CAPITAL RECOVERY FEES FOR THE CITY DIVISION WASTEWATER AND WATER SYSTEMS AS WELL AS CONNECTION FEES FOR THE SUBURBAN DIVISION WATER SYSTEMS.***

WHEREAS, Lehigh County Authority ("Authority") is a Pennsylvania municipal authority incorporated by the County of Lehigh in accordance with the Municipality Authorities Act to provide, among other services, wastewater and water services; and

WHEREAS, the Authority owns and/or operates water and wastewater systems throughout the Lehigh Valley of Pennsylvania; and

WHEREAS, the Authority charges certain rates and fees for use of and connection to its systems; and

WHEREAS, the Authority desires to establish the fees detailed within in accordance with §5607 of the Municipality Authorities Act, as amended by legislative action in December 2003, setting forth the appropriate fee components; and

WHEREAS, the Authority has calculated the allowable basis for such fees for certain of its wastewater and water systems in accordance with the attached calculations, being Schedules A through C, the current version of which, as well as any future changes thereto, is made a part hereof as if included herein; and

NOW THEREFORE, the Lehigh County Authority, pursuant to powers invested in it by the Pennsylvania Municipality Authorities Act, as amended, hereby resolves that:

1. Certain capital recovery fees for wastewater and water service in various of the Authority's City Division wastewater and water systems, as well as Connection Fees for the Suburban Division water systems, as indicated and shown Schedules A through C, attached hereto and made a part hereof, are adopted effective March 1, 2017.

2. The Authority's Wastewater Schedules of Rates and Charges shall be amended to reflect the fees hereby adopted, which fees shall be effective as of March 1, 2017.

On motion of \_\_\_\_\_, seconded by \_\_\_\_\_, this Resolution was adopted the 27<sup>th</sup> day of February 2017.

**SCHEDULE A -LCA'S ALLENTOWN DIVISION SEWER CAPITAL RECOVERY FEES - 2/15/2017**

**Exhibit No. 1**

**Lehigh County Authority - City Division**

**Lehigh County, Pennsylvania**

**Calculation of Sewer Tapping Fee**

<b>A. <u>Capacity Part</u></b>	<b><u>Exhibit Reference</u></b>	<b><u>Original Cost</u></b>	<b><u>Trended Cost</u></b>
Capital Expenditures	2	\$6,075,515	\$6,353,685
Less: Contributions		-	-
Net Capital		<u>\$6,075,515</u>	<u>\$6,353,685</u>
Financing Costs for Capacity Part	4A	111,547	116,654
Total Cost of Capacity Part		<u>\$6,187,062</u>	<u>\$6,470,339</u>
Plus: Interest Paid On Debt	4B	\$503,764	-
Less: Outstanding Debt	4C	<u>6,075,515</u>	<u>6,075,515</u>
Eligible Cost for Capacity Part		\$615,311	\$394,824
Total Capacity		40,000,000	40,000,000
Capacity Tapping Fee per Gallon		\$0.01538	\$0.00987
<b>B. <u>Collection Part</u></b>			
Capital Expenditures	3	\$194,085	\$203,552
Less: Contributions		-	-
Net Capital		<u>\$194,085</u>	<u>\$203,552</u>
Financing Costs for Capacity Part	4A	3,563	3,737
Total Cost of Collection Part		<u>\$197,648</u>	<u>\$207,289</u>
Plus: Interest Paid On Debt	4B	\$17,111	-
Less: Outstanding Debt	4C	<u>194,085</u>	<u>194,085</u>
Eligible Cost for Collection Part		\$20,674	\$13,205
Total Capacity		40,000,000	40,000,000
Collection Tapping Fee per Gallon		\$0.00052	\$0.00033
 Total Tapping Fee per Gallon		 <b>\$0.01590</b>	 <b>\$0.01020</b>

**SCHEDULE A -LCA'S ALLENTOWN DIVISION SEWER CAPITAL RECOVERY FEES - 2/15/2017**

**Exhibit No. 1 - Additional  
Lehigh County Authority - City Division  
Lehigh County, Pennsylvania  
Calculation of Sewer Tapping Fee  
By Project Segment**

	<u>Exhibit Reference</u>	<u>Original Cost</u>	<u>Trended Cost</u>
<b>A. Capacity Part</b>			
Capital Expenditures			
CAC-S-WWTP-GENERAL IMPROVEMENT	2	\$343,675	\$363,854
CAC-S-WWTP-MOTOR CONTROL CENT	2	2,138,410	2,244,635
CAC-S-WWTP BELT FILT PRESS REBUILD	2	1,637,537	1,747,496
CAC-S-WWTP-DIGESTER COVER REPL	2	1,431,706	1,462,731
CAC-S-WWTP ODOR CONTROL TOWER	2	488,151	498,261
CAC-S-WWTP ALT DISENFECT STUDY	2	6,503	6,624
CAC-S-VARIOUS WW SYST STUDIES	2	5,556	5,660
CAC-S-WWTP-ELEC SUBSTATIONS	2	23,777	24,221
CAC-S-WWTP-INTERM BLENDING	2	200	204
		<u>\$6,075,515</u>	<u>\$6,353,685</u>
Less: Contributions			
CAC-S-WWTP-GENERAL IMPROVEMENT		\$0	\$0
CAC-S-WWTP-MOTOR CONTROL CENT		-	-
CAC-S-WWTP BELT FILT PRESS REBUILD		-	-
CAC-S-WWTP-DIGESTER COVER REPL		-	-
CAC-S-WWTP ODOR CONTROL TOWER		-	-
CAC-S-WWTP ALT DISENFECT STUDY		-	-
CAC-S-VARIOUS WW SYST STUDIES		-	-
CAC-S-WWTP-ELEC SUBSTATIONS		-	-
CAC-S-WWTP-INTERM BLENDING		-	-
		<u>\$0</u>	<u>\$0</u>
Net Capital			
CAC-S-WWTP-GENERAL IMPROVEMENT		\$343,675	\$363,854
CAC-S-WWTP-MOTOR CONTROL CENT		2,138,410	2,244,635
CAC-S-WWTP BELT FILT PRESS REBUILD		1,637,537	1,747,496
CAC-S-WWTP-DIGESTER COVER REPL		1,431,706	1,462,731
CAC-S-WWTP ODOR CONTROL TOWER		488,151	498,261
CAC-S-WWTP ALT DISENFECT STUDY		6,503	6,624
CAC-S-VARIOUS WW SYST STUDIES		5,556	5,660
CAC-S-WWTP-ELEC SUBSTATIONS		23,777	24,221
CAC-S-WWTP-INTERM BLENDING		200	204
		<u>\$6,075,515</u>	<u>\$6,353,685</u>
Financing Costs for Capacity Part			
CAC-S-WWTP-GENERAL IMPROVEMENT	4A	\$6,310	\$6,680
CAC-S-WWTP-MOTOR CONTROL CENT	4A	39,261	41,212
CAC-S-WWTP BELT FILT PRESS REBUILD	4A	30,065	32,084
CAC-S-WWTP-DIGESTER COVER REPL	4A	26,286	26,856
CAC-S-WWTP ODOR CONTROL TOWER	4A	8,962	9,148
CAC-S-WWTP ALT DISENFECT STUDY	4A	119	122
CAC-S-VARIOUS WW SYST STUDIES	4A	102	104
CAC-S-WWTP-ELEC SUBSTATIONS	4A	437	445
CAC-S-WWTP-INTERM BLENDING	4A	4	4
		<u>\$111,547</u>	<u>\$116,654</u>



Total Cost of Capacity Part			
CAC-S-WWTP-GENERAL IMPROVEMENT		\$349,985	\$370,534
CAC-S-WWTP-MOTOR CONTROL CENT		2,177,671	2,285,846
CAC-S-WWTP BELT FILT PRESS REBUILD		1,667,602	1,779,580
CAC-S-WWTP-DIGESTER COVER REPL		1,457,992	1,489,586
CAC-S-WWTP ODOR CONTROL TOWER		497,113	507,409
CAC-S-WWTP ALT DISENFECT STUDY		6,622	6,746
CAC-S-VARIOUS WW SYST STUDIES		5,658	5,763
CAC-S-WWTP-ELEC SUBSTATIONS		24,214	24,666
CAC-S-WWTP-INTERM BLENDING		204	208
		<u>\$6,187,062</u>	<u>\$6,470,339</u>
Plus: Interest Paid On Debt			
CAC-S-WWTP-GENERAL IMPROVEMENT	4B	\$35,370	
CAC-S-WWTP-MOTOR CONTROL CENT	4B	185,830	
CAC-S-WWTP BELT FILT PRESS REBUILD	4B	191,059	
CAC-S-WWTP-DIGESTER COVER REPL	4B	67,607	
CAC-S-WWTP ODOR CONTROL TOWER	4B	22,351	
CAC-S-WWTP ALT DISENFECT STUDY	4B	279	
CAC-S-VARIOUS WW SYST STUDIES	4B	238	
CAC-S-WWTP-ELEC SUBSTATIONS	4B	1,021	
CAC-S-WWTP-INTERM BLENDING	4B	9	
		<u>\$503,764</u>	-
Less: Outstanding Debt			
CAC-S-WWTP-GENERAL IMPROVEMENT	4C	\$343,675	\$343,675
CAC-S-WWTP-MOTOR CONTROL CENT	4C	2,138,410	2,138,410
CAC-S-WWTP BELT FILT PRESS REBUILD	4C	1,637,537	1,637,537
CAC-S-WWTP-DIGESTER COVER REPL	4C	1,431,706	1,431,706
CAC-S-WWTP ODOR CONTROL TOWER	4C	488,151	488,151
CAC-S-WWTP ALT DISENFECT STUDY	4C	6,503	6,503
CAC-S-VARIOUS WW SYST STUDIES	4C	5,556	5,556
CAC-S-WWTP-ELEC SUBSTATIONS	4C	23,777	23,777
CAC-S-WWTP-INTERM BLENDING	4C	200	200
		<u>\$6,075,515</u>	<u>\$6,075,515</u>
Eligible Cost for Capacity Part			
CAC-S-WWTP-GENERAL IMPROVEMENT		\$41,680	\$26,859
CAC-S-WWTP-MOTOR CONTROL CENT		225,091	147,436
CAC-S-WWTP BELT FILT PRESS REBUILD		221,124	142,044
CAC-S-WWTP-DIGESTER COVER REPL		93,893	57,880
CAC-S-WWTP ODOR CONTROL TOWER		31,314	19,258
CAC-S-WWTP ALT DISENFECT STUDY		399	243
CAC-S-VARIOUS WW SYST STUDIES		340	208
CAC-S-WWTP-ELEC SUBSTATIONS		1,457	888
CAC-S-WWTP-INTERM BLENDING		12	7
		<u>\$615,311</u>	<u>\$394,824</u>
Total Capacity		40,000,000	40,000,000

Capacity Tapping Fee per Gallon

CAC-S-WWTP-GENERAL IMPROVEMENT	\$0.00104	\$0.00067
CAC-S-WWTP-MOTOR CONTROL CENT	0.00563	0.00369
CAC-S-WWTP BELT FILT PRESS REBUILD	0.00553	0.00355
CAC-S-WWTP-DIGESTER COVER REPL	0.00235	0.00145
CAC-S-WWTP ODOR CONTROL TOWER	0.00078	0.00048
CAC-S-WWTP ALT DISENFECT STUDY	0.00001	0.00001
CAC-S-VARIOUS WW SYST STUDIES	0.00001	0.00001
CAC-S-WWTP-ELEC SUBSTATIONS	0.00004	0.00002
CAC-S-WWTP-INTERM BLENDING	0.00000	0.00000
	<hr/>	<hr/>
	\$0.01538	\$0.00987

**B. Collection Part**

Capital Expenditures

CAC-S-SEWER MAIN REPLACEMENT	3	<u>\$194,085</u>	<u>\$203,552</u>
		\$194,085	\$203,552

Less: Contributions

CAC-S-SEWER MAIN REPLACEMENT	4	<u>\$0</u>	<u>\$0</u>
		\$0	\$0

Net Capital

CAC-S-SEWER MAIN REPLACEMENT		<u>\$194,085</u>	<u>\$203,552</u>
		\$194,085	\$203,552

Financing Costs for Capacity Part

CAC-S-SEWER MAIN REPLACEMENT	5A	<u>\$3,563</u>	<u>\$3,737</u>
		\$3,563	\$3,737

Total Cost of Collection Part

CAC-S-SEWER MAIN REPLACEMENT		<u>\$197,648</u>	<u>\$207,289</u>
		\$197,648	\$207,289

Plus: Interest Paid On Debt

CAC-S-SEWER MAIN REPLACEMENT	5B	<u>\$17,111</u>	
		\$17,111	-

Less: Outstanding Debt

CAC-S-SEWER MAIN REPLACEMENT	5C	<u>\$194,085</u>	<u>\$194,085</u>
		\$194,085	\$194,085

Eligible Cost for Collection Part

CAC-S-SEWER MAIN REPLACEMENT		<u>\$20,674</u>	<u>\$13,205</u>
		\$20,674	\$13,205

Total Capacity

40,000,000 40,000,000

Collection Tapping Fee per Gallon

CAC-S-SEWER MAIN REPLACEMENT		<u>\$0.00052</u>	<u>\$0.00033</u>
		\$0.00052	\$0.00033

**Exhibit No. 2**  
**Lehigh County Authority - City Division**  
**Lehigh County, Pennsylvania**  
**Capacity Assets**

<u>Expenditure</u>	<u>Year Placed in Service</u>	<u>Original Cost</u>	<u>Cost Index</u>		<u>Trended Current Replacement Cost</u>
			<u>Original</u>	<u>Current</u>	
CAC-S-WWTP-GENERAL IMPROVEMENT	2013	\$58	9547	10532	\$64
CAC-S-WWTP-MOTOR CONTROL CENT	2013	9,578	9547	10532	10,566
CAC-S-WWTP BELT FILT PRESS REBUILD	2013	4,670	9547	10532	5,152
CAC-S-WWTP-DIGESTER COVER REPL	2013	259	9547	10532	286
CAC-S-WWTP-GENERAL IMPROVEMENT	2014	164,129	9806	10532	176,278
CAC-S-WWTP-MOTOR CONTROL CENT	2014	196,099	9806	10532	210,615
CAC-S-WWTP BELT FILT PRESS REBUILD	2014	1,169,843	9806	10532	1,256,437
CAC-S-WWTP-DIGESTER COVER REPL	2014	16,720	9806	10532	17,957
CAC-S-WWTP-GENERAL IMPROVEMENT	2015	151,920	10036	10532	159,429
CAC-S-WWTP-MOTOR CONTROL CENT	2015	1,776,337	10036	10532	1,864,140
CAC-S-WWTP BELT FILT PRESS REBUILD	2015	462,908	10036	10532	485,789
CAC-S-WWTP-DIGESTER COVER REPL	2015	109,250	10036	10532	114,650
CAC-S-WWTP ODOR CONTROL TOWER	2015	32,552	10036	10532	34,161
CAC-S-WWTP-GENERAL IMPROVEMENT	2016	27,568	10339	10532	28,083
CAC-S-WWTP-MOTOR CONTROL CENT	2016	156,396	10339	10532	159,314
CAC-S-WWTP BELT FILT PRESS REBUILD	2016	116	10339	10532	118
CAC-S-WWTP-DIGESTER COVER REPL	2016	1,305,478	10339	10532	1,329,838
CAC-S-WWTP ODOR CONTROL TOWER	2016	455,598	10339	10532	464,100
CAC-S-WWTP ALT DISENFECT STUDY	2016	6,503	10339	10532	6,624
CAC-S-VARIOUS WW SYST STUDIES	2016	5,556	10339	10532	5,660
CAC-S-WWTP-ELEC SUBSTATIONS	2016	23,777	10339	10532	24,221
CAC-S-WWTP-INTERM BLENDING	2016	200	10339	10532	204
		<b>\$6,075,515</b>			<b>\$6,353,685</b>

**Exhibit No. 3**  
**Lehigh County Authority - City Division**  
**Lehigh County, Pennsylvania**  
**Collection Assets**

<u>Expenditure</u>	<u>Year Placed in Service</u>	<u>Original Cost</u>	<u>Cost Index</u>		<u>Trended Current Replacement Cost</u>
			Original	Current	
CAC-S-SEWER MAIN REPLACEMENT	2013	\$-	9547	10532	\$-
CAC-S-SEWER MAIN REPLACEMENT	2014	72,414.51	9806	10532	77,775
CAC-S-SEWER MAIN REPLACEMENT	2015	59,696.40	10036	10532	62,647
CAC-S-SEWER MAIN REPLACEMENT	2016	61,973.87	10339	10532	63,130
		<u><b>\$194,085</b></u>			<u><b>\$203,552</b></u>

**Exhibit No. 4A**  
**Lehigh County Authority - City Division**  
**Lehigh County, Pennsylvania**  
**Debt Summary - Calculation of Financing Costs**

<b>Uses of Financed Funds</b>			<b>Cost of Issuance</b>	<b>Additional Cost Per \$1 of Capital For Issuance Costs</b>
Up-Front Lease Payment	\$211,332,218	77.41%	\$3,880,062	
Deposit to Capital Improvement Fund	31,850,566	11.67%	584,777	0.01836
Deposit to Debt Service Reserve Fund	26,379,843	9.66%	484,334	
Deposit to 2013A Capitalized Interest Account	3,450,000	1.26%	63,342	
Cost of Issuance	5,012,515			
<b>TOTAL</b>	<u>\$278,025,141</u>			

For every \$1 of Eligible Capital      0.01836      should be added in issuance costs.  
be added in issuance costs.

**Exhibit No. 4A**  
**Lehigh County Authority - City Division**  
**Lehigh County, Pennsylvania**  
**Debt Summary - Calculation of Financing Costs**

Capacity	Expenditure	Year Placed in Service	Original Cost	Associated Issuance Original Cost	Additional		Trended Current Replacement Cost
					Cost Index Original	Current	
	CAC-S-WWTP-GENERAL IMPROVEMENT	2013	\$58	\$1	9547	10532	\$1
	CAC-S-WWTP-MOTOR CONTROL CENT	2013	9,578	176	9547	10532	194
	CAC-S-WWTP BELT FILT PRESS REBUILD	2013	4,670	86	9547	10532	95
	CAC-S-WWTP-DIGESTER COVER REPL	2013	259	5	9547	10532	5
	CAC-S-WWTP-GENERAL IMPROVEMENT	2014	\$164,129	\$3,013	9806	10532	\$3,236
	CAC-S-WWTP-MOTOR CONTROL CENT	2014	196,099	3,600	9806	10532	3,867
	CAC-S-WWTP BELT FILT PRESS REBUILD	2014	1,169,843	21,478	9806	10532	23,068
	CAC-S-WWTP-DIGESTER COVER REPL	2014	16,720	307	9806	10532	330
	CAC-S-WWTP-GENERAL IMPROVEMENT	2015	\$151,920	\$2,789	10036	10532	\$2,927
	CAC-S-WWTP-MOTOR CONTROL CENT	2015	1,776,337	32,614	10036	10532	34,226
	CAC-S-WWTP BELT FILT PRESS REBUILD	2015	462,908	8,499	10036	10532	8,919
	CAC-S-WWTP-DIGESTER COVER REPL	2015	109,250	2,006	10036	10532	2,105
	CAC-S-WWTP ODOR CONTROL TOWER	2015	32,552	598	10036	10532	627
	CAC-S-WWTP-GENERAL IMPROVEMENT	2016	\$27,568	\$506	10339	10532	\$516
	CAC-S-WWTP-MOTOR CONTROL CENT	2016	156,396	2,871	10339	10532	2,925
	CAC-S-WWTP BELT FILT PRESS REBUILD	2016	116	2	10339	10532	2
	CAC-S-WWTP-DIGESTER COVER REPL	2016	1,305,478	23,969	10339	10532	24,416
	CAC-S-WWTP ODOR CONTROL TOWER	2016	455,598	8,365	10339	10532	8,521
	CAC-S-WWTP ALT DISENFECT STUDY	2016	6,503	119	10339	10532	122
	CAC-S-VARIOUS WW SYST STUDIES	2016	5,556	102	10339	10532	104
	CAC-S-WWTP-ELEC SUBSTATIONS	2016	23,777	437	10339	10532	445
	CAC-S-WWTP-INTERM BLENDING	2016	200	4	10339	10532	4
				<b>\$111,547</b>			<b>\$116,654</b>

**Exhibit No. 4A**  
**Lehigh County Authority - City Division**  
**Lehigh County, Pennsylvania**  
**Debt Summary - Calculation of Financing Costs**

Collection	Expenditure	Year Placed in Service	Original Cost	Associated Issuance Original Cost	Additional		Trended Current Replacement Cost
					Cost Index Original	Current	
	CAC-S-SEWER MAIN REPLACEMENT	2013	\$-	\$-	9547	10532	\$-
	CAC-S-SEWER MAIN REPLACEMENT	2014	\$72,415	\$1,330	9806	10532	\$1,428
	CAC-S-SEWER MAIN REPLACEMENT	2015	\$59,696	\$1,096	10036	10532	\$1,150
	CAC-S-SEWER MAIN REPLACEMENT	2016	\$61,974	\$1,138	10339	10532	\$1,159
				<b>\$3,563</b>			<b>\$3,737</b>



**Exhibit No. 4B**  
**Lehigh County Authority - City Division**  
**Lehigh County, Pennsylvania**  
**Debt Summary - Summary of Interest Paid**

Capacity	Expenditure	Year Placed in Service	Original Cost	Interest Paid To Date
	CAC-S-WWTP-GENERAL IMPROVEMENT	2013	\$58	\$8
	CAC-S-WWTP-MOTOR CONTROL CENT	2013	9,578	1,364
	CAC-S-WWTP BELT FILT PRESS REBUILD	2013	4,670	665
	CAC-S-WWTP-DIGESTER COVER REPL	2013	259	37
	CAC-S-WWTP-GENERAL IMPROVEMENT	2014	\$164,129	\$21,136
	CAC-S-WWTP-MOTOR CONTROL CENT	2014	196,099	25,253
	CAC-S-WWTP BELT FILT PRESS REBUILD	2014	1,169,843	150,648
	CAC-S-WWTP-DIGESTER COVER REPL	2014	16,720	2,153
	CAC-S-WWTP-GENERAL IMPROVEMENT	2015	\$151,920	\$13,042
	CAC-S-WWTP-MOTOR CONTROL CENT	2015	1,776,337	152,500
	CAC-S-WWTP BELT FILT PRESS REBUILD	2015	462,908	39,741
	CAC-S-WWTP-DIGESTER COVER REPL	2015	109,250	9,379
	CAC-S-WWTP ODOR CONTROL TOWER	2015	32,552	2,795
	CAC-S-WWTP-GENERAL IMPROVEMENT	2016	\$27,568	\$1,183
	CAC-S-WWTP-MOTOR CONTROL CENT	2016	156,396	6,713
	CAC-S-WWTP BELT FILT PRESS REBUILD	2016	116	5
	CAC-S-WWTP-DIGESTER COVER REPL	2016	1,305,478	56,038
	CAC-S-WWTP ODOR CONTROL TOWER	2016	455,598	19,557
	CAC-S-WWTP ALT DISENFECT STUDY	2016	6,503	279
	CAC-S-VARIOUS WW SYST STUDIES	2016	5,556	238
	CAC-S-WWTP-ELEC SUBSTATIONS	2016	23,777	1,021
	CAC-S-WWTP-INTERM BLENDING	2016	200	9
				<b>\$503,764</b>

**Exhibit No. 4B**  
**Lehigh County Authority - City Division**  
**Lehigh County, Pennsylvania**  
**Debt Summary - Summary of Interest Paid**

<b>Collection</b>				<b>Interest</b>
	<b>Expenditure</b>	<b>Year Placed in Service</b>	<b>Original Cost</b>	<b>Paid To Date</b>
	CAC-S-SEWER MAIN REPLACEMENT	2013	\$-	\$-
	CAC-S-SEWER MAIN REPLACEMENT	2014	\$72,415	\$9,325
	CAC-S-SEWER MAIN REPLACEMENT	2015	\$59,696	\$5,125
	CAC-S-SEWER MAIN REPLACEMENT	2016	\$61,974	\$2,660
				<b>\$17,111</b>

**Exhibit No. 4C**  
**Lehigh County Authority - City Division**  
**Lehigh County, Pennsylvania**  
**Debt Summary - Outstanding Principal**

**Capacity**

<b>Expenditure</b>	<b>Year Placed in Service</b>	<b>Financed Amount</b>	<b>Payments To Date</b>	<b>Outstanding Principal</b>
CAC-S-WWTP-GENERAL IMPROVEMENT	2013	\$58	\$-	\$58
CAC-S-WWTP-MOTOR CONTROL CENT	2013	9,578	-	9,578
CAC-S-WWTP BELT FILT PRESS REBUILD	2013	4,670	-	4,670
CAC-S-WWTP-DIGESTER COVER REPL	2013	259	-	259
CAC-S-WWTP-GENERAL IMPROVEMENT	2014	\$164,129	\$-	\$164,129
CAC-S-WWTP-MOTOR CONTROL CENT	2014	196,099	-	196,099
CAC-S-WWTP BELT FILT PRESS REBUILD	2014	1,169,843	-	1,169,843
CAC-S-WWTP-DIGESTER COVER REPL	2014	16,720	-	16,720
CAC-S-WWTP-GENERAL IMPROVEMENT	2015	\$151,920	\$-	\$151,920
CAC-S-WWTP-MOTOR CONTROL CENT	2015	1,776,337	-	1,776,337
CAC-S-WWTP BELT FILT PRESS REBUILD	2015	462,908	-	462,908
CAC-S-WWTP-DIGESTER COVER REPL	2015	109,250	-	109,250
CAC-S-WWTP ODOR CONTROL TOWER	2015	32,552	-	32,552
CAC-S-WWTP-GENERAL IMPROVEMENT	2016	\$27,568	\$-	\$27,568
CAC-S-WWTP-MOTOR CONTROL CENT	2016	156,396	-	156,396
CAC-S-WWTP BELT FILT PRESS REBUILD	2016	116	-	116
CAC-S-WWTP-DIGESTER COVER REPL	2016	1,305,478	-	1,305,478
CAC-S-WWTP ODOR CONTROL TOWER	2016	455,598	-	455,598
CAC-S-WWTP ALT DISENFECT STUDY	2016	6,503	-	6,503
CAC-S-VARIOUS WW SYST STUDIES	2016	5,556	-	5,556
CAC-S-WWTP-ELEC SUBSTATIONS	2016	23,777	-	23,777
CAC-S-WWTP-INTERM BLENDING	2016	200	-	200
				<b>\$6,075,515</b>

**Exhibit No. 4C**  
**Lehigh County Authority - City Division**  
**Lehigh County, Pennsylvania**  
**Debt Summary - Outstanding Principal**

<b>Collection</b>	<b>Year Placed in Service</b>	<b>Financed Amount</b>	<b>Payments To Date</b>	<b>Outstanding Principal</b>
<b>Expenditure</b>				
CAC-W-MAIN REPLACEMENTS CYC-1	2013	\$-	\$-	\$-
CAC-W-MAIN REPLACEMENTS CYC-1	2014	\$72,415	\$-	\$72,415
CAC-W-MAIN REPLACEMENTS CYC-2	2015	\$59,696	\$-	\$59,696
CAC-W-MAIN REPLACEMENTS CYC-1	2016	\$61,974	\$-	\$61,974
				<b><u>\$194,085</u></b>

**SCHEDULE B -LCA'S ALLENTOWN DIVISION WATER CAPITAL RECOVERY FEES - 2/15/2017**

**Exhibit No. 1**

**Lehigh County Authority - City Division**

**Lehigh County, Pennsylvania**

**Calculation of Water Tapping Fee**

<b>A. <u>Capacity Part</u></b>	<b><u>Exhibit Reference</u></b>	<b><u>Original Cost</u></b>	<b><u>Trended Cost</u></b>
Capital Expenditures	2	\$3,415,742	\$3,538,214
Less: Contributions	4	3,677	3,760
Net Capital		<u>\$3,412,065</u>	<u>\$3,534,453</u>
Financing Costs for Capacity Part	5A	62,646	69,109
Total Cost of Capacity Part		<u>\$3,474,711</u>	<u>\$3,603,562</u>
Plus: Interest Paid On Debt	5B	\$269,359	-
Less: Outstanding Debt	5C	3,412,065	3,412,065
Eligible Cost for Capacity Part		<u>\$332,005</u>	<u>\$191,497</u>
Total Capacity		39,000,000	39,000,000
Capacity Tapping Fee per Gallon		\$0.00851	\$0.00491
<b>B. <u>Distribution Part</u></b>			
Capital Expenditures	3	\$9,626,564	\$10,010,054
Less: Contributions	4	219,694	227,129
Net Capital		<u>\$9,406,870</u>	<u>\$9,782,924</u>
Financing Costs for Capacity Part	5A	172,710	179,615
Total Cost of Collection Part		<u>\$9,579,580</u>	<u>\$9,962,539</u>
Plus: Interest Paid On Debt	5B	\$821,963	-
Less: Outstanding Debt	5C	9,406,870	9,406,870
Eligible Cost for Collection Part		<u>\$994,674</u>	<u>\$555,669</u>
Total Capacity		39,000,000	39,000,000
Collection Tapping Fee per Gallon		\$0.02551	\$0.01425
Total Tapping Fee per Gallon		<b>\$0.03402</b>	<b>\$0.01916</b>

**SCHEDULE B -LCA'S ALLENTOWN DIVISION WATER CAPITAL RECOVERY FEES - 2/15/2017**

**Exhibit No. 1 - Additional  
Lehigh County Authority - City Division  
Lehigh County, Pennsylvania  
Calculation of Water Tapping Fee  
By Project Segment**

	<u>Exhibit Reference</u>	<u>Original Cost</u>	<u>Trended Cost</u>
<b>A. Capacity Part</b>			
Capital Expenditures			
CAC-U-ROOF REPLACEMENTS - PH 1	2	\$1,635,155	\$1,697,119
CAC-W-WFP-GENERAL IMPROVEMENT	2	248,904	260,989
CAC-W-SCHANTZ SPRING CHLORINE BOOST	2	3,677	3,760
CAC-U-ROOF REPLACEMENTS-PH-2	2	51,929	53,197
CAC-W-TRANS MAIN LEAK EVALU	2	148,233	155,549
CAC-W-D&C-CAP-REPLACEMENTS	2	1,030,737	1,064,949
CAC-W-WFP-EMERG POWER PH-2	2	2,622	2,671
CAC-W-VARIOUS WATER STUDIES	2	682	695
CAC-W-WFP-HIGH CELING UPGRADES	2	293,803	299,285
		<hr/>	<hr/>
		\$3,415,742	\$3,538,214
Less: Contributions			
CAC-U-ROOF REPLACEMENTS - PH 1	4	\$0	\$0
CAC-W-WFP-GENERAL IMPROVEMENT	4	-	-
CAC-W-SCHANTZ SPRING CHLORINE BOOST	4	3,677	3,760
CAC-U-ROOF REPLACEMENTS-PH-2	4	-	-
CAC-W-TRANS MAIN LEAK EVALU	4	-	-
CAC-W-D&C-CAP-REPLACEMENTS	4	-	-
CAC-W-WFP-EMERG POWER PH-2	4	-	-
CAC-W-VARIOUS WATER STUDIES	4	-	-
CAC-W-WFP-HIGH CELING UPGRADES	4	-	-
		<hr/>	<hr/>
		\$3,677	\$3,760
Net Capital			
CAC-U-ROOF REPLACEMENTS - PH 1		\$1,635,155	\$1,697,119
CAC-W-WFP-GENERAL IMPROVEMENT		248,904	260,989
CAC-W-SCHANTZ SPRING CHLORINE BOOSTER		-	-
CAC-U-ROOF REPLACEMENTS-PH-2		51,929	53,197
CAC-W-TRANS MAIN LEAK EVALU		148,233	155,549
CAC-W-D&C-CAP-REPLACEMENTS		1,030,737	1,064,949
CAC-W-WFP-EMERG POWER PH-2		2,622	2,671
CAC-W-VARIOUS WATER STUDIES		682	695
CAC-W-WFP-HIGH CELING UPGRADES		293,803	299,285
		<hr/>	<hr/>
		\$3,412,065	\$3,534,453
Financing Costs for Capacity Part			
CAC-U-ROOF REPLACEMENTS - PH 1	5A	\$30,021	33,119
CAC-W-WFP-GENERAL IMPROVEMENT	5A	4,570	5,041
CAC-W-SCHANTZ SPRING CHLORINE BOOST	5A	-	-
CAC-U-ROOF REPLACEMENTS-PH-2	5A	953	1,052
CAC-W-TRANS MAIN LEAK EVALU	5A	2,722	3,002
CAC-W-D&C-CAP-REPLACEMENTS	5A	18,924	20,877
CAC-W-WFP-EMERG POWER PH-2	5A	48	53
CAC-W-VARIOUS WATER STUDIES	5A	13	14
CAC-W-WFP-HIGH CELING UPGRADES	5A	5,394	5,951
		<hr/>	<hr/>
		\$62,646	\$69,109

**SCHEDULE B -LCA'S ALLENTOWN DIVISION WATER CAPITAL RECOVERY FEES - 2/15/2017**

**Exhibit No. 1 - Additional  
Lehigh County Authority - City Division  
Lehigh County, Pennsylvania  
Calculation of Water Tapping Fee  
By Project Segment**

	<u>Exhibit Reference</u>	<u>Original Cost</u>	<u>Trended Cost</u>
Total Cost of Capacity Part			
CAC-U-ROOF REPLACEMENTS - PH 1		\$1,665,177	\$1,730,238
CAC-W-WFP-GENERAL IMPROVEMENT		253,474	266,031
CAC-W-SCHANTZ SPRING CHLORINE BOOSTER		-	-
CAC-U-ROOF REPLACEMENTS-PH-2		52,883	54,249
CAC-W-TRANS MAIN LEAK EVALU		150,955	158,551
CAC-W-D&C-CAP-REPLACEMENTS		1,049,661	1,085,826
CAC-W-WFP-EMERG POWER PH-2		2,670	2,724
CAC-W-VARIOUS WATER STUDIES		694	708
CAC-W-WFP-HIGH CELING UPGRADES		299,197	305,236
		<hr/>	<hr/>
		\$3,474,711	\$3,603,562
Plus: Interest Paid On Debt			
CAC-U-ROOF REPLACEMENTS - PH 1	5B	\$134,480	
CAC-W-WFP-GENERAL IMPROVEMENT	5B	25,166	
CAC-W-SCHANTZ SPRING CHLORINE BOOSTI	5B	-	
CAC-U-ROOF REPLACEMENTS-PH-2	5B	3,113	
CAC-W-TRANS MAIN LEAK EVALU	5B	14,954	
CAC-W-D&C-CAP-REPLACEMENTS	5B	76,642	
CAC-W-WFP-EMERG POWER PH-2	5B	132	
CAC-W-VARIOUS WATER STUDIES	5B	34	
CAC-W-WFP-HIGH CELING UPGRADES	5B	14,838	
		<hr/>	
		\$269,359	-
Less: Outstanding Debt			
CAC-U-ROOF REPLACEMENTS - PH 1	5C	\$1,635,155	\$1,635,155
CAC-W-WFP-GENERAL IMPROVEMENT	5C	248,904	248,904
CAC-W-SCHANTZ SPRING CHLORINE BOOSTI	5C	-	-
CAC-U-ROOF REPLACEMENTS-PH-2	5C	51,929	51,929
CAC-W-TRANS MAIN LEAK EVALU	5C	148,233	148,233
CAC-W-D&C-CAP-REPLACEMENTS	5C	1,030,737	1,030,737
CAC-W-WFP-EMERG POWER PH-2	5C	2,622	2,622
CAC-W-VARIOUS WATER STUDIES	5C	682	682
CAC-W-WFP-HIGH CELING UPGRADES	5C	293,803	293,803
		<hr/>	<hr/>
		\$3,412,065	\$3,412,065
Eligible Cost for Capacity Part			
CAC-U-ROOF REPLACEMENTS - PH 1		\$164,501	\$95,083
CAC-W-WFP-GENERAL IMPROVEMENT		29,736	17,127
CAC-W-SCHANTZ SPRING CHLORINE BOOSTER		-	-
CAC-U-ROOF REPLACEMENTS-PH-2		4,066	2,319
CAC-W-TRANS MAIN LEAK EVALU		17,675	10,318
CAC-W-D&C-CAP-REPLACEMENTS		95,566	55,089
CAC-W-WFP-EMERG POWER PH-2		181	102
CAC-W-VARIOUS WATER STUDIES		47	27
CAC-W-WFP-HIGH CELING UPGRADES		20,232	11,433
		<hr/>	<hr/>
		\$332,005	\$191,497
Total Capacity		39,000,000	39,000,000

**SCHEDULE B -LCA'S ALLENTOWN DIVISION WATER CAPITAL RECOVERY FEES - 2/15/2017**

**Exhibit No. 1 - Additional  
Lehigh County Authority - City Division  
Lehigh County, Pennsylvania  
Calculation of Water Tapping Fee  
By Project Segment**

	<u>Exhibit Reference</u>	<u>Original Cost</u>	<u>Trended Cost</u>
Capacity Tapping Fee per Gallon			
CAC-U-ROOF REPLACEMENTS - PH 1		\$0.00422	\$0.00244
CAC-W-WFP-GENERAL IMPROVEMENT		0.00076	0.00044
CAC-W-SCHANTZ SPRING CHLORINE BOOSTER		-	-
CAC-U-ROOF REPLACEMENTS-PH-2		0.00010	0.00006
CAC-W-TRANS MAIN LEAK EVALU		0.00045	0.00026
CAC-W-D&C-CAP-REPLACEMENTS		0.00245	0.00141
CAC-W-WFP-EMERG POWER PH-2		0.00000	0.00000
CAC-W-VARIOUS WATER STUDIES		0.00000	0.00000
CAC-W-WFP-HIGH CELING UPGRADES		0.00052	0.00029
		<u>\$0.00851</u>	<u>\$0.00491</u>



**SCHEDULE B -LCA'S ALLENTOWN DIVISION WATER CAPITAL RECOVERY FEES - 2/15/2017**

**Exhibit No. 1 - Additional  
Lehigh County Authority - City Division  
Lehigh County, Pennsylvania  
Calculation of Water Tapping Fee  
By Project Segment**

	<u>Exhibit Reference</u>	<u>Original Cost</u>	<u>Trended Cost</u>
<b>B. <u>Distribution Part</u></b>			
Capital Expenditures			
CAC-W-COA DIST MAINS	3	\$16,273	\$17,445
CAC-W-STEEL RESERVOIR REHAB CO	3	195,565	201,382
CAC-W-MAIN REPLACEMENTS CYC-1	3	2,309,682	2,470,371
CAC-W-CITY PROPERTY METERS	3	7,856	8,303
CAC-W-MAIN REPLACEMENTS CYC-2	3	2,405,366	2,524,646
CAC-W-MAIN REPLACEMENTS CYC-3	3	4,607,277	4,699,478
CAC-W-GEN WATER SYSTEM IMPROVE	3	75,110	78,819
CAC-W-CEDAR CRK BRIDGE REPLACE	3	184	188
CAC-W-COA SKETCH PLAN REVIEW	3	474	483
CAC-W-COA DIST SYS IMPROVE 3RD PTY	3	247	252
CAC-W-MAIN REPLACEMENTS CYC-4	3	8,528	8,688
		<hr/>	<hr/>
		\$9,626,564	\$10,010,054
Less: Contributions			
CAC-W-COA DIST MAINS	4	\$16,273	\$17,445
CAC-W-STEEL RESERVOIR REHAB CO	4	195,565	201,382
CAC-W-MAIN REPLACEMENTS CYC-1	4	-	-
CAC-W-CITY PROPERTY METERS	4	7,856	8,303
CAC-W-MAIN REPLACEMENTS CYC-2	4	-	-
CAC-W-MAIN REPLACEMENTS CYC-3	4	-	-
CAC-W-GEN WATER SYSTEM IMPROVE	4	-	-
CAC-W-CEDAR CRK BRIDGE REPLACE	4	-	-
CAC-W-COA SKETCH PLAN REVIEW	4	-	-
CAC-W-COA DIST SYS IMPROVE 3RD PTY	4	-	-
CAC-W-MAIN REPLACEMENTS CYC-4	4	-	-
		<hr/>	<hr/>
		\$219,694	\$227,129
Net Capital			
CAC-W-COA DIST MAINS		\$0	\$0
CAC-W-STEEL RESERVOIR REHAB CO		-	-
CAC-W-MAIN REPLACEMENTS CYC-1		2,309,682	2,470,371
CAC-W-CITY PROPERTY METERS		-	-
CAC-W-MAIN REPLACEMENTS CYC-2		2,405,366	2,524,646
CAC-W-MAIN REPLACEMENTS CYC-3		4,607,277	4,699,478
CAC-W-GEN WATER SYSTEM IMPROVE		75,110	78,819
CAC-W-CEDAR CRK BRIDGE REPLACE		184	188
CAC-W-COA SKETCH PLAN REVIEW		474	483
CAC-W-COA DIST SYS IMPROVE 3RD PTY		247	252
CAC-W-MAIN REPLACEMENTS CYC-4		8,528	8,688
		<hr/>	<hr/>
		\$9,406,870	\$9,782,924

**SCHEDULE B -LCA'S ALLENTOWN DIVISION WATER CAPITAL RECOVERY FEES - 2/15/2017**

**Exhibit No. 1 - Additional  
Lehigh County Authority - City Division  
Lehigh County, Pennsylvania  
Calculation of Water Tapping Fee  
By Project Segment**

	<u>Exhibit Reference</u>	<u>Original Cost</u>	<u>Trended Cost</u>
Financing Costs for Capacity Part			
CAC-W-COA DIST MAINS	5A	\$0	\$0
CAC-W-STEEL RESERVOIR REHAB CO	5A	-	-
CAC-W-MAIN REPLACEMENTS CYC-1	5A	42,406	45,356
CAC-W-CITY PROPERTY METERS	5A	-	-
CAC-W-MAIN REPLACEMENTS CYC-2	5A	44,163	46,353
CAC-W-MAIN REPLACEMENTS CYC-3	5A	84,590	86,282
CAC-W-GEN WATER SYSTEM IMPROVE	5A	1,379	1,447
CAC-W-CEDAR CRK BRIDGE REPLACE	5A	3	3
CAC-W-COA SKETCH PLAN REVIEW	5A	9	9
CAC-W-COA DIST SYS IMPROVE 3RD PTY	5A	5	5
CAC-W-MAIN REPLACEMENTS CYC-4	5A	157	160
		<hr/>	<hr/>
		\$172,710	\$179,615
Total Cost of Collection Part			
CAC-W-COA DIST MAINS		\$0	\$0
CAC-W-STEEL RESERVOIR REHAB CO		-	-
CAC-W-MAIN REPLACEMENTS CYC-1		2,352,088	2,515,727
CAC-W-CITY PROPERTY METERS		-	-
CAC-W-MAIN REPLACEMENTS CYC-2		2,449,529	2,570,999
CAC-W-MAIN REPLACEMENTS CYC-3		4,691,867	4,785,760
CAC-W-GEN WATER SYSTEM IMPROVE		76,489	80,266
CAC-W-CEDAR CRK BRIDGE REPLACE		188	191
CAC-W-COA SKETCH PLAN REVIEW		483	492
CAC-W-COA DIST SYS IMPROVE 3RD PTY		252	257
CAC-W-MAIN REPLACEMENTS CYC-4		8,685	8,847
		<hr/>	<hr/>
		\$9,579,580	\$9,962,539
Plus: Interest Paid On Debt			
CAC-W-COA DIST MAINS	5B	\$0	
CAC-W-STEEL RESERVOIR REHAB CO	5B	-	
CAC-W-MAIN REPLACEMENTS CYC-1	5B	326,319	
CAC-W-CITY PROPERTY METERS	5B	-	
CAC-W-MAIN REPLACEMENTS CYC-2	5B	244,676	
CAC-W-MAIN REPLACEMENTS CYC-3	5B	230,035	
CAC-W-GEN WATER SYSTEM IMPROVE	5B	20,456	
CAC-W-CEDAR CRK BRIDGE REPLACE	5B	9	
CAC-W-COA SKETCH PLAN REVIEW	5B	24	
CAC-W-COA DIST SYS IMPROVE 3RD PTY	5B	12	
CAC-W-MAIN REPLACEMENTS CYC-4	5B	431	
		<hr/>	
		\$821,963	-

**SCHEDULE B -LCA'S ALLENTOWN DIVISION WATER CAPITAL RECOVERY FEES - 2/15/2017**

**Exhibit No. 1 - Additional  
Lehigh County Authority - City Division  
Lehigh County, Pennsylvania  
Calculation of Water Tapping Fee  
By Project Segment**

	<u>Exhibit Reference</u>	<u>Original Cost</u>	<u>Trended Cost</u>
Less: Outstanding Debt			
CAC-W-COA DIST MAINS	5C	\$0	\$0
CAC-W-STEEL RESERVOIR REHAB CO	5C	-	-
CAC-W-MAIN REPLACEMENTS CYC-1	5C	2,309,682	2,309,682
CAC-W-CITY PROPERTY METERS	5C	-	-
CAC-W-MAIN REPLACEMENTS CYC-2	5C	2,405,366	2,405,366
CAC-W-MAIN REPLACEMENTS CYC-3	5C	4,607,277	4,607,277
CAC-W-GEN WATER SYSTEM IMPROVE	5C	75,110	75,110
CAC-W-CEDAR CRK BRIDGE REPLACE	5C	184	184
CAC-W-COA SKETCH PLAN REVIEW	5C	474	474
CAC-W-COA DIST SYS IMPROVE 3RD PTY	5C	247	247
CAC-W-MAIN REPLACEMENTS CYC-4	5C	8,528	8,528
		<hr/>	<hr/>
		\$9,406,870	\$9,406,870
Eligible Cost for Collection Part			
CAC-W-COA DIST MAINS		\$0	\$0
CAC-W-STEEL RESERVOIR REHAB CO		-	-
CAC-W-MAIN REPLACEMENTS CYC-1		368,725	206,045
CAC-W-CITY PROPERTY METERS		-	-
CAC-W-MAIN REPLACEMENTS CYC-2		288,839	165,633
CAC-W-MAIN REPLACEMENTS CYC-3		314,625	178,483
CAC-W-GEN WATER SYSTEM IMPROVE		21,835	5,156
CAC-W-CEDAR CRK BRIDGE REPLACE		13	7
CAC-W-COA SKETCH PLAN REVIEW		33	18
CAC-W-COA DIST SYS IMPROVE 3RD PTY		17	9
CAC-W-MAIN REPLACEMENTS CYC-4		587	319
		<hr/>	<hr/>
		\$994,674	\$555,669
Total Capacity		39,000,000	39,000,000
Collection Tapping Fee per Gallon			
CAC-W-COA DIST MAINS		\$0.00000	\$0.00000
CAC-W-STEEL RESERVOIR REHAB CO		-	-
CAC-W-MAIN REPLACEMENTS CYC-1		0.00945	0.00528
CAC-W-CITY PROPERTY METERS		-	-
CAC-W-MAIN REPLACEMENTS CYC-2		0.00741	0.00425
CAC-W-MAIN REPLACEMENTS CYC-3		0.00807	0.00458
CAC-W-GEN WATER SYSTEM IMPROVE		0.00056	0.00013
CAC-W-CEDAR CRK BRIDGE REPLACE		0.00000	0.00000
CAC-W-COA SKETCH PLAN REVIEW		0.00000	0.00000
CAC-W-COA DIST SYS IMPROVE 3RD PTY		0.00000	0.00000
CAC-W-MAIN REPLACEMENTS CYC-4		0.00002	0.00001
		<hr/>	<hr/>
		\$0.02550	\$0.01425

**Exhibit No. 2**  
**Lehigh County Authority - City Division**  
**Lehigh County, Pennsylvania**  
**Capacity Assets**

<u>Expenditure</u>	<u>Year Placed in Service</u>	<u>Original Cost</u>	<u>Cost Index</u>		<u>Trended Current Replacement Cost</u>
			<u>Original</u>	<u>Current</u>	
CAC-U-ROOF REPLACEMENTS - PH 1	2013	\$-	9547	10532	\$-
CAC-W-WFP-GENERAL IMPROVEMENT	2013	8,287	9547	10532	9,142
CAC-W-SCHANTZ SPRING CHLORINE BOOSTER	2013		9547	10532	-
CAC-U-ROOF REPLACEMENTS - PH 1	2014	26,968	9806	10532	28,964
CAC-W-WFP-GENERAL IMPROVEMENT	2014	55,441	9806	10532	59,545
CAC-W-SCHANTZ SPRING CHLORINE BOOSTER	2014	77	9806	10532	82
CAC-U-ROOF REPLACEMENTS - PH 1	2015	973,677	10036	10532	1,021,805
CAC-W-WFP-GENERAL IMPROVEMENT	2015	119,320	10036	10532	125,218
CAC-W-SCHANTZ SPRING CHLORINE BOOSTER	2015	333	10036	10532	350
CAC-U-ROOF REPLACEMENTS-PH-2	2015	9,700	10036	10532	10,179
CAC-W-TRANS MAIN LEAK EVALU	2015	147,857	10036	10532	155,165
CAC-W-D&C-CAP-REPLACEMENTS	2015	486,807	10036	10532	510,870
CAC-U-ROOF REPLACEMENTS - PH 1	2016	634,510	10339	10532	646,350
CAC-W-WFP-GENERAL IMPROVEMENT	2016	65,856	10339	10532	67,084
CAC-W-SCHANTZ SPRING CHLORINE BOOSTER	2016	3,267	10339	10532	3,328
CAC-U-ROOF REPLACEMENTS-PH-2	2016	42,229	10339	10532	43,017
CAC-W-TRANS MAIN LEAK EVALU	2016	376	10339	10532	383
CAC-W-D&C-CAP-REPLACEMENTS	2016	543,930	10339	10532	554,079
CAC-W-WFP-EMERG POWER PH-2	2016	2,622	10339	10532	2,671
CAC-W-VARIOUS WATER STUDIES	2016	682	10339	10532	695
CAC-W-WFP-HIGH CELING UPGRADES	2016	293,803	10339	10532	299,285
		<b>\$3,415,742</b>			<b>\$3,538,214</b>

**Exhibit No. 3**  
**Lehigh County Authority - City Division**  
**Lehigh County, Pennsylvania**  
**Distribution Assets**

<u>Expenditure</u>	<u>Year Placed in Service</u>	<u>Original Cost</u>	<u>Cost Index</u>		<u>Trended Current Replacement Cost</u>
			<u>Original</u>	<u>Current</u>	
CAC-W-COA DIST MAINS	2013	\$3,224	9547	10532	\$3,557
CAC-W-STEEL RESERVOIR REHAB CO	2013	502	9547	10532	553
CAC-W-MAIN REPLACEMENTS CYC-1	2013	61,372	9547	10532	67,704
CAC-W-CITY PROPERTY METERS	2013	1,049	9547	10532	1,157
CAC-W-MAIN REPLACEMENTS CYC-2	2013		9547	10532	
CAC-W-COA DIST MAINS	2014	7,884	9806	10532	8,468
CAC-W-STEEL RESERVOIR REHAB CO	2014	2,297	9806	10532	2,467
CAC-W-MAIN REPLACEMENTS CYC-1	2014	1,775,061	9806	10532	1,906,455
CAC-W-CITY PROPERTY METERS	2014	88	9806	10532	94
CAC-W-MAIN REPLACEMENTS CYC-2	2014	106,871	9806	10532	114,782
CAC-W-COA DIST MAINS	2015	5,165	10036	10532	5,420
CAC-W-STEEL RESERVOIR REHAB CO	2015	64,945	10036	10532	68,156
CAC-W-MAIN REPLACEMENTS CYC-1	2015	459,287	10036	10532	481,989
CAC-W-CITY PROPERTY METERS	2015	6,719	10036	10532	7,051
CAC-W-MAIN REPLACEMENTS CYC-2	2015	2,225,601	10036	10532	2,335,610
CAC-W-MAIN REPLACEMENTS CYC-3	2015	202,467	10036	10532	212,474
CAC-W-GEN WATER SYSTEM IMPROVE	2015	74,999	10036	10532	78,706
CAC-W-COA DIST MAINS	2016		10339	10532	-
CAC-W-STEEL RESERVOIR REHAB CO	2016	127,821	10339	10532	130,206
CAC-W-MAIN REPLACEMENTS CYC-1	2016	13,962	10339	10532	14,222
CAC-W-CITY PROPERTY METERS	2016		10339	10532	-
CAC-W-MAIN REPLACEMENTS CYC-2	2016	72,894	10339	10532	74,254
CAC-W-MAIN REPLACEMENTS CYC-3	2016	4,404,811	10339	10532	4,487,003
CAC-W-GEN WATER SYSTEM IMPROVE	2016	111	10339	10532	113
CAC-W-CEDAR CRK BRIDGE REPLACE	2016	184	10339	10532	188
CAC-W-COA SKETCH PLAN REVIEW	2016	474	10339	10532	483
CAC-W-COA DIST SYS IMPROVE 3RD PTY	2016	247	10339	10532	252
CAC-W-MAIN REPLACEMENTS CYC-4	2016	8,528	10339	10532	8,688
		<u>\$9,626,564</u>			<u>\$10,010,054</u>

**Exhibit No. 4**  
**Lehigh County Authority - City Division**  
**Lehigh County, Pennsylvania**  
**Contribution Summary**

<u>Capacity Part</u>	<u>Contribution</u>	<u>Year</u>	<u>Original Amount</u>	<u>Cost Index</u>		<u>Trended Amount</u>
				<u>Original</u>	<u>Current</u>	
	CAC-U-ROOF REPLACEMENTS - PH 1	2013	\$-	9547	10532	\$-
	CAC-W-WFP-GENERAL IMPROVEMEN	2013		9547	10532	-
	CAC-W-SCHANTZ SPRING CHLORINE	2013		9547	10532	-
	CAC-U-ROOF REPLACEMENTS - PH 1	2014		9806	10532	-
	CAC-W-WFP-GENERAL IMPROVEMEN	2014		9806	10532	-
	CAC-W-SCHANTZ SPRING CHLORINE	2014	77	9806	10532	82
	CAC-U-ROOF REPLACEMENTS - PH 1	2015		10036	10532	-
	CAC-W-WFP-GENERAL IMPROVEMEN	2015		10036	10532	-
	CAC-W-SCHANTZ SPRING CHLORINE	2015	333	10036	10532	350
	CAC-U-ROOF REPLACEMENTS-PH-2	2015		10036	10532	-
	CAC-W-TRANS MAIN LEAK EVALU	2015		10036	10532	-
	CAC-W-D&C-CAP-REPLACEMENTS	2015		10036	10532	-
	CAC-U-ROOF REPLACEMENTS - PH 1	2016		10339	10532	-
	CAC-W-WFP-GENERAL IMPROVEMEN	2016		10339	10532	-
	CAC-W-SCHANTZ SPRING CHLORINE	2016	3,267	10339	10532	3,328
	CAC-U-ROOF REPLACEMENTS-PH-2	2016		10339	10532	-
	CAC-W-TRANS MAIN LEAK EVALU	2016		10339	10532	-
	CAC-W-D&C-CAP-REPLACEMENTS	2016		10339	10532	-
	CAC-W-WFP-EMERG POWER PH-2	2016		10339	10532	-
	CAC-W-VARIOUS WATER STUDIES	2016		10339	10532	-
	CAC-W-WFP-HIGH CELING UPGRADE:	2016		10339	10532	-
			<b>\$3,677</b>			<b>\$3,760</b>

**Exhibit No. 4**  
**Lehigh County Authority - City Division**  
**Lehigh County, Pennsylvania**  
**Contribution Summary**

<u>Distribution Part</u>	<u>Contribution</u>	<u>Year</u>	<u>Original Amount</u>	<u>Cost Index</u>		<u>Trended Amount</u>
				<u>Original</u>	<u>Current</u>	
	CAC-W-COA DIST MAINS	2013	\$3,224	9547	10532	\$3,557
	CAC-W-STEEL RESERVOIR REHAB CC	2013	502	9547	10532	553
	CAC-W-MAIN REPLACEMENTS CYC-1	2013				
	CAC-W-CITY PROPERTY METERS	2013	1,049	9547	10532	1,157
	CAC-W-MAIN REPLACEMENTS CYC-2	2013				
	CAC-W-COA DIST MAINS	2014	7,884	9806	10532	8,468
	CAC-W-STEEL RESERVOIR REHAB CC	2014	2,297	9806	10532	2,467
	CAC-W-MAIN REPLACEMENTS CYC-1	2014				
	CAC-W-CITY PROPERTY METERS	2014	88	9806	10532	94
	CAC-W-MAIN REPLACEMENTS CYC-2	2014				
	CAC-W-COA DIST MAINS	2015	5,165	10036	10532	5,420
	CAC-W-STEEL RESERVOIR REHAB CC	2015	64,945	10036	10532	68,156
	CAC-W-MAIN REPLACEMENTS CYC-1	2015				
	CAC-W-CITY PROPERTY METERS	2015	6,719	10036	10532	7,051
	CAC-W-MAIN REPLACEMENTS CYC-2	2015				
	CAC-W-MAIN REPLACEMENTS CYC-3	2015				
	CAC-W-GEN WATER SYSTEM IMPROV	2015				
	CAC-W-COA DIST MAINS	2016				
	CAC-W-STEEL RESERVOIR REHAB CC	2016	127,821	10339	10532	130,206
	CAC-W-MAIN REPLACEMENTS CYC-1	2016				
	CAC-W-CITY PROPERTY METERS	2016				
	CAC-W-MAIN REPLACEMENTS CYC-2	2016				
	CAC-W-MAIN REPLACEMENTS CYC-3	2016				
	CAC-W-GEN WATER SYSTEM IMPROV	2016				
	CAC-W-CEDAR CRK BRIDGE REPLACI	2016				
	CAC-W-COA SKETCH PLAN REVIEW	2016				
	CAC-W-COA DIST SYS IMPROVE 3RD	2016				
	CAC-W-MAIN REPLACEMENTS CYC-4	2016				
			<b>\$219,694</b>			<b>\$227,129</b>

**Exhibit No. 5A**  
**Lehigh County Authority - City Division**  
**Lehigh County, Pennsylvania**  
**Debt Summary - Calculation of Financing Costs**

<b>Uses of Financed Funds</b>			<b>Cost of Issuance</b>	<b>Additional Cost Per \$1 of Capital For Issuance Costs</b>
Up-Front Lease Payment	\$211,332,218	77.41%	\$3,880,062	
Deposit to Capital Improvement Fund	31,850,566	11.67%	584,777	0.01836
Deposit to Debt Service Reserve Fund	26,379,843	9.66%	484,334	
Deposit to 2013A Capitalized Interest Account	3,450,000	1.26%	63,342	
Cost of Issuance	5,012,515			
<b>TOTAL</b>	<u>\$278,025,141</u>			

For every \$1 of Eligible Capital      0.01836      should be added in issuance costs.  
be added in issuance costs.



**Exhibit No. 5A**  
**Lehigh County Authority - City Division**  
**Lehigh County, Pennsylvania**  
**Debt Summary - Calculation of Financing Costs**

Capacity	Expenditure	Year Placed in Service	Original Cost	Associated Issuance Original Cost	Additional		Trended Current Replacement Cost
					Cost Index Original	Current	
	CAC-U-ROOF REPLACEMENTS - PH 1						
	CAC-W-WFP-GENERAL IMPROVEMENT	2013	\$8,287	\$152	9547	10532	\$168
	CAC-W-SCHANTZ SPRING CHLORINE BOOSTER						
	CAC-U-ROOF REPLACEMENTS - PH 1	2014	\$26,968	\$495	9547	10532	\$546
	CAC-W-WFP-GENERAL IMPROVEMENT	2014	55,441	1,018	9547	10532	1,123
	CAC-W-SCHANTZ SPRING CHLORINE BOOSTER						
	CAC-U-ROOF REPLACEMENTS - PH 1	2015	\$973,677	\$17,877	9547	10532	\$19,721
	CAC-W-WFP-GENERAL IMPROVEMENT	2015	119,320	2,191	9547	10532	2,417
	CAC-W-SCHANTZ SPRING CHLORINE BOOSTER						
	CAC-U-ROOF REPLACEMENTS-PH-2	2015	9,700	178	9547	10532	196
	CAC-W-TRANS MAIN LEAK EVALU	2015	147,857	2,715	9547	10532	2,995
	CAC-W-D&C-CAP-REPLACEMENTS	2015	486,807	8,938	9547	10532	9,860
	CAC-U-ROOF REPLACEMENTS - PH 1	2016	\$634,510	\$11,650	9547	10532	\$12,852
	CAC-W-WFP-GENERAL IMPROVEMENT	2016	65,856	1,209	9547	10532	1,334
	CAC-W-SCHANTZ SPRING CHLORINE BOOSTER						
	CAC-U-ROOF REPLACEMENTS-PH-2	2016	42,229	775	9547	10532	855
	CAC-W-TRANS MAIN LEAK EVALU	2016	376	7	9547	10532	8
	CAC-W-D&C-CAP-REPLACEMENTS	2016	543,930	9,987	9547	10532	11,017
	CAC-W-WFP-EMERG POWER PH-2	2016	2,622	48	9547	10532	53
	CAC-W-VARIOUS WATER STUDIES	2016	682	13	9547	10532	14
	CAC-W-WFP-HIGH CELING UPGRADES	2016	293,803	5,394	9547	10532	5,951
				<b>\$62,646</b>			<b>\$69,109</b>

**Exhibit No. 5A**  
**Lehigh County Authority - City Division**  
**Lehigh County, Pennsylvania**  
**Debt Summary - Calculation of Financing Costs**

Distribution	Expenditure	Year Placed in Service	Original Cost	Associated Issuance Original Cost	Additional		Trended Current Replacement Cost
					Cost Index Original	Current	
	CAC-W-COA DIST MAINS						
	CAC-W-STEEEL RESERVOIR REHAB CO						
	CAC-W-MAIN REPLACEMENTS CYC-1	2013	\$61,372	\$1,127	9547	10532	\$1,243
	CAC-W-CITY PROPERTY METERS						
	CAC-W-MAIN REPLACEMENTS CYC-2						
	CAC-W-COA DIST MAINS						
	CAC-W-STEEEL RESERVOIR REHAB CO						
	CAC-W-MAIN REPLACEMENTS CYC-1	2014	\$1,775,061	\$32,590	9806	10532	\$35,003
	CAC-W-CITY PROPERTY METERS						
	CAC-W-MAIN REPLACEMENTS CYC-2	2014	106,871	1,962	9806	10532	2,107
	CAC-W-COA DIST MAINS						
	CAC-W-STEEEL RESERVOIR REHAB CO						
	CAC-W-MAIN REPLACEMENTS CYC-1	2015	\$459,287	\$8,433	10036	10532	\$8,849
	CAC-W-CITY PROPERTY METERS						
	CAC-W-MAIN REPLACEMENTS CYC-2	2015	2,225,601	40,862	10036	10532	42,882
	CAC-W-MAIN REPLACEMENTS CYC-3	2015	202,467	3,717	10036	10532	3,901
	CAC-W-GEN WATER SYSTEM IMPROVE	2015	74,999	1,377	10036	10532	1,445
	CAC-W-COA DIST MAINS						
	CAC-W-STEEEL RESERVOIR REHAB CO						
	CAC-W-MAIN REPLACEMENTS CYC-1	2016	\$13,962	\$256	10339	10532	\$261
	CAC-W-CITY PROPERTY METERS						
	CAC-W-MAIN REPLACEMENTS CYC-2	2016	72,894	1,338	10339	10532	1,363
	CAC-W-MAIN REPLACEMENTS CYC-3	2016	4,404,811	80,872	10339	10532	82,381
	CAC-W-GEN WATER SYSTEM IMPROVE	2016	111	2	10339	10532	2
	CAC-W-CEDAR CRK BRIDGE REPLACE	2016	184	3	10339	10532	3
	CAC-W-COA SKETCH PLAN REVIEW	2016	474	9	10339	10532	9
	CAC-W-COA DIST SYS IMPROVE 3RD PTY	2016	247	5	10339	10532	5
	CAC-W-MAIN REPLACEMENTS CYC-4	2016	8,528	157	10339	10532	160
				<b>\$172,710</b>			<b>\$179,615</b>

**Exhibit No. 5B**  
**Lehigh County Authority - City Division**  
**Lehigh County, Pennsylvania**  
**Debt Summary - Summary of Interest Paid**

Capacity	Expenditure	Year Placed in Service	Original Cost	Interest Paid To Date
	CAC-U-ROOF REPLACEMENTS - PH 1			
	CAC-W-WFP-GENERAL IMPROVEMENT	2013	\$8,287	\$1,388
	CAC-W-SCHANTZ SPRING CHLORINE BOOSTER			
	CAC-U-ROOF REPLACEMENTS - PH 1	2014	\$26,968	\$4,086
	CAC-W-WFP-GENERAL IMPROVEMENT	2014	55,441	8,400
	CAC-W-SCHANTZ SPRING CHLORINE BOOSTER			
	CAC-U-ROOF REPLACEMENTS - PH 1	2015	\$973,677	\$98,349
	CAC-W-WFP-GENERAL IMPROVEMENT	2015	119,320	12,052
	CAC-W-SCHANTZ SPRING CHLORINE BOOSTER			
	CAC-U-ROOF REPLACEMENTS-PH-2	2015	9,700	980
	CAC-W-TRANS MAIN LEAK EVALU	2015	147,857	14,935
	CAC-W-D&C-CAP-REPLACEMENTS	2015	486,807	49,171
	CAC-U-ROOF REPLACEMENTS - PH 1	2016	\$634,510	\$32,045
	CAC-W-WFP-GENERAL IMPROVEMENT	2016	65,856	3,326
	CAC-W-SCHANTZ SPRING CHLORINE BOOSTER			
	CAC-U-ROOF REPLACEMENTS-PH-2	2016	42,229	2,133
	CAC-W-TRANS MAIN LEAK EVALU	2016	376	19
	CAC-W-D&C-CAP-REPLACEMENTS	2016	543,930	27,471
	CAC-W-WFP-EMERG POWER PH-2	2016	2,622	132
	CAC-W-VARIOUS WATER STUDIES	2016	682	34
	CAC-W-WFP-HIGH CELING UPGRADES	2016	293,803	14,838
				<b>\$269,359</b>

**Exhibit No. 5B**  
**Lehigh County Authority - City Division**  
**Lehigh County, Pennsylvania**  
**Debt Summary - Summary of Interest Paid**

<b>Distribution</b>				
<b>Expenditure</b>	<b>Year Placed in Service</b>	<b>Original Cost</b>	<b>Interest Paid To Date</b>	
CAC-W-COA DIST MAINS				
CAC-W-STEEL RESERVOIR REHAB CO				
CAC-W-MAIN REPLACEMENTS CYC-1	2013	\$61,372	\$10,280	
CAC-W-CITY PROPERTY METERS				
CAC-W-MAIN REPLACEMENTS CYC-2				
CAC-W-COA DIST MAINS				
CAC-W-STEEL RESERVOIR REHAB CO				
CAC-W-MAIN REPLACEMENTS CYC-1	2014	\$1,775,061	\$268,942	
CAC-W-CITY PROPERTY METERS				
CAC-W-MAIN REPLACEMENTS CYC-2	2014	106,871	16,192	
CAC-W-COA DIST MAINS				
CAC-W-STEEL RESERVOIR REHAB CO				
CAC-W-MAIN REPLACEMENTS CYC-1	2015	\$459,287	\$46,392	
CAC-W-CITY PROPERTY METERS				
CAC-W-MAIN REPLACEMENTS CYC-2	2015	2,225,601	224,803	
CAC-W-MAIN REPLACEMENTS CYC-3	2015	202,467	7,575	
CAC-W-GEN WATER SYSTEM IMPROVE	2015	74,999	20,451	
CAC-W-COA DIST MAINS				
CAC-W-STEEL RESERVOIR REHAB CO				
CAC-W-MAIN REPLACEMENTS CYC-1	2016	\$13,962	\$705	
CAC-W-CITY PROPERTY METERS				
CAC-W-MAIN REPLACEMENTS CYC-2	2016	72,894	3,681	
CAC-W-MAIN REPLACEMENTS CYC-3	2016	4,404,811	222,460	
CAC-W-GEN WATER SYSTEM IMPROVE	2016	111	6	
CAC-W-CEDAR CRK BRIDGE REPLACE	2016	184	9	
CAC-W-COA SKETCH PLAN REVIEW	2016	474	24	
CAC-W-COA DIST SYS IMPROVE 3RD PTY	2016	247	12	
CAC-W-MAIN REPLACEMENTS CYC-4	2016	8,528	431	
				<b>\$821,963</b>

**Exhibit No. 5C**  
**Lehigh County Authority - City Division**  
**Lehigh County, Pennsylvania**  
**Debt Summary - Outstanding Principal**

<b>Capacity</b>				
<b>Expenditure</b>	<b>Year Placed in Service</b>	<b>Financed Amount</b>	<b>Payments To Date</b>	<b>Outstanding Principal</b>
CAC-U-ROOF REPLACEMENTS - PH 1				
CAC-W-WFP-GENERAL IMPROVEMENT	2013	\$8,287	\$-	\$8,287
CAC-W-SCHANTZ SPRING CHLORINE BOOSTER				
CAC-U-ROOF REPLACEMENTS - PH 1	2014	\$26,968	\$-	\$26,968
CAC-W-WFP-GENERAL IMPROVEMENT	2014	55,441	-	55,441
CAC-W-SCHANTZ SPRING CHLORINE BOOSTER				
CAC-U-ROOF REPLACEMENTS - PH 1	2015	\$973,677	\$-	\$973,677
CAC-W-WFP-GENERAL IMPROVEMENT	2015	119,320	-	119,320
CAC-W-SCHANTZ SPRING CHLORINE BOOSTER				
CAC-U-ROOF REPLACEMENTS-PH-2	2015	9,700	-	9,700
CAC-W-TRANS MAIN LEAK EVALU	2015	147,857	-	147,857
CAC-W-D&C-CAP-REPLACEMENTS	2015	486,807	-	486,807
CAC-U-ROOF REPLACEMENTS - PH 1	2016	\$634,510	\$-	\$634,510
CAC-W-WFP-GENERAL IMPROVEMENT	2016	65,856	-	65,856
CAC-W-SCHANTZ SPRING CHLORINE BOOSTER				
CAC-U-ROOF REPLACEMENTS-PH-2	2016	42,229	-	42,229
CAC-W-TRANS MAIN LEAK EVALU	2016	376	-	376
CAC-W-D&C-CAP-REPLACEMENTS	2016	543,930	-	543,930
CAC-W-WFP-EMERG POWER PH-2	2016	2,622	-	2,622
CAC-W-VARIOUS WATER STUDIES	2016	682	-	682
CAC-W-WFP-HIGH CELING UPGRADES	2016	293,803	-	293,803
				<b>\$3,412,065</b>

**Exhibit No. 5C**  
**Lehigh County Authority - City Division**  
**Lehigh County, Pennsylvania**  
**Debt Summary - Outstanding Principal**

<b>Distribution</b>				
<b>Expenditure</b>	<b>Year Placed in Service</b>	<b>Financed Amount</b>	<b>Payments To Date</b>	<b>Outstanding Principal</b>
CAC-W-COA DIST MAINS				
CAC-W-STEEL RESERVOIR REHAB CO				
CAC-W-MAIN REPLACEMENTS CYC-1	2013	\$61,372	\$-	\$61,372
CAC-W-CITY PROPERTY METERS				
CAC-W-MAIN REPLACEMENTS CYC-2				
CAC-W-COA DIST MAINS				
CAC-W-STEEL RESERVOIR REHAB CO				
CAC-W-MAIN REPLACEMENTS CYC-1	2014	\$1,775,061	\$-	\$1,775,061
CAC-W-CITY PROPERTY METERS				
CAC-W-MAIN REPLACEMENTS CYC-2	2014	106,871	-	106,871
CAC-W-COA DIST MAINS				
CAC-W-STEEL RESERVOIR REHAB CO				
CAC-W-MAIN REPLACEMENTS CYC-1	2015	\$459,287	\$-	\$459,287
CAC-W-CITY PROPERTY METERS				
CAC-W-MAIN REPLACEMENTS CYC-2	2015	2,225,601	-	2,225,601
CAC-W-MAIN REPLACEMENTS CYC-3	2015	202,467	-	202,467
CAC-W-GEN WATER SYSTEM IMPROVE	2015	74,999	-	74,999
CAC-W-COA DIST MAINS				
CAC-W-STEEL RESERVOIR REHAB CO				
CAC-W-MAIN REPLACEMENTS CYC-1	2016	\$13,962	\$-	\$13,962
CAC-W-CITY PROPERTY METERS				
CAC-W-MAIN REPLACEMENTS CYC-2	2016	72,894	-	72,894
CAC-W-MAIN REPLACEMENTS CYC-3	2016	4,404,811	-	4,404,811
CAC-W-GEN WATER SYSTEM IMPROVE	2016	111	-	111
CAC-W-CEDAR CRK BRIDGE REPLACE	2016	184	-	184
CAC-W-COA SKETCH PLAN REVIEW	2016	474	-	474
CAC-W-COA DIST SYS IMPROVE 3RD PTY	2016	247	-	247
CAC-W-MAIN REPLACEMENTS CYC-4	2016	8,528	-	8,528
				<b>\$9,406,870</b>

**SCHEDULE C - LCA CUSTOMER FACILITIES FEES CONNECTION FEES  
ALLENTOWN SUBURBAN DIVISION - WATER WASTEWATER**

**Suburban Division - Water System - Customer Facilities Fees**

**Meter Component - With DC Backflow**

<u>Meter Size</u>	<u>2017 Supply Cost</u>	<u>2017 Labor Cost</u>	<u>2017 Rate</u>
5/8"	\$277	\$89	\$366
5/8" Pit	\$316	\$89	\$405
3/4"	\$295	\$89	\$384
3/4" Pit	\$326	\$89	\$415

**Meter Component - With No Backflow**

<u>Meter Size</u>	<u>2017 Supply Cost</u>	<u>2017 Labor Cost</u>	<u>2017 Rate</u>
5/8"	\$246	\$89	\$335
5/8" Pit	\$285	\$89	\$374
3/4"	\$264	\$89	\$353
3/4" Pit	\$295	\$89	\$384
1"	\$338	\$89	\$427
1" Pit	\$359	\$89	\$448
1 1/2" Displacement	\$625	\$50	\$675
1 1/2" Turbine	\$858	\$50	\$908
1 1/2" Compound	\$1,190	\$50	\$1,240
2" Displacement	\$824	\$50	\$874
2" Turbine	\$1,031	\$50	\$1,081
2" Compound	\$1,404	\$50	\$1,454

## Suburban Division - Wastewater System - Customer Facilities Fees

### Meter Purchase Only (Plumber Install)

<u>Meter Size</u>	<u>2017 Supply Cost</u>	<u>2017 Inspection Fee</u>	<u>2017 Rate</u>
5/8"	\$246	\$50	\$296
5/8" Pit	\$285	\$50	\$335
3/4"	\$264	\$50	\$314
3/4" Pit	\$295	\$50	\$345
1"	\$338	\$50	\$388
1" Pit	\$359	\$50	\$409
1 1/2" Displacement	\$625	\$50	\$675
1 1/2" Turbine	\$858	\$50	\$908
1 1/2" Compound	\$1,190	\$50	\$1,240
2" Displacement	\$824	\$50	\$874
2" Turbine	\$1,031	\$50	\$1,081
2" Compound	\$1,404	\$50	\$1,454



## Allentown Division - Water System - Customer Facilities Fees

<u>Meter Size</u>	<u>2017 Meter Price</u>	<u>Components</u>	<u>2017 Labor Cost</u>	<u>2017 Rate</u>
5/8"	\$80	\$103	\$85	\$268
3/4"	\$136	\$103	\$85	\$324
1"	\$125	\$105	\$85	\$316
1 1/2"	\$270	\$154	\$85	\$509
2"	\$351	\$189	\$85	\$626
3"	\$1,423	\$145	\$50	\$1,618
3"	\$985	\$145	\$50	\$1,180
4"	\$2,472	\$165	\$50	\$2,687
4"	\$1,918	\$165	\$50	\$2,133
6"	\$4,270	\$198	\$50	\$4,518
6"	\$3,452	\$198	\$50	\$3,700
8"	\$6,898	\$273	\$50	\$7,221
8"	\$5,858	\$273	\$50	\$6,181

<u>Other Components</u>	<u>2017 Price</u>
5/8" Meter Horn	\$41.00
3/4" Meter Horn	\$59.00
Curb Box - Metal	\$67.84

## Allentown Division - Water System - Water Connection Fees

### Water Taps 3/4 inch - 2 inch

	<u>Corporation</u>	<u>Tail Piece</u>	<u>Saddle Clamp</u>	<u>Employee Wages</u>	<u>Equipment</u>	<u>2017 Rate</u>
Size 3/4 "	\$22	\$17	\$0	\$215	\$64	\$318
Size 1 "	\$33	\$25	\$0	\$215	\$64	\$338
Size 1 1/2"	\$102	\$68	\$30	\$215	\$64	\$480
Size 2 "	\$171	\$109	\$30	\$215	\$64	\$590

### Water Sleeve and Valve Connectors

	<u>Valve</u>	<u>Casing</u>	<u>Tapping Fitting</u>	<u>Employee Wages</u>	<u>Equipment</u>	<u>2017 Rate</u>
Size 4"x 4"	\$410	\$120	\$357	\$632	\$216	\$1,735
Size 6"x 4"	\$410	\$120	\$363	\$632	\$216	\$1,741
Size 6" x 6"	\$521	\$120	\$413	\$632	\$216	\$1,902
Size 8"x 4"	\$410	\$120	\$376	\$632	\$216	\$1,754
Size 8"x 6"	\$521	\$120	\$418	\$632	\$216	\$1,907
Size 8"x 8"	\$829	\$120	\$545	\$632	\$216	\$2,342
Size 12"x 4"	\$410	\$120	\$483	\$632	\$216	\$1,861
Size 12"x 6"	\$521	\$120	\$531	\$632	\$216	\$2,020
Size 12"x 8"	\$829	\$120	\$642	\$632	\$216	\$2,439
Size 12"x 12"	\$1,636	\$120	\$1,204	\$632	\$216	\$3,808



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## MEMORANDUM

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**TO:** LCA Board of Directors  
**FROM:** Liesel Gross, CEO  
**DATE:** February 21, 2017  
**RE:** 2017 Goals & Measures

### Overview

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This memo and accompanying packet of information is intended to provide details of Lehigh County Authority's goal-setting process for 2017 to date. As you will see in the materials provided, this year's process signals a shift from our more traditional annual goal-setting process into a continuous improvement framework that will always be a "work in progress." At our February 27, 2017 Board meeting, I will review the materials in this packet and seek your feedback on the overall direction we have set for ourselves through this process. Discussion about the "Next Steps" section of this memo will also help drive us forward in these areas, or in other directions as needed. I look forward to hearing your feedback!

### Background

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Over the years, LCA's goal-setting process has evolved in its format and function, but has typically involved a process of outlining a lengthy list of individual goals that managers and employees were responsible for achieving. While managers may have used this process to track individual performance, we have historically struggled to develop a method to bring the goals into a cohesive package that would communicate the organization's overall strategic direction.

In 2016, we embarked upon a new goal-setting process that included establishing a very limited number of strategic goals for the organization to signal the top priorities we would focus on during the course of the year. The four goals we developed in 2016 – in the categories of financial health, asset management, organizational development and environmental/regional leadership – served as the "themes" for the year and were carried forward through many discussion with employees, managers and the Board throughout the year, including in our budget prioritization process for 2017.

While this process was an improvement from prior practice, there is room for additional improvement in the goal-setting process, especially as it relates to tracking ongoing progress, measuring results and setting a longer-term vision for the organization. As we began considering our 2017 goals, the management group sought ways to address these important areas as part of the process. For guidance, we turned to the water / wastewater industry associations, which led us to the Effective Utility Management (EUM) framework that was developed in 2008, and refreshed in 2016, through a partnership of seven well-respected industry organizations including the American Water Works Association and the US Environmental Protection Agency. Using the EUM framework, the LCA staff developed preliminary goals and concepts around measures for 2017, which are included as part of this packet.

*Every drop matters. Every customer counts.*

## More About EUM

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Essentially, the EUM framework codifies the common “language” that all water and wastewater utilities speak. While every utility is unique in certain ways relating to organization structure, technology, economic climate, water supply availability, size, age of infrastructure, etc., there are some basic tenets of utility management that are common to all utilities. The EUM framework simplifies utility management into 10 attributes that define what an “Effectively Managed Utility” looks like.

The first attachment to this memo displays a listing of these 10 attributes, followed by a “2<sup>nd</sup> Generation (2016)” diagram of the EUM framework that includes five “keys to success.” This diagram is intended to illustrate that that 10 attributes and 5 keys to success all work together to ensure the utility is managed effectively.

This simple framework provides a tool for utility managers to assess strengths, weaknesses and priorities in establishing goals. In addition, the EUM toolkit offers approximately 80 industry-accepted measures that utilities could use to track performance in each of the 10 attributes, as appropriate for that utility.

## LCA Process Using EUM

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In November, the LCA management group conducted a cursory assessment of the organization’s performance across the 10 EUM attributes. This assessment was quite simple in form – composite performance “grades” and rankings were calculated from feedback provided by 30 LCA managers and supervisors.

To develop priorities, we looked for the following:

- Highest ranking (most important) attributes regardless of performance – recognizing that the things that are most important to LCA should always be on the list for continuous improvement.
- Lower ranking (less important) attributes that have the lowest performance grade – recognizing that all 10 attributes are in some way important, we should focus on areas that need to most improvement.

Through this evaluation, and in an effort to keep our goals reasonable/achievable, we selected four of the EUM attributes to focus on:

EUM Attribute	Performance Grade	Rank / Importance
Product Quality	A-	1
Financial Viability	C+	2
Infrastructure Stability	C	3 (5-way tie)
Employee & Leadership Development	C+	3 (5-way tie)

Following this grading and prioritization process, developing the details of what we hope to achieve in each of these four areas came quite easily because they closely mirror the priorities we had established for 2016. The final attachment to this memo provides a more detailed description of LCA’s focus for these four attributes in 2017, including quarterly milestones which can be tracked for achievement.

In addition, to establishing a work plan for each of these areas, each form includes a section at the end entitled “Measures Under Consideration.” These measures are a sampling of items included in the EUM toolkit that relate most closely to LCA’s specific focus for 2017. Further investigation and discussion is required to determine which measures we can implement based on data availability, and we expect to revise these listings accordingly and refine them to a more limited number of measures for each attribute.

### **Next Steps**

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Goal-setting is an iterative process. At its most simplistic level, it is important to establish work plans and targets that help the staff to prioritize the work we must accomplish. In its form as presented here, we believe the four goal areas achieve this. That is, if we do nothing more than track progress on our achievement of the quarterly milestones laid out in the attached documents, we will find ourselves in a better place at the end of the year than where we started.

To transform these goals into a living and evolving process of continuous improvement, however, we need to do more. The following next steps are envisioned:

- Refinement of measures for the 4 EUM attributes selected. Establish targets for the measures selected. Use industry best practices / benchmarks where available.
- Development of a visual / simplified monthly report out on goal progress.
- Deeper dive with Board on selected attributes of broader interest (e.g. community sustainability, stakeholder input, etc.)
- Development of a mid-term vision for the organization (LCA 2020) that will guide our planning and budgeting process for the next 3-5 years.
- Continuous refinement and evaluation!

These steps will take some time and resources to achieve, but are achievable with the commitment of the staff and Board to continue this strategy discussion. In addition, an external resource familiar with the EUM framework will be sought to support this effort to ensure that LCA’s efforts align with industry best practices, and to supplement any gaps in our staff’s availability to complete this important work.

**Effective Utility Management – Planning Framework - 1st Generation (2008)**  
**Developed by AWWA, USEPA, AMWA, APWA, NACWA, NAWC & WEF**

<b>Attribute</b>	<b>Attribute Components</b>
Product Quality (PQ)	<ul style="list-style-type: none"> <li>❖ Complies with regulatory and reliability requirements.</li> <li>❖ Consistent with customer, public health, and ecological needs.</li> </ul>
Customer Satisfaction (CS)	<ul style="list-style-type: none"> <li>❖ Provides reliable, responsive, and affordable services.</li> <li>❖ Receives timely customer feedback.</li> <li>❖ Responsive to customer needs and emergencies.</li> </ul>
Employee and Leadership Development (ED)	<ul style="list-style-type: none"> <li>❖ Recruits and retains competent workforce.</li> <li>❖ Collaborative organization dedicated to continual learning and improvement.</li> <li>❖ Employee institutional knowledge retained and improved.</li> <li>❖ Opportunities for professional and leadership development.</li> <li>❖ Integrated and well-coordinated senior leadership team.</li> </ul>
Operational Optimization (OO)	<ul style="list-style-type: none"> <li>❖ Ongoing performance improvements.</li> <li>❖ Minimizes resource use and loss from day-to-day operations.</li> <li>❖ Awareness and timely adoption of operational and technology improvements.</li> </ul>
Financial Viability (FV)	<ul style="list-style-type: none"> <li>❖ Understands full life-cycle cost of utility.</li> <li>❖ Effective balance between long-term debt, asset values, operations and maintenance expenditures, and operating revenues.</li> <li>❖ Predictable and adequate rates.</li> </ul>
Infrastructure Stability (IS)	<ul style="list-style-type: none"> <li>❖ Understands the condition of and costs associated with critical infrastructure assets.</li> <li>❖ Maintains and enhances assets over the long-term at the lowest possible life-cycle cost and acceptable risk.</li> <li>❖ Repair efforts are coordinated within the community to minimize disruptions.</li> </ul>
Operational Resiliency (OR)	<ul style="list-style-type: none"> <li>❖ Staff work together to anticipate and avoid problems.</li> <li>❖ Proactively establishes tolerance levels and effectively manages risks (including legal, regulatory, financial, environmental, safety, security, and natural disaster-related).</li> </ul>
Community Sustainability (SU)	<ul style="list-style-type: none"> <li>❖ Attentive to impacts on community and watershed health and welfare.</li> <li>❖ Operations enhance natural environment.</li> <li>❖ Efficiency use water and energy resources; promote economic vitality; and engender overall community improvement.</li> <li>❖ Maintain and enhance ecological and community sustainability including pollution prevention, watershed, and source water protection.</li> </ul>
Water Resource Adequacy (WA)	<ul style="list-style-type: none"> <li>❖ Ensures water availability through long-term resource supply and demand analysis, conservation and public education.</li> <li>❖ Manages operations to provide for long-term aquifer and surface water sustainability and replenishment.</li> </ul>
Stakeholder Understanding and Support (SS)	<ul style="list-style-type: none"> <li>❖ Engenders understanding and support from oversight bodies, community and watershed interests, and regulatory bodies for service levels, rate structures, operating budgets, capital improvement programs, and risk management decisions.</li> <li>❖ Actively involves stakeholders in the decisions that will affect them.</li> </ul>

Effective Utility Management – 10 Attributes & 5 Keys to Success - 2nd Generation (2017)  
Developed by AWWA, USEPA, AMWA, APWA, NACWA, NAWC & WEF



## 2017: LCA Organizational Goals – Product Quality

### Attribute Description from Effective Utility Management (EUM) framework:

Produces “fit for purpose” water that meets or exceeds full compliance with regulatory and reliability requirements and consistent with customer, public health, ecological, and economic needs. Products include treated drinking water, treated wastewater effluent, recycled water, stormwater discharge, and recovered resources.

LCA MANAGEMENT GRADE: A- \*

*\* Additional discussion required to validate an overall “A” grade in this area, considering some challenges within LCA’s small water and wastewater systems, and continued region-wide need to address sanitary sewer overflows.*

LCA MANAGEMENT RANK (1-10): 1

### 2017 LCA FOCUS: US EPA Administrative Order / Elimination of Sanitary Sewer Overflows (SSOs)

- Develop measurement / cost-sharing methodology that municipalities agree on with the WLSP through an MOC
- Work with the City to Develop measurement / cost-sharing methodology that City Signatory municipalities agree on through an MOU
- Planning work completed / approved by WLSP/ submitted to EPA by 12/31/2017
- Develop method of measure effectiveness of capital program and ongoing operation and maintenance (CMOM) program
- Plan for 2018 WLI PCA Projects

### QUARTERLY MILESTONES:

<b>Timing</b>	<b>Description</b>
2017 – 1 <sup>st</sup> Quarter	<ul style="list-style-type: none"> <li>• Monthly meetings to negotiate MOU and MOC</li> <li>• Set up rehabilitation effectiveness metering program</li> <li>• Initiate development of CMOM Program</li> </ul>
2017 – 2 <sup>nd</sup> Quarter	<ul style="list-style-type: none"> <li>• Monthly meetings to negotiate MOU and MOC</li> <li>• Meeting with EPA/DEP to present Program concepts</li> <li>• WLSP municipal meeting attendance</li> <li>• Complete CMOM Table of Contents</li> </ul>
2017 – 3 <sup>rd</sup> Quarter	<ul style="list-style-type: none"> <li>• Execute MOC among WLSP</li> <li>• Finalize WLSP Cash Flow Plan</li> <li>• Complete draft <i>SCARP Improvements Implementation Plan</i></li> <li>• Complete the draft CMOM Program</li> </ul>
2017 – 4 <sup>th</sup> Quarter	<ul style="list-style-type: none"> <li>• Execute MOU with City Signatories</li> <li>• Finalize CMOM Program</li> <li>• Submit <i>SCARP Improvements Implementation Plan to EPA/DEP</i></li> </ul>



Timing	Description
2018 Next Steps	<ul style="list-style-type: none"> <li>• Initiation of CMOM Program</li> <li>• WLI improvements design work</li> <li>• Monitor Signatory improvements progress</li> </ul>
Ongoing Steps / Activities	<ul style="list-style-type: none"> <li>• Monthly coordination meetings</li> <li>• Flow Metering</li> <li>• Start step 2</li> </ul>

**MEASURES UNDER CONSIDERATION:**

1. SSOs per 100 miles of gravity sewer vs. length of sewer
2. Stoppages per 100 miles of gravity sewer vs. % system cleaned
3. Dry-weather vs. wet-weather SSOs
4. Regulatory compliance rate – water & sewer

## ***2017: LCA Organizational Goals – Financial Viability***

### Attribute Description from Effective Utility Management (EUM) framework:

Understands the full life-cycle cost of utility operations and value of water resources. Establishes and maintains an effective balance between long-term debt, asset values, operations and maintenance expenditures, and operating revenues. Establishes predictable rates—consistent with community expectations and acceptability—adequate to recover costs, provide for reserves, maintain support from bond rating agencies, plan and invest for future needs, and taking into account the needs of disadvantaged households. Implements sound strategies for collecting customer payments. Understands the opportunities available to diversify revenues and raise capital through adoption of new financial management models.

LCA MANAGEMENT GRADE: C+

LCA MANAGEMENT RANK (1-10): 2

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### 2017 LCA FOCUS: Achieving Budget and Capital Financing

- Achieve targeted performance included in 2017 budget (see measures under consideration, below)
- Complete new borrowing for known capital needs (Administrative Order / Suburban Water)
  - Suburban Water borrowing requirements - \$5.9m
  - Suburban Wastewater requirements - \$10.875m (AO Requirements)
  - City – no borrowing, using existing project reserves
- Adopt capital financing policy that staff & Board agree on
  - Use of Debt Service and levels
  - Use of Pay-as-you-go via current rates, tapping fees & other contributions
  - Use of Capital Reserves
  - Use of Debt Service Reserves
  - Use of Repair & Replacement Reserves
  - Use of Rate Normalization Reserves
  - Overall impact to user rates to fund all of the above

Note: Current policy with respect to capital funding will be reviewed and revised if needed as part of this process. In addition, to the extent that the new policy differs from current, a multi-year transition strategy may be required.
- Understand and develop strategy to address impact of Allentown Division revenue shortfall

## QUARTERLY MILESTONES:

<b>Timing</b>	<b>Description</b>
2017 – 1 <sup>st</sup> Quarter	<ul style="list-style-type: none"><li>• Financial Review of YTD results through March 2017</li><li>• Consult with Financial Consultant on available commercial/bond debt options</li><li>• Consultations on WIFIA options and requirements</li><li>• Review of current policy and its applicability</li><li>• Review of available options and selection of best options for Suburban Water and Suburban Wastewater debt</li><li>• Required submittals for debt</li><li>• Review of revenue/capital model for policy decisions by Finance Committee</li><li>• Undertake Suburban Water Rate Study</li></ul>
2017 – 2 <sup>nd</sup> Quarter	<ul style="list-style-type: none"><li>• Financial Review of YTD results through June 2017</li><li>• Debt closing for both funds</li><li>• Recommended policy to Board for Approval &amp; Adoption</li><li>• Adoption of drafted revenue/capital policy</li></ul>
2017 – 3 <sup>rd</sup> Quarter	<ul style="list-style-type: none"><li>• Financial Review of YTD results through September 2017</li><li>• Review of Water Rate Study and recommendations</li></ul>
2017 – 4 <sup>th</sup> Quarter	<ul style="list-style-type: none"><li>• Financial Review of YTD results through December 2017</li><li>• 2018 Budget completion</li><li>• Adoption of rates based upon Water Rate Study</li><li>• City Financial Model Update</li></ul>

## MEASURES UNDER CONSIDERATION:

1. Operating revenues to budget – a comparison of Actual Operating Revenues / Budget Operating Revenues expressed as a %
2. Operating Expenses (excluding depreciation expense) to operating revenue – the operating expense / operating revenue expressed as a %
3. Net Operating Cash After Debt Service % to Operating Revenue – Net Operating Cash calculated by taking operating revenue less: operating expenses (ex. Depreciation) less: debt service payments / operating revenues expressed as a % and compared to budget
4. Non-Operating Revenues % to Capital Spending – total non-operating revenues excluding project reimbursement / total capital spending expressed as a % and compared to budget
5. Debt Service Coverage Ratio – indenture based calculation compared to budget
6. Long-Term Debt to Net Assets % - long-term debt related to bond debt / Net assets which is net working capital plus long-term assets
7. Overall cash / fund balance (annual or total) as compared to target
8. Report out on actual performance related to new capital financing policy / strategy

# 2017: LCA Organizational Goals – Infrastructure Stability

Attribute Description from Effective Utility Management (EUM) framework:

Understands the condition of and costs associated with critical infrastructure assets. Plans infrastructure investments consistent with anticipated growth, system reliability goals, and relevant community priorities, building in flexibility for evolution in technology and materials, and uncertainty in the overall future operating context (e.g., climate impacts, customer base). Maintains and enhances the condition of all assets over the long-term at the lowest possible life-cycle cost and acceptable risk consistent with customer, community, and regulator-supported service levels. Assures asset repair, rehabilitation, and replacement efforts are coordinated within the community to minimize disruptions and other negative consequences.

LCA MANAGEMENT GRADE: C  
LCA MANAGEMENT RANK (1-10): 3 (tied with 5 others)

2017 LCA FOCUS: CityWorks Implementation & Asset Management Strategy Development

- Complete Phase 2 data collection and population of data in CityWorks (LCA’s Computerized Maintenance Management System) for Suburban Division (SD) vertical assets.
- Create SD Preventative Maintenance (PM) program for all major equipment, patterned after AD, and incorporate into CityWorks. This will serve the basis of measuring preventative vs. reactive maintenance going forward.
- Incorporate asset management projects into Capital Plan based on needs assessed in SD mechanical inventory and Allentown Division (AD) water master plan.
- Complete SD Facilities Upgrade Project to address highest risk rated facilities (structural, electrical/code, HVAC), per 2016 facilities condition assessment results.
- Develop strategy to combine/standardize formats of condition assessment and internal asset inventory work completed from different project areas (SD condition assessment vs. AD water master plan and upcoming AD wastewater master plan).

QUARTERLY MILESTONES:

Timing	Description
2017 – 1 <sup>st</sup> Quarter	<ul style="list-style-type: none"> <li>• Engage consulting services to assist LCA with CityWorks implementation strategy and process</li> <li>• Initiate Phase 2 of data collection and input for Suburban Division (SD) asset inventory in CityWorks. This includes equipment nameplate data, operation and maintenance manuals, shop drawings, as-built plans, repair history, etc.</li> <li>• Initiate creation of PMs for each SD facility major equipment</li> <li>• Complete design of SD Facilities Upgrade Project</li> <li>• Obtain measure of Allentown Division (AD) current % of preventative vs. reactive maintenance for 2016, with monthly benchmarking continuing in 2017</li> </ul>

Timing	Description
2017 – 2 <sup>nd</sup> Quarter	<ul style="list-style-type: none"> <li>• Continue Phase 2 data collection and input for SD asset inventory in CityWorks</li> <li>• Finalize PM program for routine preventative maintenance; input into CityWorks</li> <li>• Collaborate with internal team, including IT group, to determine if additional consulting services are required for CityWorks implementation</li> <li>• Begin construction SD Facilities Upgrade Project</li> </ul>
2017 – 3 <sup>rd</sup> Quarter	<ul style="list-style-type: none"> <li>• Complete Phase 2 data collection and input for SD asset inventory in CityWorks</li> <li>• Begin CityWorks implementation and retraining off SD operations staff</li> <li>• Scope out 2018 SD Mechanical Facilities Upgrade Project and add to Capital Plan</li> <li>• Incorporate AD water master plan results into Capital Plan</li> </ul>
2017 – 4 <sup>th</sup> Quarter	<ul style="list-style-type: none"> <li>• Complete CityWorks staff retraining &amp; implementation</li> <li>• Finish construction of SD Facilities Upgrade Project</li> <li>• Implement benchmarking of % of preventative vs. reactive maintenance for SD; add to AD measure</li> <li>• Identify standardization opportunities in AD and SD asset management programs</li> </ul>
2018 Next Steps	<ul style="list-style-type: none"> <li>• Assess improvements needed in preventative vs. reactive maintenance across all of LCA</li> <li>• Implement applicable standardization opportunities between SD and AD related to asset management programs</li> <li>• Scope out 2019 asset management upgrade projects</li> </ul>
Ongoing Steps / Activities	<ul style="list-style-type: none"> <li>• Utilize CityWorks in a consistent manner across all of LCA</li> <li>• Incorporate new CIO position into CityWorks implementation process and asset management program standardization</li> </ul>

MEASURES UNDER CONSIDERATION:

1. Condition assessment coverage ratio (number of critical assets w/ condition assessed and categorized vs. total number of critical assets)
2. Percentage of preventative vs. reactive maintenance

## **2017: LCA Organizational Goals – Employee & Leadership Devel.**

Attribute Description from Effective Utility Management (EUM) framework:

Recruits and retains a workforce that is competent, motivated, adaptive, and safety-focused. Establishes a participatory, collaborative organization dedicated to continual learning, improvement, and innovation. Ensures employee institutional knowledge is retained, transferred, and improved upon over time. Provides a focus on and emphasizes opportunities for professional and leadership development, taking into account the differing needs and expectations of a multi-generational workforce and for resource recovery facilities. Establishes an integrated and well-coordinated senior leadership team.

LCA MANAGEMENT GRADE: C+

LCA MANAGEMENT RANK (1-10): 3 (tied with 5 others)

2017 LCA FOCUS: Workforce / Succession Planning & Knowledge Loss

- Identify and plan for retirements in the 1-3 year timeframe
- Identify and address roadblocks to successful recruiting new employees & retaining/advancing the skills / responsibilities of existing employees. This focus area includes components of addressing and realigning non-union employee pay scales, developing training & leadership development strategies, addressing generational differences in growing a supportive culture or continuous improvement, and more.
- Leverage technology to address information sharing / training needs of the organization – focusing on issues like document management, IT governance, system integration, etc.

QUARTERLY MILESTONES:

<b>Timing</b>	<b>Description</b>
2017 – 1 <sup>st</sup> Quarter	<ul style="list-style-type: none"> <li>• Revise retirement risk profile w/ feedback from managers</li> <li>• Seek employee feedback on 2017 goals; process improvement priorities; recruiting strategies (internal &amp; external)</li> <li>• Recruit for 1<sup>st</sup> priority positions in wastewater operations</li> <li>• Reorganize Information Technology group with new CIO on-boarding process</li> <li>• Develop short-term (2017) IT goals &amp; plans for “quick wins”</li> <li>• Complete compensation study</li> <li>• Develop simplified Leadership Academy concepts / opportunities</li> <li>• Recruit 3-5 new supervisors/managers into Leadership Academy</li> </ul>

Timing	Description
2017 – 2 <sup>nd</sup> Quarter	<ul style="list-style-type: none"> <li>• Management review of compensation study &amp; implementation strategies</li> <li>• Implement 1<sup>st</sup> priority IT “quick wins”</li> <li>• Develop succession plan for 1<sup>st</sup> priority positions in retirement risk profile</li> <li>• Kick off 1<sup>st</sup> process improvement / leadership development team</li> <li>• Develop employee satisfaction survey / kick off at employee meeting</li> </ul>
2017 – 3 <sup>rd</sup> Quarter	<ul style="list-style-type: none"> <li>• Kick off 2<sup>nd</sup> process improvement / leadership development team</li> <li>• Develop 2018 IT goals for data / knowledge sharing</li> <li>• Distribute 1<sup>st</sup> round of employee satisfaction surveys</li> <li>• Recruit for 2<sup>nd</sup> priority positions identified in succession planning efforts</li> <li>• Develop succession plan for 2<sup>nd</sup> priority positions in retirement risk profile</li> </ul>
2017 – 4 <sup>th</sup> Quarter	<ul style="list-style-type: none"> <li>• Implement 2<sup>nd</sup> priority IT “quick wins”</li> <li>• Assess budget requirements for implementing additional succession planning steps</li> </ul>
2018 Next Steps	<ul style="list-style-type: none"> <li>• Participate in Top Workplaces survey</li> </ul>
Ongoing Steps / Activities	<ul style="list-style-type: none"> <li>• Employee satisfaction surveys</li> <li>• Leadership academy participation &amp; growth</li> <li>• Goal-setting &amp; communication</li> </ul>

**MEASURES UNDER CONSIDERATION:**

1. Experience Turnover (Years of Experience Departing / Total Years of Experience in Organization)
2. Succession Plan Coverage (Percentage of High-Retirement-Risk Employees Covered by a Succession Plan)
3. Certification Coverage (Certifications Achieved or Maintained / Number of Certifications Needed)
4. Employee Engagement / Satisfaction (Gallup Q12 Survey or Other?)



# LEHIGH COUNTY AUTHORITY

FINANCIAL REPORT – JANUARY 2017



# FINANCIAL REPORT

## JANUARY 2017

### 1. SUMMARY

#### A. Month

MONTH	JANUARY 2017						
	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
<b>Income Statement</b>							
Suburban Water	85,313	(5,885)	(5,885)	131,465	91,198	91,198	(46,151)
Suburban Wastewater	359,189	(42,736)	(42,736)	(121,863)	401,925	401,925	481,051
City Division	(42,241)	(1,091,238)	(1,091,238)	(345,243)	1,048,997	1,048,997	303,002
<b>Cash Flow Statement (Indirect)</b>							
Suburban Water	145,210	(525,118)	(525,118)	207,307	670,328	670,328	(62,096)
Suburban Wastewater	654,862	(335,682)	(335,682)	163,975	990,544	990,544	490,886
City Division	1,633,765	516,590	516,590	921,171	1,117,175	1,117,175	712,594

#### Net income

Suburban Water and Suburban Wastewater both had positive figures for net income while City ended up on the negative side.

All three funds had favorable variances to forecast with both suburban Wastewater and City showing significantly better variances.

Operating revenues were favorable to forecast for Suburban Wastewater and City while Suburban Water was down about \$7k (less than 1%).

Operating expenses were significantly favorable to forecast across all of the three funds.

#### Cash Flows

Cash flows for all three funds were positive and were better than forecast. The favorable net income had a large part in this, but across all three funds, capital project spending was lower to additionally aid cash flows.

## B. YTD

YTD	JANUARY 2017						
	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
<b>Income Statement</b>							
Suburban Water	85,313	(5,885)	(5,885)	131,465	91,198	91,198	(46,151)
Suburban Wastewater	359,189	(42,736)	(42,736)	(121,863)	401,925	401,925	481,051
City Division	(42,241)	(1,091,238)	(1,091,238)	(345,243)	1,048,997	1,048,997	303,002
<b>Cash Flow Statement (Indirect)</b>							
Suburban Water	145,210	(525,118)	(525,118)	207,307	670,328	670,328	(62,096)
Suburban Wastewater	654,862	(335,682)	(335,682)	163,975	990,544	990,544	490,886
City Division	1,633,765	516,590	516,590	921,171	1,117,175	1,117,175	712,594
<b>Debt Service Coverage Ratio</b>							
Suburban Water	1.99	1.26	1.26	2.07	0.73	0.73	(0.08)
Suburban Wastewater	13.35	2.31	2.31	4.35	11.05	11.05	9.00
City Division	1.46	0.99	0.99	0.98	0.47	0.47	0.49

### Net income

Suburban Water and Suburban Wastewater both had positive figures for net income while City ended up on the negative side.

All three funds had favorable variances to forecast with both suburban Wastewater and City showing significantly better variances.

Operating revenues were favorable to forecast for Suburban Wastewater and City while Suburban Water was down about \$7k (less than 1%).

Operating expenses were significantly favorable to forecast across all of the three funds.

### Cash Flows

Cash flows for all three funds were positive and were better than forecast. The favorable net income had a large part in this, but across all three funds, capital project spending was lower to additionally aid cash flows.

### Debt Service Coverage Ratio

Debt service ratios are all better than forecast and budget and are above internal targets as well.

## 2. SUBURBAN WATER

### A. Month

MONTH - SUBURBAN WATER	JANUARY 2017						
Income Statement	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Operating Revenues	751,393	758,169	758,169	724,690	(6,776)	(6,776)	26,704
Operating (Expenses)	(590,698)	(734,533)	(734,533)	(551,302)	143,835	143,835	(39,396)
Operating Income	160,695	23,636	23,636	173,388	137,059	137,059	(12,692)
Non-Operating Revenues (Expenses)	36,302	66,167	66,167	41,713	(29,865)	(29,865)	(5,411)
Income Before Interest	196,997	89,803	89,803	215,101	107,194	107,194	(18,103)
Interest Income	6,588	16,667	16,667	5,642	(10,079)	(10,079)	946
Interest Expense	(118,272)	(112,355)	(112,355)	(89,278)	(5,917)	(5,917)	(28,994)
Capital Contributions	-	-	-	-	-	-	-
<b>NET INCOME</b>	<b>85,313</b>	<b>(5,885)</b>	<b>(5,885)</b>	<b>131,465</b>	<b>91,198</b>	<b>91,198</b>	<b>(46,151)</b>
MONTH - SUBURBAN WATER	JANUARY 2017						
Cash Flow Statement (Indirect)	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Net Income	85,313	(5,885)	(5,885)	131,465	91,198	91,198	(46,151)
Add: Depreciation & Amortization	245,832	245,833	245,833	245,832	(1)	(1)	-
Add: Non-Cash Interest Expense	0	-	-	0	0	0	0
Add: Capex Charged to Expense	567	8,333	8,333	-	(7,766)	(7,766)	567
Principal Payments	(108,003)	(152,816)	(152,816)	(136,377)	44,813	44,813	28,374
Investments Converting To Cash	-	-	-	-	-	-	-
New Borrowing	-	-	-	-	-	-	-
Net Cash Available For Capital Spending	223,709	95,465	95,465	240,920	128,244	128,244	(17,210)
Capital Expenditures	(78,499)	(620,583)	(620,583)	(33,613)	542,084	542,084	(44,886)
<b>NET FUND CASH FLOWS</b>	<b>145,210</b>	<b>(525,118)</b>	<b>(525,118)</b>	<b>207,307</b>	<b>670,328</b>	<b>670,328</b>	<b>(62,096)</b>

#### Net income

Net income was positive for the month and \$91k better than forecast with slightly lower operating revenues and lower non-operating revenues more than offset by lower operating expenses.

Operating revenues were only \$7k lower than forecast with higher residential revenues more than offset by lower industrial/commercial revenues and lower miscellaneous revenues.

Operating expenses were \$144k lower than forecast due to lower maintenance services, lower water purchase costs, and lower materials & supplies.

Non-Operating revenues were lower than forecast due to lower project reimbursement from timing of capital projects and lower inspection & plan review revenues.

Non-Operating Expenses were lower than forecast due to lower expensed capital due to timing of projects.

Interest income was lower than forecast due to lower invested balances.

Interest expense was slightly higher than budget.

## Cash Flows

Cash flows were significantly better than forecast due to higher net income and significantly lower capex spending due to timing of projects.

### B. YTD

YTD - SUBURBAN WATER	JANUARY 2017						
Income Statement	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Operating Revenues	751,393	758,169	758,169	724,690	(6,776)	(6,776)	26,704
Operating (Expenses)	(590,698)	(734,533)	(734,533)	(551,302)	143,835	143,835	(39,396)
Operating Income	160,695	23,636	23,636	173,388	137,059	137,059	(12,692)
Non-Operating Revenues (Expenses)	36,302	66,167	66,167	41,713	(29,865)	(29,865)	(5,411)
Income Before Interest Expense	196,997	89,803	89,803	215,101	107,194	107,194	(18,103)
Interest Income	6,588	16,667	16,667	5,642	(10,079)	(10,079)	946
Interest Expense	(118,272)	(112,355)	(112,355)	(89,278)	(5,917)	(5,917)	(28,994)
Capital Contributions	-	-	-	-	-	-	-
<b>NET INCOME</b>	<b>85,313</b>	<b>(5,885)</b>	<b>(5,885)</b>	<b>131,465</b>	<b>91,198</b>	<b>91,198</b>	<b>(46,151)</b>
YTD - SUBURBAN WATER	JANUARY 2017						
Cash Flow Statement (Indirect)	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Net Income	85,313	(5,885)	(5,885)	131,465	91,198	91,198	(46,151)
Add: Depreciation & Amortization	245,832	245,833	245,833	245,832	(1)	(1)	-
Add: Non-Cash Interest Expense	0	-	-	0	0	0	0
Add: Capex Charged to Expense	567	8,333	8,333	-	(7,766)	(7,766)	567
Principal Payments	(108,003)	(152,816)	(152,816)	(136,377)	44,813	44,813	28,374
Investments Converting To Cash	-	-	-	-	-	-	-
New Borrowing	-	-	-	-	-	-	-
Net Cash Available For Capital Spending	223,709	95,465	95,465	240,920	128,244	128,244	(17,210)
Capital Expenditures	(78,499)	(620,583)	(620,583)	(33,613)	542,084	542,084	(44,886)
<b>NET FUND CASH FLOWS</b>	<b>145,210</b>	<b>(525,118)</b>	<b>(525,118)</b>	<b>207,307</b>	<b>670,328</b>	<b>670,328</b>	<b>(62,096)</b>

### Net income

Net income was positive for the month and \$91k better than forecast with slightly lower operating revenues and lower non-operating revenues more than offset by lower operating expenses.

Operating revenues were only \$7k lower than forecast with higher residential revenues more than offset by lower industrial/commercial revenues and lower miscellaneous revenues.

Operating expenses were \$144k lower than forecast due to lower maintenance services, lower water purchase costs, and lower materials & supplies.

Non-Operating revenues were lower than forecast due to lower project reimbursement from timing of capital projects and lower inspection & plan review revenues.

Non-Operating Expenses were lower than forecast due to lower expensed capital due to timing of projects.

Interest income was lower than forecast due to lower invested balances.

Interest expense was slightly higher than budget.

### Cash Flows

Cash flows were significantly better than forecast due to higher net income and significantly lower capex spending due to timing of projects.

## 3. SUBURBAN WASTEWATER

### A. Month

MONTH - SUBURBAN WASTEWATER	JANUARY 2017						
Income Statement	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Operating Revenues	1,676,133	1,498,680	1,498,680	1,450,665	177,453	177,453	225,467
Operating (Expenses)	(1,350,237)	(1,546,447)	(1,546,447)	(1,622,440)	196,210	196,210	272,203
Operating Income	325,896	(47,767)	(47,767)	(171,775)	373,663	373,663	497,670
Non-Operating Revenues (Expenses)	50,981	66,083	66,083	62,944	(15,102)	(15,102)	(11,963)
Income Before Interest Expense	376,877	18,316	18,316	(108,831)	358,561	358,561	485,707
Interest Income	575	9,917	9,917	727	(9,342)	(9,342)	(152)
Interest Expense	(18,263)	(70,969)	(70,969)	(13,759)	52,706	52,706	(4,504)
Capital Contributions	-	-	-	-	-	-	-
<b>NET INCOME</b>	<b>359,189</b>	<b>(42,736)</b>	<b>(42,736)</b>	<b>(121,863)</b>	<b>401,925</b>	<b>401,925</b>	<b>481,051</b>
MONTH - SUBURBAN WASTEWATER	JANUARY 2017						
Cash Flow Statement (Indirect)	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Net Income	359,189	(42,736)	(42,736)	(121,863)	401,925	401,925	481,051
Add: Depreciation & Amortization	364,694	327,083	327,083	342,945	37,611	37,611	21,749
Add: Non-Cash Interest Expense	2,926	-	-	3,284	2,926	2,926	(358)
Add: Capex Charged to Expense	133	25,000	25,000	196	(24,867)	(24,867)	(63)
Principal Payments	(40,255)	(93,946)	(93,946)	(43,547)	53,691	53,691	3,292
Investments Converting To Cash	-	-	-	-	-	-	-
New Borrowing	-	-	-	-	-	-	-
Net Cash Available For Capital Spending	686,687	215,401	215,401	181,015	471,286	471,286	505,671
Capital Expenditures	(31,825)	(551,083)	(551,083)	(17,040)	519,258	519,258	(14,785)
<b>NET FUND CASH FLOWS</b>	<b>654,862</b>	<b>(335,682)</b>	<b>(335,682)</b>	<b>163,975</b>	<b>990,544</b>	<b>990,544</b>	<b>490,886</b>

### Net income

Net income was \$402k higher than forecast higher operating revenues, lower operating expenses, lower interest expenses, and lower expensed capex partially offset by lower non-operating revenues and slightly lower interest income.

Operating revenues were higher than forecast by \$177k from higher Wastewater Treatment Plant industrial revenues along with higher revenues from Western Lehigh Interceptor.

Operating expenses were \$196k lower than forecast on lower maintenance services and lower contract operator expenses.

Non-operating revenues (expenses) were \$15k unfavorable to forecast on lower tapping fees and lower inspection & plan review revenues offset partly by lower expensed capex due to project timing

Interest income was lower than forecast due to lower invested balances

Interest expense was lower than forecast.

### Cash Flows

Cash Flows were \$991k better than forecast on significantly higher net income aided by lower capex spending due to project timing

## B. YTD

YTD - SUBURBAN WASTEWATER	JANUARY 2017						
Income Statement	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Operating Revenues	1,676,133	1,498,680	1,498,680	1,450,665	177,453	177,453	225,467
Operating (Expenses)	(1,350,237)	(1,546,447)	(1,546,447)	(1,622,440)	196,210	196,210	272,203
Operating Income	325,896	(47,767)	(47,767)	(171,775)	373,663	373,663	497,670
Non-Operating Revenues (Expenses)	50,981	66,083	66,083	62,944	(15,102)	(15,102)	(11,963)
Income Before Interest Expense	376,877	18,316	18,316	(108,831)	358,561	358,561	485,707
Interest Income	575	9,917	9,917	727	(9,342)	(9,342)	(152)
Interest Expense	(18,263)	(70,969)	(70,969)	(13,759)	52,706	52,706	(4,504)
Capital Contributions	-	-	-	-	-	-	-
<b>NET INCOME</b>	<b>359,189</b>	<b>(42,736)</b>	<b>(42,736)</b>	<b>(121,863)</b>	<b>401,925</b>	<b>401,925</b>	<b>481,051</b>
YTD - SUBURBAN WASTEWATER	JANUARY 2017						
Cash Flow Statement (Indirect)	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Net Income	359,189	(42,736)	(42,736)	(121,863)	401,925	401,925	481,051
Add: Depreciation & Amortization	364,694	327,083	327,083	342,945	37,611	37,611	21,749
Add: Non-Cash Interest Expense	2,926	-	-	3,284	2,926	2,926	(358)
Add: Capex Charged to Expense	133	25,000	25,000	196	(24,867)	(24,867)	(63)
Principal Payments	(40,255)	(93,946)	(93,946)	(43,547)	53,691	53,691	3,292
Investments Converting To Cash	-	-	-	-	-	-	-
New Borrowing	-	-	-	-	-	-	-
Net Cash Available For Capital Spending	686,687	215,401	215,401	181,015	471,286	471,286	505,671
Capital Expenditures	(31,825)	(551,083)	(551,083)	(17,040)	519,258	519,258	(14,785)
<b>NET FUND CASH FLOWS</b>	<b>654,862</b>	<b>(335,682)</b>	<b>(335,682)</b>	<b>163,975</b>	<b>990,544</b>	<b>990,544</b>	<b>490,886</b>

### Net income

Net income was \$402k higher than forecast higher operating revenues, lower operating expenses, lower interest expenses, and lower expensed capex partially offset by lower non-operating revenues and slightly lower interest income.

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Operating expenses were \$196k lower than forecast on lower maintenance services and lower contract operator expenses.

Non-operating revenues (expenses) were \$15k unfavorable to forecast on lower tapping fees and lower inspection & plan review revenues offset partly by lower expensed capex due to project timing

Interest income was lower than forecast due to lower invested balances

Interest expense was lower than forecast.

### Cash Flows

Cash Flows were \$991k better than forecast on significantly higher net income aided by lower capex spending due to project timing

## 4. CITY DIVISION

### A. Month

MONTH - CITY DIMSION	JANUARY 2017						
	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
<b>Income Statement</b>							
Operating Revenues	2,636,220	2,410,977	2,410,977	2,109,811	225,243	225,243	526,409
Operating (Expenses)	<u>(1,523,092)</u>	<u>(1,871,840)</u>	<u>(1,871,840)</u>	<u>(1,102,533)</u>	348,748	348,748	(420,559)
Operating Income	1,113,128	539,137	539,137	1,007,278	573,991	573,991	105,850
Non-Operating Revenues (Expenses)	<u>85,072</u>	<u>(283,834)</u>	<u>(283,834)</u>	<u>(37,081)</u>	<u>368,906</u>	<u>368,906</u>	<u>122,153</u>
Income Before Interest Expense	1,198,200	255,303	255,303	970,197	942,897	942,897	228,003
Interest Income	22,500	25,167	25,167	18	(2,667)	(2,667)	22,482
Interest Expense	(1,262,941)	(1,371,708)	(1,371,708)	(1,315,458)	108,767	108,767	52,517
Capital Contributions	-	-	-	-	-	-	-
<b>NET INCOME</b>	<u>(42,241)</u>	<u>(1,091,238)</u>	<u>(1,091,238)</u>	<u>(345,243)</u>	<u>1,048,997</u>	<u>1,048,997</u>	<u>303,002</u>
<b>MONTH - CITY DIMSION</b>	<b>JANUARY 2017</b>						
<b>Cash Flow Statement (Indirect)</b>	<b>Actual</b>	<b>Forecast</b>	<b>Budget</b>	<b>Prior Year</b>	<b>FC Var</b>	<b>Bud Var</b>	<b>PY Var</b>
Net Income	(42,241)	(1,091,238)	(1,091,238)	(345,243)	1,048,997	1,048,997	303,002
Add: Depreciation & Amortization	450,000	466,667	466,667	-	(16,667)	(16,667)	450,000
Add: Non-Cash Interest Expense	1,262,941	1,371,708	1,371,708	1,315,458	(108,767)	(108,767)	(52,517)
Add: Capex Charged to Expense	26,477	658,667	658,667	37,081	(632,190)	(632,190)	(10,604)
Principal Payments	-	-	-	-	-	-	-
Cash Outlays on Lease & Lease Reserve	-	-	-	-	-	-	-
Investments Converting To Cash	-	-	-	-	-	-	-
New Borrowing	-	-	-	-	-	-	-
Net Cash Available For Capital Spending	1,697,177	1,405,804	1,405,804	1,007,296	291,373	291,373	689,881
Net Capital Expenditures	<u>(63,412)</u>	<u>(889,214)</u>	<u>(889,214)</u>	<u>(86,125)</u>	<u>825,802</u>	<u>825,802</u>	<u>22,713</u>
<b>NET FUND CASH FLOWS</b>	<u>1,633,765</u>	<u>516,590</u>	<u>516,590</u>	<u>921,171</u>	<u>1,117,175</u>	<u>1,117,175</u>	<u>712,594</u>

**Net income**

Reporting a net loss of \$42k which is \$1,048k better than the forecasted loss of \$1,091k. This is due to higher revenues, lower operating expenses, favorable variances on non-operating revenues (expenses) along with lower interest expense.

Operating revenues were \$225k better than forecast with water up by \$148k and wastewater up by \$77k. Water revenues were up due to higher revenues from the residential and industrial segment. Wastewater revenues were up due to higher residential & customer revenues along with higher revenues from Municipal sources.

Operating expenses were \$349k lower than forecast. This was due to lower personnel costs, lower purchases of services, and lower materials & supplies.

Non-Operating revenues were down due to lower project reimbursement revenues as a result of lower project expenditures from timing differences to forecast. However, the effect of this was partially offset by higher planning & inspection reviews.

Non-operating expenses were favorable due to lower expensed project costs, again, due to timing effects driving down project spending.

Interest expenses were favorable to forecast.

**Cash Flows**

Cash flow was a positive \$1.6m and was \$1.1m higher than forecast due to significantly better net income position along with lower capital project spending.



## B. YTD

YTD - CITY DIVISION	JANUARY 2017						
Income Statement	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Operating Revenues	2,636,220	2,410,977	2,410,977	2,109,811	225,243	225,243	526,409
Operating (Expenses)	(1,523,092)	(1,871,840)	(1,871,840)	(1,102,533)	348,748	348,748	(420,559)
Operating Income	1,113,128	539,137	539,137	1,007,278	573,991	573,991	105,850
Non-Operating Revenues (Expenses)	85,072	(283,834)	(283,834)	(37,081)	368,906	368,906	122,153
Income Before Interest Expense	1,198,200	255,303	255,303	970,197	942,897	942,897	228,003
Interest Income	22,500	25,167	25,167	18	(2,667)	(2,667)	22,482
Interest Expense	(1,262,941)	(1,371,708)	(1,371,708)	(1,315,458)	108,767	108,767	52,517
Capital Contributions	-	-	-	-	-	-	-
<b>NET INCOME</b>	<b>(42,241)</b>	<b>(1,091,238)</b>	<b>(1,091,238)</b>	<b>(345,243)</b>	<b>1,048,997</b>	<b>1,048,997</b>	<b>303,002</b>
YTD - CITY DIVISION	JANUARY 2017						
Cash Flow Statement (Indirect)	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Net Income	(42,241)	(1,091,238)	(1,091,238)	(345,243)	1,048,997	1,048,997	303,002
Add: Depreciation & Amortization	450,000	466,667	466,667	-	(16,667)	(16,667)	450,000
Add: Non-Cash Interest Expense	1,262,941	1,371,708	1,371,708	1,315,458	(108,767)	(108,767)	(52,517)
Add: Capex Charged to Expense	26,477	658,667	658,667	37,081	(632,190)	(632,190)	(10,604)
Principal Payments	-	-	-	-	-	-	-
Cash Outlays on Lease & Lease Reserve	-	-	-	-	-	-	-
Investments Converting To Cash	-	-	-	-	-	-	-
New Borrowing	-	-	-	-	-	-	-
Net Cash Available For Capital Spending	1,697,177	1,405,804	1,405,804	1,007,296	291,373	291,373	689,881
Capital Expenditures	(63,412)	(889,214)	(889,214)	(86,125)	825,802	825,802	22,713
<b>NET FUND CASH FLOWS</b>	<b>1,633,765</b>	<b>516,590</b>	<b>516,590</b>	<b>921,171</b>	<b>1,117,175</b>	<b>1,117,175</b>	<b>712,594</b>

### Net income

Reporting a net loss of \$42k which is \$1,048k better than the forecasted loss of \$1,091k. This is due to higher revenues, lower operating expenses, favorable variances on non-operating revenues (expenses) along with lower interest expense.

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Non-operating expenses were favorable due to lower expensed project costs, again, due to timing effects driving down project spending.

Interest expenses were favorable to forecast.

### **Cash Flows**

Cash flow was a positive \$1.6m and was \$1.1m higher than forecast due to significantly better net income position along with lower capital project spending.

## **5. FULL YEAR FORECAST**

We have not performed a quarterly forecast for 2017. The quarterly forecast for Q2 of this year will be performed after the books are closed and reported for Q1. For This month and the next two months, the forecast being compared to is the phased Budget for 2017.

During January, there were a number of variances that developed that were due to timing. This occurred in operating expenses and in capital project spending. These are not expected to be permanent variances for the year. The upcoming quarterly forecasts as planned will indulge more on these timing variances.





LEHIGH COUNTY AUTHORITY															
CITY DIVISION															
MONTHLY FINANCIAL STATEMENTS															
MONTH - CITY DIVISION															
JANUARY 2017															
Income Statement	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var	Operating Revenues	2,656,220	2,410,977	2,410,977	2,109,811	225,243	225,243	526,409
Operating (Expenses)	(1,523,092)	(1,871,840)	(1,871,840)	(1,102,533)	348,748	348,748	(420,559)	Operating (Expenses)	1,113,128	539,137	539,137	1,007,278	348,748	348,748	(420,559)
Operating Income	85,072	(283,834)	(283,834)	(37,081)	368,906	368,906	105,850	Operating Income	1,198,200	255,303	255,303	970,197	368,906	368,906	122,153
Non-Operating Revenues (Expenses)	1,998,200	255,303	255,303	970,197	942,897	942,897	228,003	Income Before Interest Expense	22,500	25,167	25,167	18	(2,667)	(2,667)	22,482
Interest Income	(1,262,941)	(1,371,708)	(1,371,708)	(1,315,458)	108,767	108,767	52,517	Interest Expense	-	-	-	-	-	-	-
Capital Contributions	(42,241)	(1,091,238)	(1,091,238)	(345,243)	1,048,997	1,048,997	303,002	Capital Contributions	-	-	-	-	-	-	-
NET INCOME	1,697,177	1,405,804	1,405,804	1,007,296	291,373	291,373	689,881	NET INCOME	(63,412)	(889,214)	(889,214)	(86,125)	825,802	825,802	22,713
MONTH - CITY DIVISION															
JANUARY 2017															
Cash Flow Statement (Indirect)	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var	Net Income	1,697,177	1,405,804	1,405,804	1,007,296	291,373	291,373	689,881
Add: Depreciation & Amortization	450,000	466,667	466,667	(16,667)	(16,667)	(16,667)	450,000	Add: Depreciation & Amortization	26,477	658,667	658,667	37,081	(632,190)	(632,190)	(10,604)
Add: Non-Cash Interest Expense	2,656,220	2,410,977	2,410,977	1,315,458	1,087,671	1,087,671	(62,517)	Add: Non-Cash Interest Expense	-	-	-	-	-	-	-
Add: Capex Charged to Expense	(1,523,092)	(1,871,840)	(1,871,840)	(1,102,533)	348,748	348,748	(420,559)	Add: Capex Charged to Expense	-	-	-	-	-	-	-
Principal Payments	26,477	658,667	658,667	37,081	(632,190)	(632,190)	(10,604)	Principal Payments	-	-	-	-	-	-	-
Cash Outlays on Lease & Lease Reserve	-	-	-	-	-	-	-	Cash Outlays on Lease & Lease Reserve	-	-	-	-	-	-	-
Investments Converting To Cash	-	-	-	-	-	-	-	Investments Converting To Cash	-	-	-	-	-	-	-
New Borrowing	-	-	-	-	-	-	-	New Borrowing	-	-	-	-	-	-	-
Net Cash Available For Capital Spending	1,697,177	1,405,804	1,405,804	1,007,296	291,373	291,373	689,881	Net Cash Available For Capital Spending	1,590,952	1,078,054	1,078,054	1,007,296	512,898	512,898	583,656
Net Capital Expenditures	(63,412)	(889,214)	(889,214)	(86,125)	825,802	825,802	22,713	Net Capital Expenditures	1,590,952	1,078,054	1,078,054	1,007,296	512,898	512,898	583,656
NET FUND CASH FLOWS	1,633,765	516,590	516,590	921,171	1,117,175	1,117,175	712,594	NET FUND CASH FLOWS	1,633,765	516,590	516,590	921,171	1,117,175	1,117,175	712,594
MONTH - CITY DIVISION															
JANUARY 2017															
Cash Flow Statement (Direct)	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var	Operating Revenues	2,656,220	2,410,977	2,410,977	2,109,811	225,243	225,243	526,409
Operating Expenses (Ex Depreciation)	(1,073,092)	(1,405,173)	(1,405,173)	(1,102,533)	332,081	332,081	29,441	Operating Expenses (Ex Depreciation)	1,563,128	1,005,804	1,005,804	1,007,278	557,324	557,324	555,850
Cash Flow From Operations	85,072	(283,834)	(283,834)	(37,081)	368,906	368,906	122,153	Cash Flow From Operations	85,072	(283,834)	(283,834)	(37,081)	368,906	368,906	122,153
Non-Operating Revenues (Expenses)	26,477	658,667	658,667	1,315,458	1,087,671	1,087,671	(62,517)	Non-Operating Revenues (Expenses)	26,477	658,667	658,667	37,081	(632,190)	(632,190)	(10,604)
Add: Capex Charged to Expense	(1,523,092)	(1,871,840)	(1,871,840)	(1,102,533)	348,748	348,748	(420,559)	Add: Capex Charged to Expense	-	-	-	-	-	-	-
Less: Project Reimbursement	22,500	25,167	25,167	18	(2,667)	(2,667)	22,482	Less: Project Reimbursement	-	-	-	-	-	-	-
Interest Income	1,590,952	1,078,054	1,078,054	1,007,296	512,898	512,898	583,656	Interest Income	1,590,952	1,078,054	1,078,054	1,007,296	512,898	512,898	583,656
Net Cash Available For Debt Service	-	-	-	-	-	-	-	Net Cash Available For Debt Service	-	-	-	-	-	-	-
Interest Payments	-	-	-	-	-	-	-	Interest Payments	-	-	-	-	-	-	-
Principal Payments	-	-	-	-	-	-	-	Principal Payments	-	-	-	-	-	-	-
Cash Outlays on Lease & Lease Reserve	-	-	-	-	-	-	-	Cash Outlays on Lease & Lease Reserve	-	-	-	-	-	-	-
Net Cash After Debt & Lease Service	106,225	327,750	327,750	(221,525)	(221,525)	(221,525)	106,225	Net Cash After Debt & Lease Service	106,225	327,750	327,750	(86,125)	(86,125)	(86,125)	106,225
Project Reimbursement	-	-	-	-	-	-	-	Project Reimbursement	-	-	-	-	-	-	-
Capital Contributions	-	-	-	-	-	-	-	Capital Contributions	-	-	-	-	-	-	-
Investments Converting To Cash	-	-	-	-	-	-	-	Investments Converting To Cash	-	-	-	-	-	-	-
New Borrowing	-	-	-	-	-	-	-	New Borrowing	-	-	-	-	-	-	-
Net Cash Available For Capital Spending	1,697,177	1,405,804	1,405,804	1,007,296	291,373	291,373	689,881	Net Cash Available For Capital Spending	1,697,177	1,405,804	1,405,804	1,007,296	291,373	291,373	689,881
Capital Expenditures	(63,412)	(889,214)	(889,214)	(86,125)	825,802	825,802	22,713	Capital Expenditures	(63,412)	(889,214)	(889,214)	(86,125)	825,802	825,802	22,713
NET FUND CASH FLOWS	1,633,765	516,590	516,590	921,171	1,117,175	1,117,175	712,594	NET FUND CASH FLOWS	1,633,765	516,590	516,590	921,171	1,117,175	1,117,175	712,594
DEBT SERVICE COVERAGE RATIO															
Net Cash Available For Debt Service	1,590,952	1,078,054	1,078,054	1,007,296	512,898	512,898	583,656	Net Cash Available For Debt Service	1,590,952	1,078,054	1,078,054	1,007,296	512,898	512,898	583,656
Debt Service	1,087,310	1,087,310	1,087,310	1,031,060	1,087,310	1,087,310	1,031,060	Debt Service	1,087,310	1,087,310	1,087,310	1,031,060	1,087,310	1,087,310	1,031,060
DCSR	1.46	0.99	0.99	0.98	0.99	0.99	0.98	DCSR	1.46	0.99	0.99	0.99	0.99	0.99	0.98

Lehigh County Authority

System Operations Review - January 2017

Presented: February 27, 2017

<u>Critical Activities</u>	<u>System</u>	<u>Description</u>	<u>Jan-17</u>	<u>2017-to-Date</u>	<u>2016 Totals</u>	<u>Permit</u>
			<u>Daily Avg (MGD)</u>	<u>Daily Avg (MGD)</u>	<u>Daily Avg (MGD)</u>	<u>Daily Max (MGD)</u>
Water Production	Allentown	Total	21.00	21.00	20.41	39.0
		Schantz Spring	5.91	5.91	5.91	9.0
		Crystal Spring	3.89	3.89	3.86	4.0
		Little Lehigh Creek	11.11	11.11	10.46	30.0
		Lehigh River	0.09	0.09	0.18	28.0
	Central Lehigh	Total	8.46	8.46	9.27	19.04 MGD Avg
		Feed from Allentown	6.86	6.86	5.99	7.0 MGD Avg 10.5 MGD Max
		Well Production (CLD)	1.60	1.60	3.28	8.54 MGD Avg
		Sum of all (12) other Suburban Water Systems	0.17	0.17	0.19	1.71 Sum of all wells
Wastewater Treatment	Kline's Island	29.39	29.39	29.67	40.0	
	Pretreatment Plant	4.00	4.00	4.33	5.75 (design capacity)	
	Sum of all (5) other Suburban WW Systems	0.18	0.18	0.17	0.36	
			<u>Jan-17</u>	<u>2017-to-Date</u>	<u>2016 Totals</u>	
Precipitation Totals (inches)			3.39	3.39	36.82	
Compliance Reports Submitted to Allentown			29	29	269	
Notices of Violation (NOVs)	(Allentown + Suburban)		0	0	3	
Sanitary Sewer Overflows (SSOs)/Bypasses	(Allentown + Suburban)		0	0	16	
Main Breaks Repaired	Allentown		3	3	19	
	Suburban		2	2	11	
Customer Service Phone Inquiries	(Allentown + Suburban)		2,404	2,404	28,099	
Water Shutoffs for Non-Payment	(Allentown + Suburban)		160	160	1,685	
Injury Accidents	(Allentown + Suburban)		3	3	10	
Emergency Declarations	Allentown		(1) @ \$22,246	(1) @ \$22,246	(2) @ \$87,079	
	Suburban		0	0	(1) @ \$33,495	

Significant Repairs:

The secondary digester cover at KIWWTP will be completed in February and after start-up, Primary Digester #1 will be taken off-line to begin replacing its cover. Arcadia WWTP is in the final stages of punch list items for its cold weather treatment equipment installations.

Description of NOVs and/or SSOs:

There were no NOVs or SSOs for either division during January 2017.

Other Highlights:

As of 2/14/2017, Lehigh County and (20) other PA counties are now in Drought Watch status. Drought Warnings are still in effect for (2) central PA counties. Current status of LCA ground water and surface water supplies are being checked routinely, as are local monitoring wells. Weekly and monthly reports are being posted on the LCA website.