



LEHIGH COUNTY AUTHORITY

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

Agendas & Minutes Posted:
www.lehighcountyauthority.org

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BOARD MEETING AGENDA – February 11, 2019

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. 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

- *January 28, 2019 Board meeting minutes*

4. Public Comments

5. Action / Discussion Items:

FINANCE AND ADMINISTRATION

- *Preliminary 2020-2024 Capital Plan – Allentown Division (Discussion)*

WATER

WASTEWATER

6. Monthly Project Updates / Information Items (1st Board meeting per month) – **February report attached**

7. Monthly Financial Review (2nd Board meeting per month) – **December 2018 report to be sent under separate cover**

8. Monthly System Operations Overview (2nd Board meeting per month) Staff Comments

9. Solicitor's Comments

10. Public Comments / Other Comments

11. Executive Sessions

12. Adjournment

UPCOMING BOARD MEETINGS

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

February 25, 2019

March 11, 2019

March 25, 2019

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

January 28, 2019

The Regular Meeting of the Lehigh County Authority was called to order at 12:01 p.m. on Monday, January 28, 2019, Chairman Brian Nagle presiding. Other Members present at the commencement of the meeting were: Jeff Morgan, Richard Bohner, Norma Cusick and Scott Bieber. Authority Staff present were Liesel Gross, Brad Landon, Charles Volk, Ed Klein, John Parsons, Chris Moughan, Susan Sampson, Phil DePoe and Lisa Miller.

REVIEW OF AGENDA

Chairman Nagle announced that today's Board meeting is being videotaped and streaming live and recordings will be posted to the Authority's website.

Liesel Gross informed the Board that the cover memorandum regarding the Capital Plans was distributed at the meeting since it was not included with the mailed packet and was posted on the website. It was noted that the Monthly Financial Review is not included on the agenda for this meeting but will be on the agenda for the February 11, 2019 meeting. There will also be an Executive Session after the regular meeting to discuss a matter of potential litigation.

Chairman Nagle announced that the Board received their packet in the mail prior to the meeting.

Kevin Baker entered the meeting at 12:04 p.m.

APPROVAL OF MINUTES

January 14, 2019 Regular Meeting Minutes

Richard Bohner offered grammatical corrections to the minutes. On a motion by Richard Bohner, seconded by Norma Cusick, the Board approved the Minutes of January 14, 2019 meeting as corrected (6-0).

PUBLIC COMMENTS

None.

ACTION AND DISCUSSION ITEMS

Preliminary 2020-2024 Capital Plan – Suburban Division and Administration Plan

Liesel Gross reviewed the memorandum and presented a PowerPoint presentation highlighting the goals of the 2020-2024 Capital Plan program. One goal was to thoroughly look at projects and categorize them into annual expenses or recurring system upgrades vs. non-recurring larger projects, and to formalize funding strategies for each category of projects. Annual capital expenses and recurring projects have been analyzed for funding through operating sources, current revenues or existing reserves. Larger projects or non-recurring projects would be funded through additional borrowing if needed. This information would then be incorporated into the financial forecast for the five-year period. The forecast would include both capital projects as well as operating expenses and inflation expenses for a clearer picture of the need to increase revenues to support the plan.

Charles Volk reviewed the Administrative projects for the time period of 2020-2024 and noted that most related to enhancement in technology that will be addressed by the Information Technology

staff. Mr. Volk then reviewed the Suburban Division water projects for the time period of 2020-2024 that is covered in the draft plan. Some discussion followed regarding individual projects.

Ed Klein reviewed the financial analysis for the Suburban Division water projects, and explained that the analysis described by Ms. Gross earlier was used to categorize projects and project overall financial performance of the water system during the next five years. He stated that revenues would need to increase 6.9% annually for the next five years in order to achieve the financing goals described earlier. Liesel Gross clarified the annual increase in customers' water rates will be determined annually based on actual performance, operating cost trends and customer growth.

Kevin Baker questioned the return on investment for the proposed projects and suggested an evaluation process be added to the plans for next year's process to determine if projects are generating cost-savings or additional revenue to support the expense. Liesel Gross stated that as a public utility providing essential service to the community, there will be some projects you have to do for proper system operation and that will not generate any specific financial benefit to the Authority. However, staff will include this evaluation as a next step in the evolution of the capital planning process for the next year.

Scott Bieber commented that common rates should be raised in order to not have to borrow money. Liesel Gross explained that for some projects, such as the Buss Acres water system improvements project, it makes sense to borrow the money since the project is a one-time expense that has a long-term benefit and repayment gets spread out over time rather than burden only existing users.

Charles Volk then reviewed the Suburban Division wastewater projects for the time period of 2020-2024 that is covered in the draft plan. Some discussion followed regarding individual projects. Chairman Nagle questioned the WLI Area Interceptor project commencing in 2024 and whether there is a way to have this expedited. Chuck Volk replied that the project is doable from a permitting, planning, and design perspective. Liesel Gross added that design and decision making on this project hinges on having the flow metering data that was recently approved at the meeting in December and also requires working with DEP. The emergency declaration approved at the last meeting helped a lot to be proactive and allow more time before beginning this project.

Ed Klein reviewed the Suburban Wastewater Financial analysis explaining that the total funding from operations and reserves covers annual projects and many other satellite system projects. Large projects planned for the Western Lehigh Interceptor to address the USEPA Administrative Order will require about \$17 million in new borrowing, and rates will increase in the first year of the plan to accommodate the new debt service amounts that will be due. Future years would see smaller increases to accommodate continued funding for annual and recurring capital improvements. Chairman Nagle commented that the Staff continues to make progress in providing better information to assist the Board in making better decisions and said the Authority is moving in the right direction. Scott Bieber added that he would like to see limited borrowing.

Mr. Volk stated Capital Plans will be distributed for public comment on February 11, 2019 for a 30-day comment period, and then final approval will be sought on March 25, 2019.

Suburban Division – Inflow & Infiltration Mitigation Action Plan: Lynn Township and Heidelberg Heights Sanitary Sewer Systems

Chuck Volk gave a PowerPoint presentation regarding the inflow and infiltration (I&I) mitigation action plan for both Lynn and Heidelberg township and reviewed the program objectives to address the excessive I&I and high wet weather flow issues. The corrective action plans include structural and non-structural initiatives and involve coordination with the host municipality. Program deficiencies regarding information on the condition of private sewer system components, the location

of sump pumps and roof drains, the need for township ordinance, and public outreach also need to be addressed. Jeff Morgan suggested reaching out to residents with a questionnaire mailer to address sump pumps and private systems.

Chuck Volk stated there hasn't been any push back thus far from supervisors regarding our plans for these systems, however, Lynn Township is concerned with the limited amount of allocation available. He stated that Pat Mandes is working with the Department of Environmental Protection (DEP) regarding the corrective action plan for Lynn Township. Mr. Volk will be reaching out to the township to get updated growth projections because the current Act 537 plan may need to be updated as part of this process.

MONTHLY SYSTEM OPERATIONS OVERVIEW

John Parsons reviewed the Monthly System Operations Overview report for December 2018 which included a status report of the Western Lehigh Interceptor High Flow Emergency Project as of January 18, 2019. He reported that remediation specifications are being finalized for the Iron Run Trunk Line to fix the defects that have been identified thus far, mostly joint leaks and heavy sedimentation, as a result of the Western Lehigh Interceptor High Flow Emergency project. Mr. Parsons also commented on the PA One Call volume noting that they are extremely important but are also time consuming to complete. Although the calls could be addressed by a subcontractors, doing field location of Authority facilities is a valuable training tool for field personnel.

STAFF COMMENTS

None.

SOLICITOR'S COMMENTS

Brad Landon reported that the land exchange with Landston Equities, LLC was recorded earlier that day.

PUBLIC COMMENTS / OTHER COMMENTS

Chairman Nagle announced the election of officers will be held at the February 25, 2019 meeting. Norma Cusick is the nominating committee. Therefore, Board members shall inform Ms. Cusick of any position on the Board they would like to hold prior to that meeting.

Chairman Nagle called a recess at 1:50 p.m. The meeting reconvened at 1:57 p.m.

EXECUTIVE SESSION

An Executive Session was held at 1:57 p.m. to discuss potential litigation.

The Executive Session ended at 2:41 p.m.

ADJOURNMENT

There being no further business, the Chairman adjourned the meeting at 2:41 p.m.

Richard H. Bohner
Secretary



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MEMORANDUM

TO: LCA Board of Directors
FROM: Liesel Gross, CEO
DATE: February 4, 2019
RE: Suburban Division Draft 5-Year Capital Plan (2020-2024)

At the February 11, 2019 meeting of Lehigh County Authority's Board of Directors, LCA staff will present an overview of the Draft 5-Year Capital Plan (2020-2024) for the Allentown Division. The draft plan for the Suburban Division was reviewed at the January 28, 2019 meeting.

During that meeting, we reviewed LCA's overarching goals for this year's capital planning process. While those goals continue to apply to all LCA plans, the Allentown Division presents additional challenges due to the general lack of funding availability for high-priority projects. LCA is actively discussing alternative funding strategies with the City of Allentown to determine the best method to ensure the most important projects can be completed. We will outline some concepts for this at the February 11, 2019 meeting, but expect this will be an evolving dialog in the months ahead.

Following Board review of the Draft 5-Year Capital Plan (2020-2024) for the Allentown Division, next steps in the process include:

- Revision of the Suburban and Allentown divisions draft plans based on Board feedback received
- Distribution of the draft plans to external organizations such as affected municipalities, Lehigh Valley Planning Commission, Lehigh County Board of Commissioners, and others, for a 30-day comment period
- Presentation of the draft plans publicly to any organizations who may wish such a presentation
- Presentation of final draft plans to the LCA Board with a review of public comments received

We expect these activities to be completed by the end of March, and the Board may approve the final draft plans at that time. Moving forward, the 2020 capital budget will be developed based on the approved plans and revised as needed for incorporation into the 2020 budget in October.

Please review the attached plans and let me know if you have any questions. We look forward to a lively discussion on February 11, 2019 to review the Allentown Division draft capital plan.



LEHIGH COUNTY AUTHORITY
ALLENTOWN, PA

DRAFT 5-YEAR CAPITAL PLAN

ALLENTOWN DIVISION

2020-2024

FEBRUARY 2019

**LEHIGH COUNTY AUTHORITY
5-YEAR CAPITAL PLAN
2020-2024**

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2020-2024 Capital Plan

Glossary of Acronyms & Terms

The following is a listing of acronyms and terms used in the Capital Plan Summary and Project Detail Sheets.

LCA Water and/or Wastewater Divisions/Systems

LCA Water and/or Wastewater Divisions/Systems			
		Water	Wastewater
<i>AD</i>	Allentown Division	X	X
<i>AWD</i>	Arcadia West Division	X	X
<i>BHD</i>	Beverly Hills Division	X	
<i>CLD</i>	Central Lehigh Division	X	
<i>CFD</i>	Clear View Farms Division	X	
<i>ECD</i>	Emmaus Consecutive Division	X	
<i>HHD</i>	Heidelberg Heights Division	X	X
<i>LLRI-1</i>	Little Lehigh Relief Interceptor, Phase 1		X
<i>LLRI-2</i>	Little Lehigh Relief Interceptor, Phase 2		X
<i>LTD</i>	Lynn Township Division		X
<i>MCD</i>	Mill Creek Division	X	
<i>MND</i>	Madison Park Division	X	
<i>NWD</i>	North Whitehall Division	X	
<i>PLD</i>	Pine Lakes Division	X	
<i>SSD</i>	Sands Spring Division		X
<i>UMD</i>	Upper Milford Division	X	X
<i>UMCD</i>	Upper Central Milford Division (Buss Acres)	X	
<i>WLI</i>	Western Lehigh Interceptor		X
<i>WTD</i>	Washington Township Division	X	X
<i>WWD</i>	Wynnewood Division		X

Project Type

Project Type	Description
<i>AO</i>	Administrative Order
<i>UW</i>	Uncompleted Work ⁽¹⁾
<i>S-7-MCI</i>	Schedule-7 (<i>Lease Required</i>) Major Capital Improvement ⁽²⁾
<i>LCA-MCI</i>	LCA Developed Major Capital Improvement ⁽²⁾
<i>COL</i>	Change of Law ⁽³⁾
<i>Regular</i>	A project that does not fit in any of the aforementioned special categories

(1) *Uncompleted Work: City Projects that were supposed to be complete by the time of settlement. The City and LCA have reached an agreement for LCA to execute them.*

(2) *Major Capital Improvement: In accordance with the Lease, all Major Capital Improvements must be approved by the City.*

(3) *Change of Law: In accordance with the Change of Law Memorandum of Understanding*

Project Funding

Project Funding	Description
<i>LCA</i>	Funded by LCA
<i>100% Reimb</i>	All costs are 100% reimbursable by fees charged
<i>Fees & LCA</i>	Costs partly recovered through fees charged and partly funded by LCA
<i>Allentown</i>	Funded by the City of Allentown
<i>CCRC</i>	Capital Cost Recovery Charge ⁽¹⁾ ; Applies only to City approved MCI
<i>AO/CCRC TBD</i>	Funding to be determined in consultation with The City of Allentown

(1) Capital Cost Recovery Charge: An on-going user fee that is above the rate caps set forth in the Lease to allow the recovery of the cost of an MCI. Rate payers are charged based upon usage.

Project Category

Projects have been categorized to identify the primary and secondary reasons for the need. In some cases there is no secondary reason that would be applicable.

Project Category	Description
<i>Regulatory</i>	Required to meet Regulatory requirements
<i>New Cust</i>	New Customers
<i>CA/OS</i>	Concession Lease/Operating Standards
<i>Master Plan</i>	Master Plan
<i>AM - Low</i>	Asset Management - Low Risk
<i>AM - Med</i>	Asset Management - Medium Risk
<i>AM - High</i>	Asset Management - High Risk
<i>AM - Varies</i>	Asset Management - Varies ⁽¹⁾
<i>Efficiency</i>	Efficiency
<i>Sys Imp</i>	System Improvement
<i>Rev Opprt</i>	Revenue Opportunity
<i>Planning</i>	Planning
<i>N/A</i>	Not Applicable

(1) Applies to Asset Management Projects, where there are multiple standalone sub-projects of varied levels of "risk".

Approval Stage

Approval Stage	Description
<i>A</i>	Annual Project, no approvals required
<i>S</i>	Study/Planning Phase
<i>D</i>	Design Phase
<i>C</i>	Construction/Implementation Phase
<i>E</i>	Entire Project
<i>V</i>	Various Phases
<i>P</i>	Pending Board approval

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION
CAPITAL PLAN
2020–2024**

SUMMARY

The Allentown Division Capital Plan (Plan) is a five-year plan that covers the years 2020 through 2024. The Plan includes water and wastewater projects to assure facility / infrastructure reliability and to comply with the Lease required projects. It also includes projects and studies deemed necessary by LCA, where the latter will identify and evaluate upgrades and improvements that will be incorporated in future Capital Plans. The Lease requires that LCA submit a 5-year Capital Plan to the City for review and approval.

The projects identified in the Plan fall into two primary categories, those funded by LCA and those funded by the City, with the latter further categorized as Administrative Order (AO) projects and Uncompleted Work (UW).

Administrative Order (AO) Projects: This includes projects necessary to bring the City’s wastewater system into compliance with the US Environmental Protection Agency (USEPA) Administrative Order to eliminate Sanitary Sewer Overflows / By-passes at Outfall 003 of the wastewater treatment plant. Pursuant to the Concession Lease Agreement (Lease), the City is responsible for making all decisions related to this work and for funding said work. LCA is responsible for the execution of the work.

Uncompleted Work (UW) Projects: This category includes projects that the City expected to be completed before the Lease began, but were not completed prior to the Lease start. The City and LCA reached an agreement providing that LCA will manage these projects but be reimbursed by the City for all project costs. Of these original projects (the WWTP Bar Rack, Sanitary Sewer Evaluation Study, WWTP SCADA Upgrades, WFP Chemical Building Roof Replacements, the alternate remedy for the Schantz Spring Chlorine Booster Station and Rehabilitation of the 28th Street Elevated Tank), all except the AMR Project have been completed by LCA since the Lease inception.

Funding by Budget Area and category is as follows:

CAPITAL FUNDING 2020-2024					
Budget Area	LCA	CITY			Totals
		UW	AO	Sub-Total	
Water	\$7,800,000	\$45,000	\$0	\$45,000	\$7,845,000
Wastewater	\$8,000,000	\$0	\$4,545,000	\$4,545,000	\$12,545,000
Totals	\$15,800,000	\$45,000	\$4,545,000	\$4,590,000	\$20,390,000

Water Projects: Focus on regulatory compliance, asset management, immediate and future needs at the Water Filtration Plant (WFP) and addressing the Lease operating standards. The recently completed WFP Master Plan identified capital improvements to address future regulatory requirements and/or operational needs. However, funding is not provided for the annual replacement of 2-miles of aged and/or failing spun and pit cast water main as required by the Lease.

Wastewater Projects: The Projects focus on regulatory compliance, asset management, immediate and future needs at the Wastewater Treatment Plant (WWTP) and addressing the Lease operating standards. Projects of note include the replacement of the Electrical Substation #2 at the WWTP. In addition, annual funding is available for the replacement and/or rehabilitation of defective sewer mains when warranted.

Additional information regarding these and other projects can be found in the Plan's individual Project Detail Sheets.

Supplemental Revenues: Under the Concession Agreement, LCA is able to charge Capital Cost Recovery Fees and Capital Recovery Fees to City customers. These charges will be applied to all Major Capital Improvements (MCI), which are defined as projects exceeding \$1 million (indexed for inflation in the future) within the proposed Plan. Based upon the profile of projects in this capital plan, we are not expecting to generate any additional CCRC.

FINANCIAL JUSTIFICATION

In 2020 and beyond, LCA anticipates that Capital Projects will be funded through operating and project reserves.

2020-2024 Capital Plan Allentown Division Funding Sources						
	LCA SOURCES			CITY SOURCES		
Budget Area	Contributions	Operating/Capital Reserves	New Borrowing	AO	UW	Total Sources
Water	\$0	\$7,800,000	\$0	\$0	\$45,000	\$7,845,000
Wastewater	\$0	\$8,000,000	\$0	\$4,545,000	\$0	\$12,545,000
Totals	\$0	\$15,800,000	\$0	\$4,545,000	\$45,000	\$20,390,000

CONDENSED CASH FLOW - CITY DIVISION					
Dollars	2020	2021	2022	2023	2024
User Charges	37,092,879.00	38,158,774.00	39,261,976.00	40,403,790.00	41,585,567.00
Other Operating Revenues	1,126,884.00	1,126,884.00	1,126,884.00	1,126,884.00	1,126,884.00
Non-Operating Revenues	2,538,600.00	1,033,400.00	813,100.00	702,000.00	926,670.00
Operating expenses	(18,337,354.00)	(18,887,473.80)	(19,454,098.72)	(20,037,722.11)	(20,638,853.29)
Debt Service - Current Debt	(15,421,170.00)	(15,901,170.00)	(16,401,170.00)	(16,916,170.00)	(17,451,170.00)
Debt Service - NEW Debt	-	-	-	-	-
Investments Converting to Cash	-	-	-	-	-
Proceeds From NEW Debt	-	-	-	-	-
Capex - Admin Paygo	-	-	-	-	-
Capex - Paygo	(4,745,000.00)	(3,245,000.00)	(3,030,000.00)	(3,920,000.00)	(5,450,000.00)
Capex - NEW Borrowing	-	-	-	-	-
NET FUND FLOWS	2,254,839.00	2,285,414.20	2,316,691.28	1,358,781.89	99,097.71
User Charge Revenue Increase %	4.5%	4.0%	3.5%	3.5%	3.5%
Operating Cash Balance	9,048,421	10,557,335	12,089,526	12,653,808	13,302,906
Days on Hand	180	180	180	180	180
Project Reserve Balance	1,169,949	1,669,949	2,169,949	2,669,949	1,869,949
DEBT SERVICE COVERAGE RATIO	1.31	1.30	1.29	1.29	1.28

WATER

LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION
2020-2024 CAPITAL PROGRAM
WATER

Project #	Name or Title of Proposal	(1) Pri. Type	(1) Funding	Approval Stage (1)	Priority Ranking (2)	Project Total Cost	This Capital Program							Project Category (1)	
							2019 Budget Approved	2020 Year 1	2021 Year 2	2022 Year 3	2023 Year 4	2024 Year 5	2020-2024 Total	Primary	Secondary
	LCA FUNDED SOURCES														
	Operating/Capital Reserve Funds														
AD-W-A	Annual Projects	Regular	LCA	A	-	\$ 8,800,000	\$ 1,300,000	\$ 1,250,000	\$ 1,250,000	\$ 1,000,000	\$ 1,600,000	\$ 2,400,000	\$ 7,500,000	AM - Varies	Sys Imp
AD-W-9	Various Water System Related Studies (Master Plan)	Regular	LCA	S	-	\$ 300,000	\$ -	\$ -	\$ -	\$ 300,000	\$ -	\$ -	\$ 300,000	CA/OS	Planning
	TOTAL LCA FUNDED SOURCES					\$ 9,100,000	\$ 1,300,000	\$ 1,250,000	\$ 1,250,000	\$ 1,300,000	\$ 1,600,000	\$ 2,400,000	\$ 7,800,000		
	CITY FUNDED SOURCES														
AD-W-15	ltron/AMR Meter Project	UW	Allentown	C	-	\$ 190,000	\$ 145,000	\$ 45,000	\$ -	\$ -	\$ -	\$ -	\$ 45,000	CA/OS	Efficiency
	TOTAL CITY FUNDED SOURCES					\$ 190,000	\$ 145,000	\$ 45,000	\$ -	\$ -	\$ -	\$ -	\$ 45,000		
	GRAND TOTAL FUNDED SOURCES					\$ 9,290,000	\$ 1,445,000	\$ 1,295,000	\$ 1,250,000	\$ 1,300,000	\$ 1,600,000	\$ 2,400,000	\$ 7,845,000		
	UNFUNDED SOURCES														
AD-W-G	General Improvements	Regular	LCA	S	3	\$ 1,250,000	\$ -	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 1,250,000	AM-Varies	Sys Imp
AD-W-I	Indenture Report Improvements	Regular	LCA	S	2	\$ 2,500,000	\$ -	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 2,500,000	AM-Varies	Sys Imp
AD-W-7	Water Main Replacements	LCA-MCI	CCRC	S	*	\$ 24,000,000	\$ -	\$ 4,800,000	\$ 4,800,000	\$ 4,800,000	\$ 4,800,000	\$ 4,800,000	\$ 24,000,000	CA/OS	AM - High
AD-W-10	System Service and Auxiliary Power Improvements	COL	LCA/Allentown	S	*	\$ 885,000	\$ -	\$ 85,000	\$ 800,000	\$ -	\$ -	\$ -	\$ 885,000	Regulatory	Master Plan
AD-W-21	Fixed-Base Meter Reading System	Regular	LCA	S	2	\$ 1,700,000	\$ -	\$ -	\$ -	\$ 850,000	\$ 850,000	\$ -	\$ 1,700,000	Efficiency	Sys Imp
AD-W-22	Filter Upgrades	LCA-MCI	CCRC	S	3	\$ 6,000,000	\$ -	\$ -	\$ -	\$ 300,000	\$ 2,850,000	\$ 2,850,000	\$ 6,000,000	Master Plan	Sys Imp
AD-W-23	Intake Upgrades	LCA-MCI	CCRC	S	3	\$ 2,000,000	\$ -	\$ -	\$ 250,000	\$ 1,750,000	\$ -	\$ -	\$ 2,000,000	Master Plan	Sys Imp
AD-W-24	High Lift VFD/Pump Replacements	LCA-MCI	CCRC	S	5	\$ 2,000,000	\$ -	\$ 200,000	\$ 900,000	\$ 900,000	\$ -	\$ -	\$ 2,000,000	Master Plan	Sys Imp
AD-W-25	Tank and Reservoir Rehabilitation	LCA-MCI	CCRC	S	2	\$ 1,500,000	\$ -	\$ -	\$ -	\$ 100,000	\$ 700,000	\$ 700,000	\$ 1,500,000	Master Plan	Sys Imp
	TOTAL UNFUNDED SOURCES					\$ 41,835,000	\$ -	\$ 5,835,000	\$ 7,500,000	\$ 9,450,000	\$ 9,950,000	\$ 9,100,000	\$ 41,835,000		
	GRAND TOTAL FUNDED + UNFUNDED SOURCES					\$ 51,125,000	\$ 1,445,000	\$ 7,130,000	\$ 8,750,000	\$ 10,750,000	\$ 11,550,000	\$ 11,500,000	\$ 49,680,000		

(1) Reference Glossary of Acronyms & Terms found immediately after the Table of Contents
(2) Ranking system from 1-5, 1 being low priority, 5 being high priority
*Lease requirement and/or regulatory requirement

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	ANNUAL PROJECTS						
Budget Area	Water	Department	Capital Works	Date	2/1/2019	Project No.	AD-W-A
Location	Allentown			Prj. Type	Regular	Prj. Funding	LCA
Prj. Category	Primary	AM - Varies	Secondary	Sys Imp	Preparer		PMD

Purpose of Expenditure (check all that apply)	
<input checked="" type="checkbox"/> New Facility	<input type="checkbox"/> Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/> Equipment Obsolete
<input type="checkbox"/> Scheduled Replacement	<input type="checkbox"/> Comply with Regulatory Requirements
<input type="checkbox"/> Improved Service	<input checked="" type="checkbox"/> Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/> Study	<input type="checkbox"/> Other (explain):

Additional Information		
Expected Useful Life (Years)	40	Comments *All customers of the City of Allentown, City signatories and Western Lehigh signatories are positively impacted.
Approx. No. of Customers Benefitted	*	
Is this System part of a Common User Rate?	N/A	
Will the Project Require Obtaining Land Rights	No	

Detailed Project Description
This annual project includes the following: New & Replacement Meter Installations, Distribution Mains - Development & Service Connections, Distribution Mains - Upsizing, Other Equipment, WFP General Improvements, Reservoir Rehabilitation/Maintenance, Mobile Equipment, General Water System Replacements/Improvements, Capital Management, and WFP SCADA Upgrades (in 2019 only).

Purpose and Needs to be Met by the Project
Annual projects that help maintain the operation of the distribution system and the WFP.

Project Status - Describe what work, if any has been completed or underway for this project
This is an annual project.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-W-A
Project Name	ANNUAL PROJECTS

Estimated Project Costs :	
LCA Staff	\$ 500,000
Land Acquisition	
Construction/Equipment	\$ 7,000,000
Professional Services	\$ 500,000
Other	\$ 300,000
Contingencies	\$ 500,000
Total Project Cost	\$ 8,800,000

Project Estimate Level	
	Conceptual Estimate
X	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 7,500,000
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Source of Funds					
		Need	Source		
			Operating Revenues	Borrowing	Assessment, Contr.-in-Aid Reserves
2019 Budget		\$ 1,300,000			
1st Year	2020	\$ 1,250,000			\$ 1,250,000
2nd Year	2021	\$ 1,250,000			\$ 1,250,000
3rd Year	2022	\$ 1,000,000			\$ 1,000,000
4th Year	2023	\$ 1,600,000			\$ 1,600,000
5th Year	2024	\$ 2,400,000			\$ 2,400,000

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**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	GENERAL IMPROVEMENTS						
Budget Area	Water	Department	Capital Works	Date	2/1/2019	Project No.	AD-W-G
Location	Allentown			Prj. Type	Regular	Prj. Funding	LCA
Prj. Category	Primary	AM - Varies	Secondary	Sys Imp	Preparer		PMD

Purpose of Expenditure (check all that apply)		
<input checked="" type="checkbox"/> New Facility		Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/> Existing Facility - Rehabilitation/Upgrade		<input checked="" type="checkbox"/> Equipment Obsolete
<input type="checkbox"/> Scheduled Replacement		Comply with Regulatory Requirements
<input type="checkbox"/> Improved Service		<input checked="" type="checkbox"/> Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/> Study		Other (explain):

Additional Information		
Expected Useful Life (Years)	40	Comments *All customers of the City of Allentown, City signatories and Western Lehigh signatories are positively impacted.
Approx. No. of Customers Benefitted	*	
Is this System part of a Common User Rate?	N/A	
Will the Project Require Obtaining Land Rights	No	

Detailed Project Description
This unfunded General Improvements project includes General Water System Replacements/Improvements at the Water Filtration Plant (WFP) and in Distribution & Collection. These projects include the following: Roof Phase 3, low lift pump painting, and miscellaneous improvements to the D&C garages.

Purpose and Needs to be Met by the Project
Projects that help maintain the operation of the Distribution and Collection System and the WFP as equipment reaches the end of its useful life.

Project Status - Describe what work, if any has been completed or underway for this project
This is an annual project.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-W-G
Project Name	GENERAL IMPROVEMENTS

Estimated Project Costs :	
LCA Staff	\$ 50,000
Land Acquisition	\$ -
Construction/Equipment	\$ 1,000,000
Professional Services	\$ 150,000
Other	\$ 20,000
Contingencies	\$ 30,000
Total Project Cost	\$ 1,250,000

Project Estimate Level	
	Conceptual Estimate
X	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 1,250,000
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Source of Funds					
		Need	Source		
			Operating Revenues	Borrowing	Assessment, Contr.-in-Aid Reserves
2019 Budget		\$ -			
1st Year	2020	\$ 250,000			
2nd Year	2021	\$ 250,000			
3rd Year	2022	\$ 250,000			
4th Year	2023	\$ 250,000			
5th Year	2024	\$ 250,000			

This project is unfunded.

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	INDENTURE REPORT IMPROVEMENTS						
Budget Area	Water	Department	Capital Works	Date	2/1/2019	Project No.	AD-W-I
Location	Allentown			Prj. Type	Regular	Prj. Funding	LCA
Prj. Category	Primary	AM - Varies	Secondary	Sys Imp	Preparer		PMD

Purpose of Expenditure (check all that apply)	
<input checked="" type="checkbox"/> New Facility	Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/> Equipment Obsolete
<input type="checkbox"/> Scheduled Replacement	Comply with Regulatory Requirements
<input type="checkbox"/> Improved Service	<input checked="" type="checkbox"/> Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/> Study	Other (explain):

Additional Information		
Expected Useful Life (Years)	40	Comments *All customers of the City of Allentown, City signatories and Western Lehigh signatories are positively impacted.
Approx. No. of Customers Benefitted	*	
Is this System part of a Common User Rate?	N/A	
Will the Project Require Obtaining Land Rights	No	

Detailed Project Description
This project includes the following, but not limited to: 1. General repairs on concrete, reinforcing steel and exposed wood; 2. Pipe protection upgrades including preparation, painting and dehumidification particularly sub-grade sites; 3. Structural upgrades including roofs; 4. Water tank and reservoir upgrades; 5. Security upgrades including fencing, lighting and vegetation control; 6. Electrical upgrades.

Purpose and Needs to be Met by the Project
This project addresses the deficiencies identified in the annual Indenture Report. Funding needed to address the deficiencies is roughly split 50% between the sewer system and 50% between the water system.

Project Status - Describe what work, if any has been completed or underway for this project
A number of roofs have been completed in Phase 1 of a prior roof project (2016). Phase 2 included roofs on buildings in the distribution system and at the WWTP (2018). Phase 3 (date is to be determined) will include three roofs at the WFP and two roofs at the WWTP.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-W-I
Project Name	INDENTURE REPORT IMPROVEMENTS

Estimated Project Costs :	
LCA Staff	\$ 100,000
Land Acquisition	\$ -
Construction/Equipment	\$ 2,000,000
Professional Services	\$ 200,000
Other	\$ 100,000
Contingencies	\$ 100,000
Total Project Cost	\$ 2,500,000

Project Estimate Level	
	Conceptual Estimate
X	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 2,500,000
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Source of Funds					
		Need	Source		
			Operating Revenues	Borrowing	Assessment, Contr.-in-Aid Reserves
2019 Budget		\$ -			
1st Year	2020	\$ 500,000			
2nd Year	2021	\$ 500,000			
3rd Year	2022	\$ 500,000			
4th Year	2023	\$ 500,000			
5th Year	2024	\$ 500,000			

This project is unfunded.

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	WATER MAIN REPLACEMENTS						
Budget Area	Water	Department	Capital Works	Date	2/1/2019	Project No.	AD-W-7
Location	Allentown			Prj. Type	LCA-MCI	Prj. Funding	CCRC
Prj. Category	Primary	CA/OS	Secondary	AM - High	Preparer		JMP

Purpose of Expenditure (check all that apply)		
<input checked="" type="checkbox"/>	New Facility	Correct Known or Potential Safety Issue
<input type="checkbox"/>	Existing Facility - Rehabilitation/Upgrade	Equipment Obsolete
<input type="checkbox"/>	Scheduled Replacement	Comply with Regulatory Requirements
<input checked="" type="checkbox"/>	Improved Service	<input checked="" type="checkbox"/> Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/>	Study	Other (explain):

Additional Information		
Expected Useful Life (Years)	100	Comments
Approx. No. of Customers Benefitted	N/A	
Is this System part of a Common User Rate?	N/A	
Will the Project Require Obtaining Land Rights	N/A	

Detailed Project Description
Through the Operating Standards of the Concession Agreement, LCA is required to replace 2-miles of pipe per year until such time as the City deems it not necessary as a majority of the City's water distribution system is pit cast iron or spun cast iron mains. Some of the pit cast mains date back to the turn of the century, however the spun cast mains have a higher failure. Although the entire system will be evaluated, LCA will work closely with the City Streets department to coordinate main replacements in advance of the annual City Street paving schedule. Note: In 2018, LCA only executed 0.9 mile of main replacements and utilized 1.1-mile of main replacement credit from previous cycles to comply with the Lease requirements. The required main replacements will resume in 2019 with the replacement of approximately 2-miles of water main; however, this project is unfunded.

Purpose and Needs to be Met by the Project
Replacing cast iron mains will reduce the frequency of breaks in the system causing customer outages and will reduce the potential for damage which can occur to private property.

Project Status - Describe what work, if any has been completed or underway for this project
As of the end of 2018, the construction of 9.00 miles have been completed (as required by the Lease). Currently the design of 2-miles of main replacements for 2019 (Cycle 5) is being conducted. Additionally, the prioritizing of the next 5 years' worth of water main replacements is also being conducted at this time. The project will be bid ready by the Summer of 2019.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Explanation if Necessary
N/A

Project No.	AD-W-7
Project Name	WATER MAIN REPLACEMENTS

Estimated Project Costs :	
LCA Staff	\$ 730,000
Land Acquisition	\$ -
Construction/Equipment	\$ 20,900,000
Professional Services	\$ 1,870,000
Other	\$ 50,000
Contingencies	\$ 450,000
Total Project Cost	\$ 24,000,000

Project Estimate Level	
	Conceptual Estimate
X	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 24,000,000
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Source of Funds					
		Need	Source		
			Operating Revenues	Borrowing	Assessment, Contr.-in-Aid Reserves
2019 Budget		\$ -			
1st Year	2020	\$ 4,800,000			
2nd Year	2021	\$ 4,800,000			
3rd Year	2022	\$ 4,800,000			
4th Year	2023	\$ 4,800,000			
5th Year	2024	\$ 4,800,000			

This project is unfunded.

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	VARIOUS WATER SYSTEM RELATED STUDIES						
Budget Area	Water	Department	Capital Works	Date	2/1/2019	Project No.	AD-W-9
Location	Allentown			Prj. Type	Regular	Prj. Funding	LCA
Prj. Category	Primary	CA/OS	Secondary	Planning	Preparer		PMD

Purpose of Expenditure (check all that apply)	
<input type="checkbox"/> New Facility	Correct Known or Potential Safety Issue
<input type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	Equipment Obsolete
<input type="checkbox"/> Scheduled Replacement	Comply with Regulatory Requirements
<input type="checkbox"/> Improved Service	Equipment/Infrastructure at End of Useful Life
<input checked="" type="checkbox"/> Study	Other (explain):

Additional Information		
Expected Useful Life (Years)	20	Comments
Approx. No. of Customers Benefitted	N/A	
Is this System part of a Common User Rate?	N/A	
Will the Project Require Obtaining Land Rights	N/A	

Detailed Project Description
As infrastructure ages and regulations become more stringent, there are periodic needs for professional services to study the feasibility of changes, upgrades, etc. The following study is requested in 2022: (1) WFP Master Plan. This is a requirement of the Lease as some original components of the Allentown WFP are over 60 years.

Purpose and Needs to be Met by the Project
Engineering studies are periodically required to address feasibility of implementing new programs or changing existing ones. The WFP Master Plan is a requirement of the Lease Agreement and is to be completed every 5 years. The first Master Plan was completed in 2017 and the second will be completed in 2022.

Project Status - Describe what work, if any has been completed or underway for this project
The first Master Plan was completed in 2017.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-W-9
Project Name	VARIOUS WATER SYSTEM RELATED STUDIES

Estimated Project Costs :	
LCA Staff	\$ 20,000
Land Acquisition	\$ -
Construction/Equipment	\$ -
Professional Services	\$ 260,000
Other	\$ 10,000
Contingencies	\$ 10,000
Total Project Cost	\$ 300,000

Project Estimate Level	
	Conceptual Estimate
X	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 300,000
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Source of Funds					
		Need	Source		
			Operating Revenues	Borrowing	Assessment, Contr.-in-Aid Reserves
2019 Budget		\$ -			
1st Year	2020	\$ -			\$ -
2nd Year	2021	\$ -			\$ -
3rd Year	2022	\$ 300,000			\$ 300,000
4th Year	2023	\$ -			\$ -
5th Year	2024	\$ -			\$ -

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**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	SYSTEM SERVICE AND AUXILIARY POWER IMPROVEMENTS						
Budget Area	Water	Department	Capital Works	Date	2/1/2019	Project No.	AD-W-10
Location	Allentown			Prj. Type	LCA-MCI	Prj. Funding	CCRC
Prj. Category	Primary	Regulatory	Secondary	Master Plan	Preparer		PMD

Purpose of Expenditure (check all that apply)		
<input checked="" type="checkbox"/>	New Facility	Correct Known or Potential Safety Issue
<input type="checkbox"/>	Existing Facility - Rehabilitation/Upgrade	Equipment Obsolete
<input type="checkbox"/>	Scheduled Replacement	Comply with Regulatory Requirements
<input checked="" type="checkbox"/>	Improved Service	Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/>	Study	Other (explain):

Additional Information		
Expected Useful Life (Years)	40	Comments *All customers of the City of Allentown, Central Lehigh Division and bulk water sales to other municipalities.
Approx. No. of Customers Benefitted	*	
Is this System part of a Common User Rate?	N/A	
Will the Project Require Obtaining Land Rights	N/A	

Detailed Project Description
The water filtration plant currently relies on dual electrical feeds (from the same electrical PPL substation) to support reliable water production. Title 25, Chapter 109 of the Pennsylvania Code was recently modified in 2018 to ensure water facilities can supply water during a significant power outage. This project will investigate methods to comply with this change of law.

Purpose and Needs to be Met by the Project
Enhanced resiliency to provide water during prolonged power outages. Current project costs assume a new PPL service will be installed from a separate substation in order to comply with the change of law. Final cost details are to be determined upon alternate selection.

Project Status - Describe what work, if any has been completed or underway for this project
This evaluation was initially completed in 2017 as part of the Water Filtration Plant Master Plan project (backup generator was recommended). Due to the recent modifications to the PA Code Chapter 109 rules and regulations, a study was conducted at the end of 2018 to determine the impact (if any) at the Water Filtration Plant regarding the installation of a backup generator, etc. The study recommended a few alternatives needed to comply with Chapter 109. Final alternative selection decision will be made in consultation with the City in 2019. Full compliance is not needed until August 2021.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-W-10
Project Name	SYSTEM SERVICE AND AUXILIARY POWER IMPROVEMENTS

Estimated Project Costs :	
LCA Staff	\$ 25,000
Land Acquisition	\$ -
Construction/Equipment	\$ 750,000
Professional Services	\$ 50,000
Other	\$ 50,000
Contingencies	\$ 10,000
Total Project Cost	\$ 885,000

Project Estimate Level	
	Conceptual Estimate
X	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 885,000
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Source of Funds					
		Need	Source		
			Operating Revenues	Borrowing	Assessment, Contr.-in-Aid Reserves
2019 Budget		\$ -			
1st Year	2020	\$ 85,000			
2nd Year	2021	\$ 800,000			
3rd Year	2022				
4th Year	2023	\$ -			
5th Year	2024	\$ -			

This project is currently listed as unfunded; however, upon selection of alternative the funding source will change

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	ITRON/AMR METER PROJECT						
Budget Area	Water	Department	Capital Works	Date	2/1/2019	Project No.	AD-W-15
Location	Allentown			Prj. Type	UW	Prj. Funding	Allentown
Prj. Category	Primary	CA/OS	Secondary	Efficiency	Preparer		PMD

Purpose of Expenditure (check all that apply)	
<input type="checkbox"/> New Facility	<input type="checkbox"/> Correct Known or Potential Safety Issue
<input type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/> Equipment Obsolete
<input type="checkbox"/> Scheduled Replacement	<input type="checkbox"/> Comply with Regulatory Requirements
<input type="checkbox"/> Improved Service	<input type="checkbox"/> Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/> Study	<input type="checkbox"/> Other (explain):

Additional Information		
Expected Useful Life (Years)	20	Comments
Approx. No. of Customers Benefitted	N/A	
Is this System part of a Common User Rate?	N/A	
Will the Project Require Obtaining Land Rights	N/A	

Detailed Project Description
<p>This completes the remaining work on the City's Automatic Meter Reading (AMR) project. The City AMR project included the replacement of roughly 27,000 aged residential meters ranging in size from 5/8" to 2" (small meters) and roughly 155 commercial meters that were 3" or greater (large meters) in size. Radio read capability was included on all meter exchanges, allowing for mobile read application. There were 747 meter (small) installs that were not completed in the city AMR because the sites were either vacant or not accessible. The project also includes the purchase and implementation of Water Analytics software as a service package (to be purchased in 2019) which will analyze water usage data gathered from the meters in the Allentown division.</p>

Purpose and Needs to be Met by the Project
<p>Replacement of aged meters that may not be registering all water usage is expected to reduce the amount of non-revenue water. Analysis of metering data will allow for enhanced customer service including data-backed resolution of customer metering complaints, flow analysis and other useful functions. In addition, the data stored in the repository will be used in identifying and addressing customer metering issues.</p>

Project Status - Describe what work, if any has been completed or underway for this project
<p>Approximately 234 meters out of 747 residential meters remain to be replaced. The City has already paid for these meters. In addition, all of the commercial meters that were included in this project (five in total) have been replaced.</p> <p>Note: One of the commercial meters was removed from the scope in 2017. By the end of 2018, all five of the commercial meters have been replaced with this project. Project is anticipated to be completed in 2020.</p>

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-W-15
Project Name	ITRON/AMR METER PROJECT

Estimated Project Costs :	
LCA Staff	\$ 10,000
Land Acquisition	\$ -
Construction/Equipment	\$ 50,000
Professional Services	\$ 100,000
Other	\$ -
Contingencies	\$ 30,000
Total Project Cost	\$ 190,000

Project Estimate Level	
	Conceptual Estimate
X	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 45,000
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Source of Funds					
		Need	Source		
			Operating Revenues	Borrowing	Assessment, Contr.-in-Aid (1) Reserves
2019 Budget		\$ 145,000			
1st Year	2020	\$ 45,000			\$ 45,000
2nd Year	2021	\$ -			
3rd Year	2022	\$ -			
4th Year	2023	\$ -			
5th Year	2024	\$ -			

(1) This is an Uncompleted Work (UW) Project that will be funded by the City of Allentown.

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	FIXED-BASE METER READING SYSTEM						
Budget Area	Water	Department	Capital Works	Date	2/1/2019	Project No.	AD-W-21
Location	Allentown			Prj. Type	Regular	Prj. Funding	LCA
Prj. Category	Primary	Efficiency	Secondary	Sys Imp	Preparer		PMD

Purpose of Expenditure (check all that apply)		
<input checked="" type="checkbox"/>	New Facility	Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/>	Existing Facility - Rehabilitation/Upgrade	Equipment Obsolete
<input type="checkbox"/>	Scheduled Replacement	Comply with Regulatory Requirements
<input checked="" type="checkbox"/>	Improved Service	Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/>	Study	Other (explain):

Additional Information		
Expected Useful Life (Years)	20	Comments
Approx. No. of Customers Benefitted	N/A	
Is this System part of a Common User Rate?	N/A	
Will the Project Require Obtaining Land Rights	N/A	

Detailed Project Description
The City of Allentown's original AMR project started in 2011 and ran into 2013. There were insufficient funds from the Pennvest Loan to cover all 33,000 water meters. The original AMR was installed as a hybrid system which is upgradeable to a fixed-base system. A fixed-base system provides instantaneous readings of any water meter via a radio signal sent directly to the customer care center through a series of transmitters (exact number is to be determined) and repeaters installed throughout the water system service area.

Purpose and Needs to be Met by the Project
A fixed-base system would allow for instantaneous readings (and monthly reads) on any account. In order to implement the fixed base system, data analytics software must be installed to house the enormous volume of data that will accumulate. The data analytics software was an original component of the City's AMR project. This software will be purchased under AD-W-15 in 2019.

Project Status - Describe what work, if any has been completed or underway for this project
None.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-W-21
Project Name	FIXED-BASE METER READING SYSTEM

Estimated Project Costs :	
LCA Staff	\$ 90,000
Land Acquisition	\$ -
Construction/Equipment	\$ 1,100,000
Professional Services	\$ 110,000
Other	\$ 200,000
Contingencies	\$ 200,000
Total Project Cost	\$ 1,700,000

Project Estimate Level	
	Conceptual Estimate
X	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 1,700,000
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Source of Funds					
		Need	Source		
			Operating Revenues	Borrowing	Assessment, Contr.-in-Aid Reserves
2019 Budget		\$ -			
1st Year	2020	\$ -			
2nd Year	2021	\$ -			
3rd Year	2022	\$ 850,000			
4th Year	2023	\$ 850,000			
5th Year	2024	\$ -			

This project is unfunded.

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	FILTER UPGRADES						
Budget Area	Water	Department	Operations	Date	2/1/2019	Project No.	AD-W-22
Location	Allentown			Prj. Type	LCA-MCI	Prj. Funding	CCRC
Prj. Category	Primary	Master Plan	Secondary	Sys Imp	Preparer		PMD

Purpose of Expenditure (check all that apply)	
<input type="checkbox"/> New Facility	<input type="checkbox"/> Correct Known or Potential Safety Issue
<input type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/> Equipment Obsolete
<input type="checkbox"/> Scheduled Replacement	<input type="checkbox"/> Comply with Regulatory Requirements
<input type="checkbox"/> Improved Service	<input checked="" type="checkbox"/> Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/> Study	<input type="checkbox"/> Other (explain):

Additional Information		
Expected Useful Life (Years)	Varies	Comments
Approx. No. of Customers Benefitted	*	*All customers of the City of Allentown, Central Lehigh Division and bulk water sales to other municipalities.
Is this System part of a Common User Rate?	N/A	
Will the Project Require Obtaining Land Rights	N/A	

Detailed Project Description
The filter underdrains are approximately 58 years old and are beyond their nominal useful life. A recent inspection of the underdrain in Filter No. 6 determined that the underdrains are in poor condition and must soon be replaced. In addition, a number of filter components are obsolete including the filter control valves and filter control panels. There has been difficulty in obtaining spare parts. Properly functioning filter underdrains coupled with optimized filter media and backwash routines will be critical to maintaining regulatory compliance.

Purpose and Needs to be Met by the Project
Primary benefit will be enhanced regulatory compliance, improved operability and reduced maintenance. Secondary benefits include better asset management and process reliability. In addition, replacing the underdrains and rebuilding the filters will allow for the addition of air scour auxiliary wash and modified media configuration, which will improve reliability and performance of the filters.

Project Status - Describe what work, if any has been completed or underway for this project
This evaluation was completed in 2017 as part of the Water Filtration Plant Master Plan project. This project cost assumes two filters will be rehabilitated in 2023 and two in 2024. If the remaining four filters are to be rehabilitated, this Project will carry on beyond 2024.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-W-22
Project Name	FILTER UPGRADES

Estimated Project Costs :	
LCA Staff	\$ 100,000
Land Acquisition	\$ -
Construction/Equipment	\$ 5,500,000
Professional Services	\$ 250,000
Other	\$ 50,000
Contingencies	\$ 100,000
Total Project Cost	\$ 6,000,000

Project Estimate Level	
	Conceptual Estimate
X	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 6,000,000
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Source of Funds					
		Need	Source		
			Operating Revenues	Borrowing	Assessment, Contr.-in-Aid Reserves
2019 Budget		\$ -			
1st Year	2020	\$ -			
2nd Year	2021	\$ -			
3rd Year	2022	\$ 300,000			
4th Year	2023	\$ 2,850,000			
5th Year	2024	\$ 2,850,000			

This project is unfunded.

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	INTAKE UPGRADES						
Budget Area	Water	Department	Operations	Date	2/1/2019	Project No.	AD-W-23
Location	Allentown			Prj. Type	LCA-MCI	Prj. Funding	CCRC
Prj. Category	Primary	Master Plan	Secondary	Sys Imp	Preparer		PMD

Purpose of Expenditure (check all that apply)	
<input checked="" type="checkbox"/> New Facility	Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/> Equipment Obsolete
<input type="checkbox"/> Scheduled Replacement	Comply with Regulatory Requirements
<input type="checkbox"/> Improved Service	<input checked="" type="checkbox"/> Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/> Study	Other (explain):

Additional Information		
Expected Useful Life (Years)	Varies	Comments
Approx. No. of Customers Benefitted	*	*All customers of the City of Allentown, Central Lehigh Division and bulk water sales to other municipalities.
Is this System part of a Common User Rate?	N/A	
Will the Project Require Obtaining Land Rights	N/A	

Detailed Project Description
The Master Plan includes multiple items: (1) the Big Lehigh intake facility is limited to 3 MGD due to taste and odor complaints and manual cleaning of the existing bar screens. The first portion of the project will include the installation of traveling screens/screenings handling facility at the Big Lehigh facility; (2) replace the corroded housing on the existing traveling screen in the 1953 screening building until a new intake/screenings facility can be constructed; (3) new 30 MGD Little Lehigh intake structure and screenings building including coarse screens, traveling screens and screenings handling facilities. In addition, new buried piping and tie-in connection to the existing raw water line is needed.

Purpose and Needs to be Met by the Project
Asset management, regulatory compliance, enhanced redundancy, improved process reliability, improved operations and maintenance and improved water quality.

Project Status - Describe what work, if any has been completed or underway for this project
This evaluation was completed in 2017 as part of the Water Filtration Plant Master Plan project. This project cost assumes the existing mechanical screen will be replaced in-kind with some additional miscellaneous upgrades. This is the short term recommendation in the Master Plan. The long term recommendation includes a second intake structure (see above).

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-W-23
Project Name	INTAKE UPGRADES

Estimated Project Costs :	
LCA Staff	\$ 100,000
Land Acquisition	\$ -
Construction/Equipment	\$ 1,800,000
Professional Services	\$ -
Other	\$ 50,000
Contingencies	\$ 50,000
Total Project Cost	\$ 2,000,000

Project Estimate Level	
	Conceptual Estimate
X	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 2,000,000
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Source of Funds					
		Need	Source		
			Operating Revenues	Borrowing	Assessment, Contr.-in-Aid Reserves
2019 Budget		\$ -			
1st Year	2020	\$ -			
2nd Year	2021	\$ 250,000			
3rd Year	2022	\$ 1,750,000			
4th Year	2023	\$ -			
5th Year	2024	\$ -			

This project is unfunded.

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	HIGH LIFT VFD/PUMP REPLACEMENTS						
Budget Area	Water	Department	Operations	Date	2/1/2019	Project No.	AD-W-24
Location	Allentown			Prj. Type	LCA-MCI	Prj. Funding	CCRC
Prj. Category	Primary	Master Plan	Secondary	Sys Imp	Preparer		PMD

Purpose of Expenditure (check all that apply)	
<input checked="" type="checkbox"/> New Facility	<input type="checkbox"/> Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/> Equipment Obsolete
<input type="checkbox"/> Scheduled Replacement	<input type="checkbox"/> Comply with Regulatory Requirements
<input type="checkbox"/> Improved Service	<input checked="" type="checkbox"/> Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/> Study	<input type="checkbox"/> Other (explain):

Additional Information		
Expected Useful Life (Years)	Varies	Comments
Approx. No. of Customers Benefitted	*	*All customers of the City of Allentown, Central Lehigh Division and bulk water sales to other municipalities.
Is this System part of a Common User Rate?	N/A	
Will the Project Require Obtaining Land Rights	N/A	

Detailed Project Description
Evaluate and select pump capacities to meet current and future demands while operating at peak efficiency. Replace the high lift pumps, motors, and VFDs. Rehab building and support facilities as required.

Purpose and Needs to be Met by the Project
Asset management, code compliance, physical and process reliability, energy efficiency, improved operations and maintenance.

Project Status - Describe what work, if any has been completed or underway for this project
This evaluation was completed in 2017 as part of the Water Filtration Plant Master Plan project. A 2018 study was conducted to identify replacement alternatives. This project cost assumes three new 2300V VFDs are installed (two existing are replaced and one new). Project scope to be finalized at a later date.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-W-24
Project Name	HIGH LIFT VFD/PUMP REPLACEMENTS

Estimated Project Costs :	
LCA Staff	\$ 100,000
Land Acquisition	\$ -
Construction/Equipment	\$ 1,500,000
Professional Services	\$ 150,000
Other	\$ 50,000
Contingencies	\$ 200,000
Total Project Cost	\$ 2,000,000

Project Estimate Level	
	Conceptual Estimate
X	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 2,000,000
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Source of Funds					
		Need	Source		
			Operating Revenues	Borrowing	Assessment, Contr.-in-Aid Reserves
2019 Budget		\$ -			
1st Year	2020	\$ 200,000			
2nd Year	2021	\$ 900,000			
3rd Year	2022	\$ 900,000			
4th Year	2023	\$ -			
5th Year	2024	\$ -			

This project is unfunded.

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	TANK AND RESERVOIR REHABILITATION						
Budget Area	Water	Department	Operations	Date	2/1/2019	Project No.	AD-W-25
Location	Allentown			Prj. Type	LCA-MCI	Prj. Funding	CCRC
Prj. Category	Primary	Master Plan	Secondary	Sys Imp	Preparer		PMD

Purpose of Expenditure (check all that apply)		
<input checked="" type="checkbox"/>	New Facility	Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/>	Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/> Equipment Obsolete
	Scheduled Replacement	Comply with Regulatory Requirements
	Improved Service	<input checked="" type="checkbox"/> Equipment/Infrastructure at End of Useful Life
	Study	Other (explain):

Additional Information		
Expected Useful Life (Years)	Varies	Comments *All customers of the City of Allentown, Central Lehigh Division and bulk water sales to other municipalities.
Approx. No. of Customers Benefitted	*	
Is this System part of a Common User Rate?	N/A	
Will the Project Require Obtaining Land Rights	N/A	

Detailed Project Description
The project involves the rehabilitation and repair of the following tanks and reservoirs: (a) Schantz Spring Tank, (b) Huckleberry Ridge Reservoir, (c) South Mountain Reservoir, (e) 16th Ward Tank, (f) 19th Ward Tank, (g) Wash Water Tank. The majority of the work will be located on the exterior of the tanks.

Purpose and Needs to be Met by the Project
Enhanced process and physical redundancy, improved operations and maintenance, and asset management.

Project Status - Describe what work, if any has been completed or underway for this project
This project was identified in 2017 as part of the Water Filtration Plant Master Plan project. The Master Plan's scope for this project is also linked to AD-W-I (Indenture Report Improvements); therefore, a portion of this project is allocated to that capital number as well.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-W-25
Project Name	TANK AND RESERVOIR REHABILITATION

Estimated Project Costs :	
LCA Staff	\$ 80,000
Land Acquisition	\$ -
Construction/Equipment	\$ 1,300,000
Professional Services	\$ 100,000
Other	\$ 10,000
Contingencies	\$ 10,000
Total Project Cost	\$ 1,500,000

Project Estimate Level	
	Conceptual Estimate
X	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 1,500,000
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Source of Funds					
		Need	Source		
			Operating Revenues	Borrowing	Assessment, Contr.-in-Aid Reserves
2019 Budget		\$ -			
1st Year	2020	\$ -			
2nd Year	2021	\$ -			
3rd Year	2022	\$ 100,000			
4th Year	2023	\$ 700,000			
5th Year	2024	\$ 700,000			

This project is unfunded.

WASTEWATER

LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION
2020-2024 CAPITAL PROGRAM
WASTEWATER

Project #	Name or Title of Proposal	(1) Type	(1) Funding	Approval Stage (1)	Priority Ranking (2)	Project Total Cost	This Capital Program							Project Category (1)	
							2019 <i>Budget Approved</i>	2020 Year 1	2021 Year 2	2022 Year 3	2023 Year 4	2024 Year 5	2020-2024 Total	Primary	Secondary
	LCA FUNDED SOURCES														
	<u>Operating/Capital Reserve Funds</u>														
AD-S-A	Annual Projects	Regular	LCA	A	-	\$ 8,100,000	\$ 400,000	\$ 1,250,000	\$ 1,250,000	\$ 1,200,000	\$ 1,600,000	\$ 2,400,000	\$ 7,700,000	AM - Varies	Sys Imp
AD-S-5*	WWTP Electrical Substation Replacement Phase 1	LCA-MCI	CCRC	C	-	\$ 2,847,500	\$ 1,500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	AM - High	Efficiency
AD-S-9	Various Wastewater System Related Studies (Master Plan)	Regular	LCA	S	-	\$ 300,000	\$ -	\$ -	\$ -	\$ -	\$ 300,000	\$ -	\$ 300,000	CA/OS	Planning
	TOTAL LCA FUNDED SOURCES					\$ 11,247,500	\$ 1,900,000	\$ 1,250,000	\$ 1,250,000	\$ 1,200,000	\$ 1,900,000	\$ 2,400,000	\$ 8,000,000		
	CITY FUNDED SOURCES														
AD-S-11	Administrative Order Improvements	AO	Allentown	S	-	\$ 3,045,000	\$ -	\$ 700,000	\$ 745,000	\$ 530,000	\$ 420,000	\$ 650,000	\$ 3,045,000	Regulatory	CA/OS
AD-S-16	WWTP Interim Blending Pumping System ⁽³⁾	AO	Allentown	S	-	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ -	\$ -	\$ -	\$ -	\$ 1,500,000	Regulatory	CA/OS
	TOTAL CITY FUNDED SOURCES					\$ 4,545,000	\$ 1,500,000	\$ 2,200,000	\$ 745,000	\$ 530,000	\$ 420,000	\$ 650,000	\$ 4,545,000		
	GRAND TOTAL FUNDED SOURCES					\$ 15,792,500	\$ 3,400,000	\$ 3,450,000	\$ 1,995,000	\$ 1,730,000	\$ 2,320,000	\$ 3,050,000	\$ 12,545,000		
	UNFUNDED SOURCES														
AD-S-G**	General Improvements	Regular	LCA	S	3	\$ 3,125,000	\$ -	\$ 625,000	\$ 625,000	\$ 625,000	\$ 625,000	\$ 625,000	\$ 3,125,000	AM - Varies	Sys Imp
AD-S-I***	Indenture Report Improvements	Regular	LCA	S	2	\$ 3,500,000	\$ -	\$ 700,000	\$ 700,000	\$ 700,000	\$ 700,000	\$ 700,000	\$ 3,500,000	AM - Varies	Sys Imp
AD-S-5A	WWTP Electrical Substation Replacement Phase 2	LCA-MCI	CCRC	S	5	\$ 3,250,000	\$ -	\$ 100,000	\$ 1,250,000	\$ 1,900,000	\$ -	\$ -	\$ 3,250,000	AM - High	Efficiency
AD-S-19	WWTP Main Pump Station Improvements	LCA-MCI	AO/CCRC TBD	S	3	\$ 2,600,000	\$ -	\$ -	\$ 600,000	\$ 1,000,000	\$ 1,000,000	\$ -	\$ 2,600,000	AM - Varies	Sys Imp
AD-S-20	WWTP Sludge Thickening/Digestion Improvements	LCA-MCI	CCRC	S	5	\$ 1,500,000	\$ -	\$ 100,000	\$ 650,000	\$ 750,000	\$ -	\$ -	\$ 1,500,000	AM - Varies	Sys Imp
AD-S-21	WWTP 480V MCC Replacement	LCA-MCI	CCRC	S	3	\$ 3,250,000	\$ -	\$ -	\$ 200,000	\$ 1,525,000	\$ 1,525,000	\$ -	\$ 3,250,000	AM - Varies	Sys Imp
AD-S-22	WWTP Final Clarifer 1-4 Rehabilitation	LCA-MCI	CCRC	S	4	\$ 1,800,000	\$ -	\$ -	\$ -	\$ 100,000	\$ 850,000	\$ 850,000	\$ 1,800,000	AM - Varies	Sys Imp
	TOTAL UNFUNDED SOURCES					\$ 19,025,000	\$ -	\$ 1,525,000	\$ 4,025,000	\$ 6,600,000	\$ 4,700,000	\$ 2,175,000	\$ 19,025,000		
	GRAND TOTAL FUNDED + UNFUNDED SOURCES					\$ 34,817,500	\$ 3,400,000	\$ 4,975,000	\$ 6,020,000	\$ 8,330,000	\$ 7,020,000	\$ 5,225,000	\$ 31,570,000		

(1) Reference Glossary of Acronyms & Terms found immediately after the Table of Contents
(2) Ranking system from 1-5, 1 being low priority, 5 being high priority
(3) The 2020 budgeted item is a placeholder and does not count towards total project costs
*Includes 2018 authorizations for S-5
**Includes Project Proposal 4,5,8 (portion), 13 from WWTP Master Plan
***Includes Project Proposal 7, 11, 12, 14 (portion) from WWTP Master Plan

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	ANNUAL PROJECTS						
Budget Area	Wastewater	Department	Capital Works	Date	2/1/2019	Project No.	AD-S-A
Location	Allentown			Prj. Type	Regular	Prj. Funding	LCA
Prj. Category	Primary	AM - Varies	Secondary	Sys Imp	Preparer		PMD

Purpose of Expenditure (check all that apply)	
<input checked="" type="checkbox"/> New Facility	<input type="checkbox"/> Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/> Equipment Obsolete
<input type="checkbox"/> Scheduled Replacement	<input type="checkbox"/> Comply with Regulatory Requirements
<input type="checkbox"/> Improved Service	<input checked="" type="checkbox"/> Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/> Study	<input type="checkbox"/> Other (explain):

Additional Information		
Expected Useful Life (Years)	40	Comments *All customers of the City of Allentown, City signatories and Western Lehigh signatories are positively impacted.
Approx. No. of Customers Benefitted	*	
Is this System part of a Common User Rate?	N/A	
Will the Project Require Obtaining Land Rights	No	

Detailed Project Description
This is an annual project that has been previously listed as separate projects. This annual project includes the following: Collection System - Development and Service Connections, Other Equipment, WWTP General Improvements, Sanitary Sewer Main Replacements & Rehabilitation, Capital Management, and Mobile Equipment.

Purpose and Needs to be Met by the Project
Annual items that help maintain the operation of the collection system and the WWTP.

Project Status - Describe what work, if any has been completed or underway for this project
This is an annual project.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-S-A
Project Name	ANNUAL PROJECTS

Estimated Project Costs :	
LCA Staff	\$ 400,000
Land Acquisition	\$ -
Construction/Equipment	\$ 7,000,000
Professional Services	\$ 500,000
Other	\$ 100,000
Contingencies	\$ 100,000
Total Project Cost	\$ 8,100,000

Project Estimate Level	
	Conceptual Estimate
X	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 7,700,000
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Source of Funds					
		Need	Source		
			Operating Revenues	Borrowing	Assessment, Contr.-in-Aid Reserves
2019 Budget		\$ 400,000			
1st Year	2020	\$ 1,250,000			\$ 1,250,000
2nd Year	2021	\$ 1,250,000			\$ 1,250,000
3rd Year	2022	\$ 1,200,000			\$ 1,200,000
4th Year	2023	\$ 1,600,000			\$ 1,600,000
5th Year	2024	\$ 2,400,000			\$ 2,400,000

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**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	GENERAL IMPROVEMENTS						
Budget Area	Wastewater	Department	Capital Works	Date	2/1/2019	Project No.	AD-S-G
Location	Allentown			Prj. Type	Regular	Prj. Funding	LCA
Prj. Category	Primary	AM - Varies	Secondary	Sys Imp	Preparer		PMD

Purpose of Expenditure (check all that apply)	
<input checked="" type="checkbox"/> New Facility	<input type="checkbox"/> Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/> Equipment Obsolete
<input type="checkbox"/> Scheduled Replacement	<input type="checkbox"/> Comply with Regulatory Requirements
<input type="checkbox"/> Improved Service	<input checked="" type="checkbox"/> Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/> Study	<input type="checkbox"/> Other (explain):

Additional Information		
Expected Useful Life (Years)	40	Comments *All customers of the City of Allentown, City signatories and Western Lehigh signatories are positively impacted.
Approx. No. of Customers Benefitted	*	
Is this System part of a Common User Rate?	N/A	
Will the Project Require Obtaining Land Rights	No	

Detailed Project Description
This unfunded General Improvement project includes General Wastewater System Replacement/Improvements at the Wastewater Treatment Plant (WWTP). These projects include the following, but not limited to: replacement of the dewatering building second story floor, sewer line maintenance locker room refurbishment, sodium hypochlorite disinfection, boiler replacements, dewatering SCADA installation, PMTF effluent flushing line replacement, odor control unit 24 replacement, PMTF rehab (portion), drainage lift station rehab, etc.

Purpose and Needs to be Met by the Project
Projects that help maintain the operation of the WWTP as equipment reaches the end of its useful life.

Project Status - Describe what work, if any has been completed or underway for this project
These are annual projects identified by both staff and the Master Plan (Projects 4, 5, 6, 8 (portion), and 13).

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-S-G
Project Name	GENERAL IMPROVEMENTS

Estimated Project Costs :	
LCA Staff	\$ 100,000
Land Acquisition	\$ -
Construction/Equipment	\$ 2,750,000
Professional Services	\$ 200,000
Other	\$ 50,000
Contingencies	\$ 25,000
Total Project Cost	\$ 3,125,000

Project Estimate Level	
	Conceptual Estimate
X	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 3,125,000
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Source of Funds					
		Need	Source		
			Operating Revenues	Borrowing	Assessment, Contr.-in-Aid Reserves
2019 Budget		\$ -			
1st Year	2020	\$ 625,000			
2nd Year	2021	\$ 625,000			
3rd Year	2022	\$ 625,000			
4th Year	2023	\$ 625,000			
5th Year	2024	\$ 625,000			

This project is unfunded.

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	INDENTURE REPORT IMPROVEMENTS						
Budget Area	Wastewater	Department	Capital Works	Date	2/1/2019	Project No.	AD-S-I
Location	Allentown			Prj. Type	Regular	Prj. Funding	LCA
Prj. Category	Primary	AM - Varies	Secondary	Sys Imp	Preparer		PMD

Purpose of Expenditure (check all that apply)	
<input type="checkbox"/> New Facility	<input checked="" type="checkbox"/> Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/> Equipment Obsolete
<input checked="" type="checkbox"/> Scheduled Replacement	Comply with Regulatory Requirements
<input checked="" type="checkbox"/> Improved Service	<input checked="" type="checkbox"/> Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/> Study	Other (explain):

Additional Information		
Expected Useful Life (Years)	40	Comments *All customers of the City of Allentown, City signatories and Western Lehigh signatories.
Approx. No. of Customers Benefitted	*	
Is this System part of a Common User Rate?	N/A	
Will the Project Require Obtaining Land Rights	N/A	

Detailed Project Description
This project includes the following, but not limited to: 1. General repairs on concrete, reinforcing steel and exposed wood; 2. Pipe protection upgrades including preparation, painting and dehumidification particularly sub-grade sites; 3. Structural upgrades including roofs; 4. Water tank and reservoir upgrades; 5. Security upgrades including fencing, lighting and vegetation control; 6. Electrical upgrades.

Purpose and Needs to be Met by the Project
This project addresses the deficiencies identified in the annual Indenture Report. Funding needed to address the deficiencies is roughly split 50% between the sewer system and 50% between the water system.

Project Status - Describe what work, if any has been completed or underway for this project
Two roofs at the WWTP were replaced in 2018. Some of the projects were also identified in the Master Plan (Projects 7, 11 and 12).

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-S-I
Project Name	INDENTURE REPORT IMPROVEMENTS

Estimated Project Costs :	
LCA Staff	\$ 120,000
Land Acquisition	\$ -
Construction/Equipment	\$ 3,200,000
Professional Services	\$ 150,000
Other	\$ 10,000
Contingencies	\$ 20,000
Total Project Cost	\$ 3,500,000

Project Estimate Level	
	Conceptual Estimate
X	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 3,500,000
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Source of Funds					
		Need	Source		
			Operating Revenues	Borrowing	Assessment, Contr.-in-Aid Reserves
2019 Budget		\$ -			
1st Year	2020	\$ 700,000			
2nd Year	2021	\$ 700,000			
3rd Year	2022	\$ 700,000			
4th Year	2023	\$ 700,000			
5th Year	2024	\$ 700,000			

This project is unfunded.

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	WWTP ELECTRICAL SUBSTATION REPLACEMENTS						
Budget Area	Wastewater	Department	Capital Works	Date	2/1/2019	Project No.	AD-S-5
Location	Allentown			Prj. Type	LCA-MCI	Prj. Funding	CCRC
Prj. Category	Primary	AM - High	Secondary	Efficiency	Preparer		PMD

Purpose of Expenditure (check all that apply)	
<input type="checkbox"/> New Facility	<input type="checkbox"/> Correct Known or Potential Safety Issue
<input type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/> Equipment Obsolete
<input type="checkbox"/> Scheduled Replacement	<input type="checkbox"/> Comply with Regulatory Requirements
<input type="checkbox"/> Improved Service	<input checked="" type="checkbox"/> Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/> Study	<input type="checkbox"/> Other (explain):

Additional Information		
Expected Useful Life (Years)	40	Comments *All customers of the City of Allentown, City signatories and Western Lehigh signatories are positively impacted.
Approx. No. of Customers Benefitted	*	
Is this System part of a Common User Rate?	N/A	
Will the Project Require Obtaining Land Rights	N/A	

Detailed Project Description
<p>This project will include the replacement of both existing electrical substations with new electrical substations. The existing 12.4kV switchgear will also be replaced. Substation #2 (Phase 1) will be replaced by the end of 2019. The switchgear and Substation #1 (Phase 2) will be replaced when funding is available.</p>

Purpose and Needs to be Met by the Project
<p>The WWTP contains 12.4kV switchgear and two substations (Substation No. 1 and No. 2). This equipment was installed in the 1970s and has reached the end of their useful life. In addition, Substation No. 2 is overloaded during high flow events. These are critical pieces of electrical equipment that must continue to function properly. Replacement of the equipment will provide electrical reliability from PP&L for the next 40 years at the WWTP.</p>

Project Status - Describe what work, if any has been completed or underway for this project
<p>An evaluation study for Substation No. 1 and No. 2 was completed in 2016 and the design was completed in 2018. Substation #2 will be replaced in 2019. Substation #1 and the switchgear will be replaced at a future date (Phase 2).</p>

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
<p>Annual cost impact to be determined as needed.</p>

Project No.	AD-S-5
Project Name	WWTP ELECTRICAL SUBSTATION REPLACEMENTS

Estimated Project Costs :	
LCA Staff	\$ 240,000
Land Acquisition	\$ -
Construction/Equipment	\$ 5,182,000
Professional Services	\$ 625,500
Other	\$ 20,000
Contingencies	\$ 30,000
Total Project Cost	\$ 6,097,500

Project Estimate Level	
	Conceptual Estimate
X	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 3,250,000
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Source of Funds					
		Need	Source		
			Operating Revenues	Borrowing	Assessment, Contr.-in-Aid Reserves
2019 Budget		\$ 1,500,000			
1st Year	2020	\$ 100,000			
2nd Year	2021	\$ 1,250,000			
3rd Year	2022	\$ 1,900,000			
4th Year	2023	\$ -			
5th Year	2024	\$ -			

This project is unfunded.

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	VARIOUS WASTEWATER SYSTEM RELATED STUDIES (MASTER PLAN)						
Budget Area	Wastewater	Department	Capital Works	Date	2/1/2019	Project No.	AD-S-9
Location	Allentown			Prj. Type	Regular	Prj. Funding	LCA
Prj. Category	Primary	CA/OS	Secondary	Planning	Preparer		PMD

Purpose of Expenditure (check all that apply)	
<input type="checkbox"/> New Facility	Correct Known or Potential Safety Issue
<input type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	Equipment Obsolete
<input type="checkbox"/> Scheduled Replacement	Comply with Regulatory Requirements
<input type="checkbox"/> Improved Service	Equipment/Infrastructure at End of Useful Life
<input checked="" type="checkbox"/> Study	Other (explain):

Additional Information		
Expected Useful Life (Years)	N/A	Comments
Approx. No. of Customers Benefitted	N/A	
Is this System part of a Common User Rate?	N/A	
Will the Project Require Obtaining Land Rights	N/A	

Detailed Project Description
As infrastructure ages and regulations become more stringent, there are periodic needs for professional services to study the feasibility of changes, upgrades, etc. The following study is requested in 2023: (1) WWTP Master Plan - Some original components of the Allentown WWTP are bearing in on 90 years old. This is a requirement of the Lease.

Purpose and Needs to be Met by the Project
Engineering studies are periodically required to address feasibility of implementing new programs or changing existing ones. The WWTP Master Plan is a requirement of the Lease Agreement and is to be completed every 5 years. The first Master Plan was completed in 2018 and the second will be completed in 2023.

Project Status - Describe what work, if any has been completed or underway for this project
The first Master Plan was completed in 2018.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-S-9
Project Name	VARIOUS WASTEWATER SYSTEM RELATED STUDIES (MASTER PLAN)

Estimated Project Costs :	
LCA Staff	\$ 25,000
Land Acquisition	\$ -
Construction/Equipment	\$ -
Professional Services	\$ 250,000
Other	\$ -
Contingencies	\$ 25,000
Total Project Cost	\$ 300,000

Project Estimate Level	
	Conceptual Estimate
X	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 300,000
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Source of Funds					
		Need	Source		
			Operating Revenues	Borrowing	Assessment, Contr.-in-Aid
2019 Budget		\$ -			
1st Year	2020	\$ -			\$ -
2nd Year	2021	\$ -			\$ -
3rd Year	2022	\$ -			\$ -
4th Year	2023	\$ 300,000			\$ 300,000
5th Year	2024	\$ -			\$ -

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**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	ADMINISTRATIVE ORDER IMPROVEMENTS						
Budget Area	Wastewater	Department	Capital Works	Date	2/1/2019	Project No.	AD-S-11
Location	Allentown			Prj. Type	AO	Prj. Funding	Allentown
Prj. Category	Primary	Regulatory	Secondary	CA/OS	Preparer		PMD

Purpose of Expenditure (check all that apply)		
<input checked="" type="checkbox"/>	New Facility	Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/>	Existing Facility - Rehabilitation/Upgrade	Equipment Obsolete
<input type="checkbox"/>	Scheduled Replacement	<input checked="" type="checkbox"/> Comply with Regulatory Requirements
<input type="checkbox"/>	Improved Service	Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/>	Study	Other (explain):

Additional Information		
Expected Useful Life (Years)	40	Comments *All customers of the City of Allentown, City signatories and Western Lehigh signatories.
Approx. No. of Customers Benefitted	*	
Is this System part of a Common User Rate?	N/A	
Will the Project Require Obtaining Land Rights	N/A	

Detailed Project Description
The I&I Improvements include the following: Year 1 (2020) consists of a lining project for a 30" sewer section along MLK Drive; Year 2 (2021), Year 3 (2022), Year 4 (2023), and Year 5 (2024) consists of a combination of heavy cleaning, grouting, lining point repairs, excavating point repairs, and pipe lining.

Purpose and Needs to be Met by the Project
This project is a component of the work that will be necessary to comply with the EPA Administrative Order.

Project Status - Describe what work, if any has been completed or underway for this project
The City's I&I Source Reduction Plan was submitted to the EPA in 2018.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-S-11
Project Name	ADMINISTRATIVE ORDER IMPROVEMENTS

Estimated Project Costs :	
LCA Staff	\$ 150,000
Land Acquisition	\$ -
Construction/Equipment	\$ 2,655,000
Professional Services	\$ 200,000
Other	\$ 20,000
Contingencies	\$ 20,000
Total Project Cost	\$ 3,045,000

Project Estimate Level	
	Conceptual Estimate
X	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 3,045,000
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Source of Funds					
		Need	Source		
			Operating Revenues	Borrowing	Assessment, Contr.-in-Aid (1) Reserves
2019 Budget		\$ -			
1st Year	2020	\$ 700,000			\$ 700,000
2nd Year	2021	\$ 745,000			\$ 745,000
3rd Year	2022	\$ 530,000			\$ 530,000
4th Year	2023	\$ 420,000			\$ 420,000
5th Year	2024	\$ 650,000			\$ 650,000

(1) This is an Administrative Order (AO) Project that will be funded by the City of Allentown.

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	WWTP INTERIM BLENDING PUMPING SYSTEM						
Budget Area	Wastewater	Department	Capital Works	Date	2/1/2019	Project No.	AD-S-16
Location	Allentown			Prj. Type	AO	Prj. Funding	Allentown
Prj. Category	Primary	Regulatory	Secondary	CA/OS	Preparer		PMD

Purpose of Expenditure (check all that apply)	
<input type="checkbox"/> New Facility	<input type="checkbox"/> Correct Known or Potential Safety Issue
<input type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	<input type="checkbox"/> Equipment Obsolete
<input type="checkbox"/> Scheduled Replacement	<input checked="" type="checkbox"/> Comply with Regulatory Requirements
<input type="checkbox"/> Improved Service	<input type="checkbox"/> Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/> Study	<input type="checkbox"/> Other (explain):

Additional Information		
Expected Useful Life (Years)	N/A	Comments
Approx. No. of Customers Benefitted	*	*All customers of the City of Allentown, City signatories and Western Lehigh signatories.
Is this System part of a Common User Rate?	N/A	
Will the Project Require Obtaining Land Rights	N/A	

Detailed Project Description
<p>This project provides for the installation of four diesel power pumps and associated pipeline to increase the hydraulic capacity of Kline's Island WWTP (KIWWTP) during significant wet-weather events (remnants of hurricane and tropical storms, for example). Once installed, blending of wastewater that has received primary treatment with fully treated plant effluent will be made possible, thus reducing environmental concerns related to the current practice of discharging raw sewage to the Little Lehigh Creek during these extreme wet-weather events.</p> <p>Note: This Project is contingent upon PADEP approval of the NPDES Permit renewal - if blending is included.</p>

Purpose and Needs to be Met by the Project
<p>The peak hydraulic capacity of KIWWTP is currently limited to 86 million gallons per day (MGD) by a number of hydraulic bottlenecks located throughout the facility. When the hydraulic capacity of the facility is exceeded, untreated sewage and storm water from Inflow & Infiltration (I&I) is bypassed to the Little Lehigh Creek through Outfall 003 located at the plant headworks. The proposed project represents a portion of the scope of work necessary to increase the peak flow capacity of the facility to 95 MGD. The four pumps and connected pipeline will provide for the blending of 10 MGD of primary settling tank effluent with the fully treated plant effluent. This will occur in the chlorine contact tank and the discharge of this blended effluent will flow to the Lehigh River.</p>

Project Status - Describe what work, if any has been completed or underway for this project
None. The 2020 cost is a placeholder in case the 2019 cost is not spent.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-S-16
Project Name	WWTP INTERIM BLENDING PUMPING SYSTEM

Estimated Project Costs :	
LCA Staff	\$ 40,000
Land Acquisition	\$ -
Construction/Equipment	\$ 1,300,000
Professional Services	\$ 80,000
Other	\$ 20,000
Contingencies	\$ 60,000
Total Project Cost	\$ 1,500,000

Project Estimate Level	
	Conceptual Estimate
	Preliminary Estimate
X	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 1,500,000
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Source of Funds					
		Need	Source		
			Operating Revenues	Borrowing	Assessment, Contr.-in-Aid (1) Reserves
2019 Budget		\$ 1,500,000			\$ 1,500,000
1st Year	2020	\$ 1,500,000			
2nd Year	2021	\$ -			
3rd Year	2022	\$ -			
4th Year	2023	\$ -			
5th Year	2024	\$ -			

(1) This is an Administrative Order (AO) Project that will be funded by the City of Allentown.

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	WWTP MAIN PUMP STATION IMPROVEMENTS						
Budget Area	Wastewater	Department	Capital Works	Date	2/1/2019	Project No.	AD-S-19
Location	Allentown			Prj. Type	LCA-MCI	Prj. Funding	AO/CCRC TBD
Prj. Category	Primary	AM - Varies	Secondary	Sys Imp	Preparer		PMD

Purpose of Expenditure (check all that apply)			
<input type="checkbox"/>	New Facility	<input checked="" type="checkbox"/>	Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/>	Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/>	Equipment Obsolete
<input checked="" type="checkbox"/>	Scheduled Replacement		Comply with Regulatory Requirements
<input checked="" type="checkbox"/>	Improved Service	<input checked="" type="checkbox"/>	Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/>	Study		Other (explain):

Additional Information		
Expected Useful Life (Years)	40	Comments *All customers of the City of Allentown, City signatories and Western Lehigh signatories.
Approx. No. of Customers Benefitted	*	
Is this System part of a Common User Rate?	N/A	
Will the Project Require Obtaining Land Rights	N/A	

Detailed Project Description
The main pump station is critical to plant performance and the ability to maximize wet-weather flow into the KIWWTP. The existing pumps are 50 years old and approaching the end of their useful life. Valves and piping are corroded and predate the 1965 upgrade. Replacement of the valves and piping is required to allow maintenance to occur while simultaneously keeping the pumping station operational.

Purpose and Needs to be Met by the Project
Pump replacement will provide improved equipment reliability and reduced long-term maintenance costs.

Project Status - Describe what work, if any has been completed or underway for this project
This project was identified in the 2018 Master Plan (Project 1). These pumps were also previously planned to be replaced as part of the blending project improvements (project on hold at 30% design). Project funding is to be determined.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-S-19
Project Name	WWTP MAIN PUMP STATION IMPROVEMENTS

Estimated Project Costs :	
LCA Staff	\$ 120,000
Land Acquisition	\$ -
Construction/Equipment	\$ 2,300,000
Professional Services	\$ 140,000
Other	\$ 20,000
Contingencies	\$ 20,000
Total Project Cost	\$ 2,600,000

Project Estimate Level	
	Conceptual Estimate
X	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 2,600,000
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Source of Funds					
		Need	Source		
			Operating Revenues	Borrowing	Assessment, Contr.-in-Aid Reserves
2019 Budget		\$ -			
1st Year	2020	\$ -			
2nd Year	2021	\$ 600,000			
3rd Year	2022	\$ 1,000,000			
4th Year	2023	\$ 1,000,000			
5th Year	2024	\$ -			

This project is unfunded.

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	WWTP SLUDGE THICKENING/DIGESTION IMPROVEMENTS						
Budget Area	Wastewater	Department	Capital Works	Date	2/1/2019	Project No.	AD-S-20
Location	Allentown			Prj. Type	LCA-MCI	Prj. Funding	CCRC
Prj. Category	Primary	AM - Varies	Secondary	Sys Imp	Preparer		PMD

Purpose of Expenditure (check all that apply)	
<input type="checkbox"/> New Facility	<input checked="" type="checkbox"/> Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/> Equipment Obsolete
<input checked="" type="checkbox"/> Scheduled Replacement	Comply with Regulatory Requirements
<input checked="" type="checkbox"/> Improved Service	<input checked="" type="checkbox"/> Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/> Study	Other (explain):

Additional Information		
Expected Useful Life (Years)	40	Comments *All customers of the City of Allentown, City signatories and Western Lehigh signatories.
Approx. No. of Customers Benefitted	*	
Is this System part of a Common User Rate?	N/A	
Will the Project Require Obtaining Land Rights	N/A	

Detailed Project Description
This project includes the following, but not limited to: 1. primary sludge digester feed line replacement; 2. thickener tank #3 collector mechanism replacement; 3. digester/dewatering building piping replacement; 4. boiler replacement and building addition

Purpose and Needs to be Met by the Project
Equipment has reached the end of its useful life. In addition, these projects will reduce maintenance costs.

Project Status - Describe what work, if any has been completed or underway for this project
This project was identified in the 2018 Master Plan (Project 3).

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-S-20
Project Name	WWTP SLUDGE THICKENING/DIGESTION IMPROVEMENTS

Estimated Project Costs :	
LCA Staff	\$ 70,000
Land Acquisition	\$ -
Construction/Equipment	\$ 1,200,000
Professional Services	\$ 150,000
Other	\$ 40,000
Contingencies	\$ 40,000
Total Project Cost	\$ 1,500,000

Project Estimate Level	
	Conceptual Estimate
X	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 1,500,000
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Source of Funds					
		Need	Source		
			Operating Revenues	Borrowing	Assessment, Contr.-in-Aid Reserves
2019 Budget		\$ -			
1st Year	2020	\$ 100,000			
2nd Year	2021	\$ 650,000			
3rd Year	2022	\$ 750,000			
4th Year	2023	\$ -			
5th Year	2024	\$ -			

This project is unfunded.

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	WWTP 480C MCC REPLACEMENT						
Budget Area	Wastewater	Department	Capital Works	Date	2/1/2019	Project No.	AD-S-21
Location	Allentown			Prj. Type	LCA-MCI	Prj. Funding	CCRC
Prj. Category	Primary	AM - Varies	Secondary	Sys Imp	Preparer		PMD

Purpose of Expenditure (check all that apply)			
<input type="checkbox"/>	New Facility	<input checked="" type="checkbox"/>	Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/>	Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/>	Equipment Obsolete
<input checked="" type="checkbox"/>	Scheduled Replacement		Comply with Regulatory Requirements
<input checked="" type="checkbox"/>	Improved Service	<input checked="" type="checkbox"/>	Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/>	Study		Other (explain):

Additional Information		
Expected Useful Life (Years)	40	Comments *All customers of the City of Allentown, City signatories and Western Lehigh signatories.
Approx. No. of Customers Benefitted	*	
Is this System part of a Common User Rate?	N/A	
Will the Project Require Obtaining Land Rights	N/A	

Detailed Project Description
Various 480V electrical motor control centers (MCCs) throughout the plant have exceeded their useful service life and should be replaced since a loss of power to key process mechanical components may affect the ability to both (a) maintain mandated treatment permit levels and (b) requirements of the administrative order. Scope of work includes the following MCC replacements: IPS 6 and 7 , PSPS 8 and 9, APS 12 and 13, 14 PST, 15 OCU 1 and 3, 4 Effluent PS. Additional work may include FPS 2, 3, and 4. Also new VFDs for PE Pumps 7, 9, 11 and PMTF Pumps 12, 14, and 16.

Purpose and Needs to be Met by the Project
An increase in operational reliability would be associated with new motor control centers and breakers. Reduction in maintenance costs as older more failure prone equipment is replaced with newer equipment.

Project Status - Describe what work, if any has been completed or underway for this project
This project was identified in the 2018 Master Plan (Project 10).

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-S-21
Project Name	WWTP 480C MCC REPLACEMENT

Estimated Project Costs :	
LCA Staff	\$ 120,000
Land Acquisition	\$ -
Construction/Equipment	\$ 2,900,000
Professional Services	\$ 150,000
Other	\$ 40,000
Contingencies	\$ 40,000
Total Project Cost	\$ 3,250,000

Project Estimate Level	
	Conceptual Estimate
X	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 3,250,000
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Source of Funds					
		Need	Source		
			Operating Revenues	Borrowing	Assessment, Contr.-in-Aid Reserves
2019 Budget		\$ -			
1st Year	2020	\$ -			
2nd Year	2021	\$ 200,000			
3rd Year	2022	\$ 1,525,000			
4th Year	2023	\$ 1,525,000			
5th Year	2024	\$ -			

This project is unfunded.

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	WWTP FINAL CLARIFIER 1-4 REHABILITATION						
Budget Area	Wastewater	Department	Capital Works	Date	2/1/2019	Project No.	AD-S-22
Location	Allentown			Prj. Type	LCA-MCI	Prj. Funding	CCRC
Prj. Category	Primary	AM - Varies	Secondary	Sys Imp	Preparer		PMD

Purpose of Expenditure (check all that apply)			
<input type="checkbox"/>	New Facility	<input checked="" type="checkbox"/>	Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/>	Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/>	Equipment Obsolete
<input checked="" type="checkbox"/>	Scheduled Replacement		Comply with Regulatory Requirements
<input checked="" type="checkbox"/>	Improved Service	<input checked="" type="checkbox"/>	Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/>	Study		Other (explain):

Additional Information		
Expected Useful Life (Years)	40	Comments
Approx. No. of Customers Benefitted	*	*All customers of the City of Allentown, City signatories and Western Lehigh signatories.
Is this System part of a Common User Rate?	N/A	
Will the Project Require Obtaining Land Rights	N/A	

Detailed Project Description
This project includes the following, but not limited to: 1. mechanism and drive replacement on all four clarifiers; 2. miscellaneous concrete repairs to all four clarifiers.

Purpose and Needs to be Met by the Project
This project addresses the deficiencies with the existing Final Clarifiers 1-4 as identified in the Master Plan (Project 14). The concrete tanks are from 1931 and the mechanical equipment is from the late 1960s.

Project Status - Describe what work, if any has been completed or underway for this project
This project was identified both in the 2018 Master Plan (Project 14) and in a 2016 concrete report by Corrosion Probe. This project scope listed below only assumes the four mechanisms will be replaced. The additional concrete restoration work is listed in AD-S-I.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-S-22
Project Name	WWTP FINAL CLARIFIER 1-4 REHABILITATION

Estimated Project Costs :	
LCA Staff	\$ 50,000
Land Acquisition	\$ -
Construction/Equipment	\$ 1,600,000
Professional Services	\$ 70,000
Other	\$ 40,000
Contingencies	\$ 40,000
Total Project Cost	\$ 1,800,000

Project Estimate Level	
	Conceptual Estimate
X	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 1,800,000
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Source of Funds					
		Need	Source		
			Operating Revenues	Borrowing	Assessment, Contr.-in-Aid Reserves
2019 Budget		\$ -			
1st Year	2020	\$ -			
2nd Year	2021	\$ -			
3rd Year	2022	\$ 100,000			
4th Year	2023	\$ 850,000			
5th Year	2024	\$ 850,000			

This project is unfunded.

FINANCE & ADMINISTRATION**ACTION ITEMS****1. Board of Directors – Nomination of Officers – February 25, 2019**

The Board of Directors will nominate and approve officers for 2019 at the February 25, 2019 Board meeting.

DISCUSSION ITEMS**1. Preliminary 2020-2024 Capital Plan – Allentown Division - February 11, 2019**

Staff will present the preliminary 2020-2024 Capital Plan, which will follow the revised planning cycle developed in July 2018. The revised planning cycle was intended to allow for more time to review projects and priorities, funding sources and rate impacts of LCA's plans. The presentation of the preliminary plan will be divided into two parts (Suburban Division – January 28, 2019 and Allentown Division – February 11, 2019) to allow for full discussion of the projects and financial impacts. Board review, public distribution for comment, subsequent staff revisions and final review and approval is expected to be completed within the first quarter of 2019.

INFORMATION ITEMS**1. Recently Purchased Investments – Certificates of Deposit (CDs)**

CERTIFICATES OF DEPOSIT						
29-Jan-19						
Fund	Bank	Location	Gross Amount	Date of Purchase	Date Due	Net Rate %
WW Capac	Ally Bank	Sandy, Ut	249,000.00	1/10/19	1/11/21	2.800
WW Capac	Bank of America	Charlotte, NC	249,000.00	1/10/19	1/10/20	2.600
WW Capac	Bank Ozk	Little Rock, AR	249,000.00	1/17/19	11/18/19	2.500
WW Capac	Chemical Bank	Midland, MI	249,000.00	1/18/19	8/19/19	2.450
WW Capac	Citizens Bank, National Assn	Providence, RI	249,000.00	1/9/19	7/9/19	2.450
WW Capac	Investors Bank	Short Hills, NJ	249,000.00	1/18/19	10/18/19	2.550
WW Capac	Union Bank	Kinston, NC	249,000.00	1/16/19	7/16/20	2.600
WW Capac	Wells Fargo Bank, National Assn	Sioux Falls, SD	249,000.00	1/9/19	1/11/21	2.900
LLRI CR	Citibank, National Assn	Sioux Falls, SD	245,000.00	1/9/19	1/11/2021	2.900

Cons Wtr (2)	Consolidated Water (2)
LLRI CR	Little Lehigh Relief Interceptor Capital Reserves
Cons LL2 (314)	Consolidated Little Lehigh Relief Interceptor 2
WW Capac	Wastewater Capacity
2010 Wtr Cons A	2010 Water Construction, Series A Bond
Wtr R&R	Renewal and Replacement

2. Developments

Water system construction is occurring in the following developments:

5354 Hamilton Blvd., 1 commercial lot, LMT – No Change

Above & Beyond (personal care facility), 2 commercial lots, UMT – No Change

Fields at Indian Creek, Phase 3, 57 residential units (sfd), UMiT/Emmaus, water & sewer – No Change

Kohler Tract, 123 residential lots (sfa), UMiIT, water and sewer – No Change
Lehigh Hills, Lot 2 Pad Sites, 1 commercial lot with medical office building & restaurant, UMT – No Change
Lower Macungie Twp. Community Center Expansion, 1 institutional lot, LMT – No Change
Trexler Business Center, 1 lot with 6 commercial buildings, LMT – No Change
Trexler Fields, Phase 1B/8/9, 100 residential lots (sfa), UMT – No Change

Water system plans are being reviewed for the following developments:

5329-5347-5357 Hamilton Blvd., 1 commercial lot, LMT – No Change
5374/5392 Hamilton Blvd., 1 commercial lot, LMT – No Change
8615/8783 Congdon Hill Drive, 2 industrial lots with warehouses, LMT – No Change
Cedarbrook Road Industrial Park, 2 industrial lots, LMT – No Change
Diocesan Pastoral Center, 2 commercial lots, 3 additional lots and residual lot for existing cemetery, LMT – No Change
Farr Tract, 17 residential lots (sfd), LMT – No Change
Grant Street Townes, 18 residential lots (sfa), WashT – No Change
Hickory Park Estates, 3 residential lots (sfd), UMT – No Change
Hidden Meadows, Phase 1C, 66 townhouses, UMT – No Change
Hillview Farms, 31 residential lots (sfd), LMT/SWT – No Change
Indian Creek Industrial Park, 6 commercial lots, UMiIT, water and sewer – No Change
Lehigh Hills, Lot 5, Phase 1, 273 apartments & clubhouse, UMT – No Change
Madison Village at Penn's View, 66 manufactured homes, 1 lot, LynnT, water and sewer – No Change
Millbrook Farms, Section VI, 45 residential lots (sfd), LMT – No Change
Morgan Hills, 40 residential lots (sfd), WeisT, water and sewer – No Change
Ridings at Parkland, 63 residential units (sfd), NWT – No Change
Schoeneck Road, Lot 1, 1 lot warehouse, LMT – No Change
Shepherd's Corner, 1 commercial lot, LMT – No Change
Stone Hill Meadows, Phase 2, 85 residential units (sfd), LMT – No Change
Towneplace Suites by Marriott, 91-room hotel, UMT – No Change
Weilers Road Twins, 82 residential lots (sfa), UMT – No Change
Woodmere Estates, 60 residential units (sfd), UMT – No Change
Woodmont Ridge, Phase II, 30 apartment units, UMT – No Change

Sewage Planning Modules Reviewed in Prior Month:

Convenience Store, Emmaus, 1,600 gpd.
Air Products & Chemicals, UMT, 100,000 gpd
Woodmont Ridge, Phase II, UMT, 6,690 gpd.

WATER

ACTION ITEMS

DISCUSSION ITEMS

INFORMATION ITEMS

1. **Allentown Division – Hamilton Street Cedar Creek Bridge Water Main Relocation Project**

As part of the Pennsylvania Rapid Bridge Replacement Program, the replacement of the Cedar Creek Bridge on Hamilton Street has required the relocation of approximately 500 linear feet of water main. The construction phase was approved at the December 2016 Board meeting and the construction phase at the January 2018 meeting. As of February 22, 2018, the contractor has completed a majority of the relocation work for LCA's facilities; however, they were pulled off the site due to construction conflicts. It is anticipated at this time the contractor will return in late February 2019 to finish all of the LCA line relocation. It is anticipated that this work will be reimbursed 100% by the state and that the construction related activities will be incorporated within the state's work.

2. **Allentown Division – Water Main Replacement Program Cycle 4**

The project is the replacement of 0.97-mile of aged and/or failing cast iron water main in multiple locations throughout the City, in accordance with our prioritization protocol. We propose to utilize the 1.1 mile credit of excess water main replacement length accumulated from previous years in order to satisfy the 2.0 miles of annual pipe replacement as outlined in the lease. This Project is required under the Operating Standards in the Concession Agreement and will be funded by the LCA Allentown Division. The reduced-scale project was re-bid following rejection of the bids for the original 2.2 mile project. The project was authorized by the Board on 9/10/18 and will be completed by December 2018. As of October 30, 2018 or contractor Doli Construction Corp has begun water main installation and is progressing. As of January 4, 2019 all water main construction, prelease valve and meter replacement has been completed. LCA anticipates paving restoration to begin in late April 2019.

3. **Allentown Division – Water Main Replacement Program Cycle 5**

The project is the replacement of 2-mile of aged and/or failing cast iron water main in multiple locations throughout the City, in accordance with our prioritization protocol. Currently Gannett Fleming is designing the 2-miles of required water main replacement. At this time, the construction phase of this project is not budgeted for unless monies become available in early 2019.

4. **Allentown Division – Water Filtration Plant: SCADA System Replacement**

The project consists of the replacement of the existing SCADA System at the Water Filtration Plant. The purchase and installation of new servers, new control panel cabinets, new cabling, and new programming software will encompass this project. Board approval to purchase this equipment was granted at the August 27, 2018 Board Meeting. Replacement will be completed by late 2019. This project will be funded by LCA Allentown Division. **(No Change)**

5. **Allentown Division – Water Filtration Plant: Carbon Dioxide Feed System**

The project consists of the addition of a carbon dioxide feed system at the Allentown Water Plant. With the present conversion from alum to polyaluminum chloride (PACl) as the plant's primary coagulant, proper treatment requires the raw water to be kept within a very small pH range for optimum treatment. The acid feed system will control pH within tight parameters to achieve treatment goals. A Major Permit Application has been submitted to PaDEP. This project has been delayed several times mostly due to the permitting process, and the goal for Installation and

startup is now in the Q4 timeframe. Approval for the construction phase was granted at the October 8, 2018 Board meeting. Construction began on 11/26/2018 and completion is anticipated by end of January, 2019. The contract with Matheson to supply the storage tank and CO2 is being finalized during January, 2019. The CO2 system is expected to be on-line by the end of March, 2019. This project will be funded by the LCA Allentown Division.

6. Suburban Division - Water Main Replacement Program Cycle 4

The project consists of the replacement of approximately 1.36 miles of aged and/or failing Cast Iron water main throughout multiple location in the Suburban Division. The LCA Suburban Division will fund the project. The project bids were opened on July 18, 2018 and project authorization was awarded at the 7/23/18 board meeting. As of early December 2018 the project has been completed and LCA is awaiting final closeout documentation from our contractor that we should be obtaining by mid-February 2019.

7. Suburban Division – Mechanical Asset Management Upgrade Project

This next phase of Asset Management upgrade work focuses on mechanical components, along with some HVAC and electrical system improvements at ten locations in the Suburban Division. The upgrade locations were determined from asset management data collected from internal interviews conducted by Capital Works with senior Operations staff, and based on risk rating. Also as part of the design phase of this project was the condition assessment of seven (7) hydropneumatic tanks that were placed into service in the 1970s and are reaching the end of their service lives. Design phase was authorized in April 2018, the project was advertised for bid in September 2018, bids were opened on October 11, 2018, and award of bids was authorized at the October 22, 2018 Board meeting. Construction will be finished by Summer 2019. **(No Change)**

8. Suburban Division – Upper Milford-CLD Interconnection Project (Kohler Tract)

The project will feature the installation of a new booster pumping station and water main extension to interconnect the Central Lehigh Division (CLD) with the Upper Milford Division (UMD) allowing the abandonment of the UMD water supply facilities, and to provide water service to the proposed 123-lot Kohler Tract subdivision in Upper Milford Township. Design of the pump station is under way. The Public Water Supply (PWS) permit has been issued by DEP. Two property owners have granted us waterline easements. Settlement on the pumping station lot (Kern Tract) is scheduled for the end of January. Easement Agreements are being prepared for the two remaining permanent waterline easements.

9. Suburban Division – CLD Auxiliary Pump Station Project

The project consists of installation of a new booster pumping station with SCADA and water main extension to pump water from the Lower Pressure System to the Upper Pressure System. The LCA Suburban Division will fund the project. Bids for the project were received on 6/29/18. Board approval for the construction phase of the project was granted at the 7/23/18 meeting. A preconstruction meeting was held on August 28th and construction should be completed by Fall of 2019.

10. Suburban Division – Buss Acres Pump Station Replacement

The project consists of the consolidation and replacement of two well stations with a single new pump station and a new water storage tank to replace two antiquated hydropneumatic pump stations. The new station will be a variable frequency drive controlled double pumping system with full SCADA control. The design will include radon reduction elements and also accommodate the future installation of additional radon removal equipment, to be implemented upon DEP's mandate of a regulatory limit. Design phase was authorized at the August 28, 2017 Board meeting. The Public Water Supply Permit was received from DEP at the end of December 2018. Bid phase is expected to occur in early 2019.

11. Suburban Division – Watershed Monitoring Program

The project will include setting up a surface water flow-monitoring network for the Little Lehigh Creek. The work is in response to the Watershed Monitoring Plan that was developed and reported to LCA by Al Guiseppe (SSM, Inc.) in 2017. Flow monitoring in 2018 will focus on the Little Lehigh Creek only. In 2019, LCA will develop plans to add new monitoring wells to supplement existing groundwater data that is being collected. Total daily flow recordings at Schantz Spring that will need to include the spring field bypass and the tank overflows as well. SSM will assist LCA in calibrating surface flows under the bridges based on the recorded stream elevations. Authorization for the award of the project was approved at the 3/26/2018 Board meeting. LCA and Fybr are currently gaining PennDOT and PPL approvals that will allow us to mount our equipment on their bridges and poles, which has turned out to be a very slow process. **(No change)**

12. Suburban Division – Water Meter Reading Equipment Upgrade

The Project includes the replacement of 20,000 transceiver units. 10,000 units will be replaced in 2019 and the remaining will be replaced in 2020. The new units have a 20-year battery life and are compatible with the new meter reading software purchased in 2017. This project will replace approximately 100% of the remaining old style radio units over a two-year period. The project is in design phase and will be put out to bid in early 2019. **(No Change)**

13. Suburban Division - Additional (Redundant) Water Supply - Small Satellite Divisions

This Project addresses the needs of three satellite water systems that currently are operating on one source of supply and have no redundant water supply. The Madison Park North system has only one well, and an additional well is planned to be developed and constructed. The Clear View Farms and Mill Creek systems have one operating well each, but have at least one other existing well that has water supply or quality issues and cannot be presently utilized. An engineer has been retained to assist with the development of a second well for Madison Park North and the rehabilitation of an existing well at Clear View Farms. An agreement is in place with an adjoining property owner to Madison Park North to drill a test well on their property, in coordination with DEP guidelines. The exploratory well was drilled in early January 2019, and the preliminary well yield data supports pursuing a “step drawdown test” which will determine permanent safe well yield based on aquifer monitoring.

WASTEWATER

ACTION ITEMS

DISCUSSION ITEMS

1. **Allentown Division Wastewater Master Plan – February 25, 2019**

The Kline's Island Wastewater Treatment Plant Master Plan was completed in January 2019. Tim Bradley, P.E., will give a presentation at a Board meeting where the results and conclusions of the Master Plan will be discussed.

INFORMATION ITEMS

1. **Allentown Division – Kline's Island WWTP: Phase 1 AO Design Improvements**

This project includes the design of the AO improvements at the wastewater treatment plant. This conceptual design concept was approved by the City and the relevant final deliverables were received by LCA. The City then directed LCA to proceed with the final design of improvements related to the blending alternative. Board approval for the Professional Services Authorization with Kleinfelder East, Inc. was granted at the September 11, 2017 Board Meeting. The project is identified as Administrative Order Work and will be funded by the City. The 30% design drawings and specifications have been received. The City has now directed to "pause" the design phase of the project as the EPA is scheduled to provide further AO direction. **(No Change)**

2. **Allentown Division – Kline's Island WWTP Master Plan**

This project involves the development of a Master Plan that is required as part of the lease with the City of Allentown. The Master Plan is similar in scope to what was done previously for the Allentown Water System in 2017, and will include Condition Assessments, Process Optimizations, and both short-term and long-term Capital Improvement Plans. The city lease requirements dictate that the Master Plans must be updated every 5 years for the duration of the lease, and 2018 is the first year that a Master Plan is to be prepared for the wastewater system. A Request for Proposal (RFP) was released to five (5) qualified firms on 12/15/2017 and the proposal due date was 1/26/2018. Authorization for the award of the contract was approved at the 3/12/2018 Board meeting. A kickoff meeting was held on May 24, 2018. Data collection and site assessments have been completed. Condition Assessment, Process Optimization and Capital Plan Workshops have been conducted. The Capital Plan Section, as well as the entire Master Plan Project, are to be completed in Q1 2019. A presentation to the Board will be given on February 25, 2019. This project will be funded by LCA Allentown Division.

3. **Allentown Division – Kline's Island WWTP: Electrical Substation Replacement**

This project involves the replacement of the existing Substation No. 2. The equipment was installed in 1977 and has reached the end of its useful life. The City has reviewed this and has approved this project as a Major Capital Project. Approval of the design engineer was granted at the May 8, 2017 Board Meeting. The project was advertised in early May 2018 and bids were due on June 8, 2018. Approval of the construction contract (Base Bid) was granted at the July 9, 2018 Board Meeting. The construction phase of the project began in August of 2018 and will be completed by October 2019. This Major Capital Project will be funded by the LCA Allentown Division. **(No Change)**

4. **Suburban Division – Test & Seal Project, Western Lehigh Interceptor Service Area**

Project consists of sanitary sewer cleaning, inspections via CCTV, cured-in-place point repairs, pressure testing and chemical grout sealing of joints, and post construction inspection for sanitary sewer lines located in western and central Lehigh County previously identified as areas subject to leakage. This project is part of the SCARP program. Construction began in August

2016 and finished by Summer 2017. Additional scope work under existing contract has been performed and is anticipated to be closed out in early 2019. **(No Change)**

5. **Suburban Division – Spring Creek Pump Station**

This project involves the following upgrades to the existing pumping station: Install a comminutor to reduce buildup of debris on the bar screens, replace the manually operated weir gates with new motorized weir gates, and upgrades to the SCADA system. Design of the project is complete. The Notice to Proceed was issued on December 12, 2017. The project is currently under construction. High flows to the pump station due to wet-weather events have continued to delay work on the project, therefore completion is expected to be pushed back to the beginning of 2019. **(No Change)**

6. **Suburban Division – Park Pump Station Force Main Rehabilitation**

The Park Pump Station and Force Main line were constructed in 1980 to provide wet weather relief to the Little Lehigh Creek Interceptor, which conveys wastewater from ten municipalities from outlying areas to the Kline's Island Wastewater Treatment Plant (KIWWTP). The force main consists of 8,715 linear feet of prestressed concrete cylinder pipe (PCCP) of various sizes (2,615' of 24"; 2,695' of 30"; and 3,405' of 36"), and connects with the 54" sanitary sewer interceptor that runs to KIWWTP. PCCP is particularly sensitive to deterioration due to hydrogen sulfide gas from wastewater, and corrosion of exposed reinforcing steel can result in structural degradation and pipe failure. An internal investigation of the pipe is required to assess the condition of the PCCP pipe and identify damage areas, in order to determine the locations and extent of rehabilitation needed to restore the level of service, prolong service life, and mitigate the risk of failure. Capital Works is planning a limited manned inspection of the force main pipe at 5 air release valve (ARV) locations, 100 feet in both directions from the ARV manhole, which will be used as the initial evaluation of the representative condition of the pipe. Using this data, the need for performing a complete pipeline condition assessment will be determined, possibly utilizing a new electromagnetic technology for performing an internal pipe condition assessment that entails minimal interruption of operation of the pump station and force main. LCA and Arcadis are currently waiting for a "normal flow" dry weather period to use the PTP Flow Equalization Basin (FEB) at the pretreatment plant to hold back flow in order to perform a temporary shut-down of the Park Pump Station to perform the force main inspection. **(No Change)**

7. **Suburban Division – Park Pump Station Upgrade**

The Park Pump Station is to be upgraded to address mitigate risk of failure, restore station capacity, and prolong the service life of this critical facility. Design was completed in December 2017. The Park Pump Station Upgrade was advertised for bid in December 2017, pre-bid meeting was held on 1/4/18, and bids were opened 2/1/18. Construction phase was authorized at the 2/12/18 Board meeting. Notice to proceed for the construction contracts was issued dated 3/26/18. A pre-construction meeting was conducted in early April 2018, and construction is anticipated to be completed by Summer 2019. **(No Change)**

8. **Suburban Division – Heidelberg Heights Wastewater Treatment Plant Improvements**

As part of an asset management approach to maintaining the level of service and mitigating risk of failure at the Heidelberg Heights Wastewater Treatment Plant, a condition assessment evaluation is being performed for the Equalization/Sludge Holding tank. The steel tank is part of the original plant, installed in the mid-1970s, and is compartmentalized to serve as both a raw sewage equalization tank (for sequenced pumping to the newer SBR tanks), and for storing liquid sludge (for pump and haul removal). The exposed portions of this tank display areas of corrosion, and the tank was drained and cleaned and a thorough assessment was performed to determine structural integrity and remaining service life, and a study provided to LCA. Design

phase services will be completed in early 2019 for a structural improvements project to be constructed in 2019. **(No Change)**

9. Suburban Division – Wynnewood WWTP Upgrade Project

Wynnewood Terrace WWTP was constructed in 1980 by the developer to serve the Wynnewood Terrace subdivision, located in the Laury's Station area in North Whitehall Township. Sewer service is provided to approximately 217 residential and 2 commercial properties. LCA acquired the system in 2003.

The plant, while meeting effluent limits, has reached the end of its useful life. The plant is constructed of in-ground steel tanks that are in poor condition, with areas of corrosion and loss of structural integrity. The mechanical and electrical systems are also at the end of their service life and in need of replacement. The proposed project includes replacement of the existing treatment facility in entirety with new technology and concrete tanks appropriate for the wastewater flows and loading characteristics. The new facility shall meet the effluent limits criteria established in the respective DEP and DRBC permits, including new or additional limits that may be imposed during the permitting process. Design phase was authorized in February 2017 and was concluded in late Summer 2018. The DEP Part 2 Water Quality Management Permit was received in March 2018. The project was advertised for bid in August 2018, bids were opened in September 2018, and bids were authorized for award at the October 22, 2018 Board meeting. Construction work will proceed in 2019 and finish in early 2020. **(No Change)**

10. Suburban Division – Sand Spring WWTP Upgrade Project

The Sand Spring WWTP was constructed in 1972 by the developer to serve the Sand Spring development, located in the Schnecksville area in North Whitehall Township. Sewer service is provided to approximately 248 apartment units, 8 commercial properties, and an elementary school. Lehigh County Authority (LCA) acquired the system in 2005.

The plant, while meeting effluent limits, has reached the end of its useful life. The plant is constructed of in-ground steel tanks that are in poor condition, with areas of corrosion and loss of structural integrity. The mechanical and electrical systems are also at the end of their service life and in need of replacement. The proposed project includes replacement of the existing treatment facility in entirety with new technology and concrete tanks appropriate for the wastewater flows and loading characteristics. The new facility shall meet the effluent limits criteria established in the respective DEP and DRBC permits, including new or additional limits that may be imposed during the permitting process. Design phase was authorized in February 2017 and should be concluded by late 2018; progress has been delayed due to DEP permitting issues. DEP approval of the Water Quality Management Permit was received in late December 2018, and the project will proceed to bid phase in Q1 of 2019. **(No Change)**

11. Suburban Division – SCARP

EPA is considering terminating the Administrative Order after submission and approval of a regional flow management strategy (RFMS) inclusive of all EPA AO respondents. EPA has indicated that the following critical elements should be included in the program: collection system operation and maintenance plan, system characterization, inflow and infiltration (I&I) source removal, flow modeling, and flow targets. Should this action take place, then the Pa. Department of Environmental Protection (DEP) would resume its enforcement oversight of the program through the Chapter 94 regulations.

The submission for all City Signatories was sent to EPA for the August 1st deadline. The submission included the RFMS inclusive of all Signatories, individual Operation & Maintenance plans, and individual Source Reduction Plans.

Peak flow reports were presented to all City Signatories so there is an understanding of what system conditions caused the various bypasses and overflows in August during the wet weather

events. Peak flow reporting has included 17 storms between May and mid-December that generated flows at the Kline's Island Wastewater Treatment Plant (KIWWTP) in excess of 60 million gallons per day. Four of the storms caused a bypass at the KIWWTP. **(No Change)**

12. Sanitary Sewer System Flow Metering for WLI

The installation of the 35 flow meters began in mid-December and was completed in January. It takes approximately one month to resolve metering issues and have confidence in the meter data. All meters will be installed and operating properly by the end of February.

13. WLI High Flow Emergency Declaration

LCA began the Emergency Response protocol to deal with the high flows within the Western Lehigh Interceptor (WLI) on November 28, 2018. The Emergency was presented to and approved by the Board on December 10, 2018. Through December 28, 2018, the entire Iron Run Trunk Line (IRTL) has been televised from outside the Pretreatment Plant (PTP) down to the confluence with the Breinigsville Line, which is south of Hamilton Boulevard. This area is referred to as Phase I and the total distance televised in this reach was 7,115', and includes 93 manholes. In this section, LCA has identified 18 defects within that reach, the majority of which are joint leaks, along with heavy sediment in several areas. Once repaired, staff expects to have eliminated approximately 500,000 gallons per day of infiltration from the interceptor, but that is only an estimate. Repair work will begin immediately in 2019 while additional downstream inspection is ongoing. The next priority area is to televise the interceptor from where the IRTL and the Breinigsville lines meet down to the Spring Creek Pump Station. A pre-bid meeting was held for Phase I on 1/29/2019 and bids are due on 2/8/2019. This work will continue on an expedited emergency basis as long as conditions warrant.

14. USEPA Administrative Order – Sanitary Sewer Overflows – Update

The Pa. Department of Environmental Protection (DEP) has issued a response to the City of Allentown and LCA related to the Regional Flow Management Strategy submitted to the USEPA in August 2018 regarding elimination of sanitary sewer overflows, which is subject to an Administrative Order (AO) issued to all parties in 2009. No response has been received directly from USEPA. The DEP response is a request for additional information from the AO respondents to provide additional details on plans for flow characterization, operations and maintenance plans and source reduction plans, as well as planning information regarding future anticipated flows due to system growth and the impacts on hydraulic and treatment capacity. A meeting among all AO responding municipalities was held in January to review the DEP letter and coordinate a response by the March 29, 2019 due date.

LEHIGH COUNTY AUTHORITY
FINANCIAL STATEMENTS - SUMMARY
DECEMBER 2018

MONTH				YEAR-TO-DATE			FULL YEAR		
Actual	Forecast	FC Var		Actual	Forecast	FC Var	Actual	Budget	Variance
			DECEMBER 2018						
			<u>Income Statement</u>						
(534,284)	(514,244)	(20,040)	Suburban Water	(51,208)	(144,791)	93,583	(51,208)	(305,584)	254,376
(149,603)	(145,226)	(4,377)	Suburban Wastewater	(658,072)	(560,384)	(97,688)	(658,072)	883,715	(1,541,787)
(2,256,976)	(1,905,395)	(351,581)	City Division	(6,009,928)	(7,282,037)	1,272,109	(6,009,928)	(7,267,990)	1,258,062
(2,940,863)	(2,564,865)	(375,998)	Total LCA	(6,719,208)	(7,987,213)	1,268,004	(6,719,208)	(6,689,859)	(29,349)
			<u>Cash Flow Statement</u>						
(307,622)	(1,384,244)	1,076,622	Suburban Water	4,418,568	1,720,310	2,698,258	4,418,568	(4,392,584)	8,811,152
(237,845)	531,709	(769,554)	Suburban Wastewater	3,082,460	3,147,664	(65,204)	3,082,460	(2,751,285)	5,833,745
(24,696,473)	(24,912,155)	215,682	City Division	3,482,778	1,778,703	1,704,074	3,482,778	(5,085,490)	8,568,268
(25,241,939)	(25,764,690)	522,751	Total LCA	10,983,806	6,646,678	4,337,128	10,983,806	(12,229,359)	23,213,165
			<u>Debt Service Coverage Ratio</u>						
(0.39)	0.01	(0.40)	Suburban Water	1.18	1.41	(0.22)	1.18	1.24	(0.05)
5.13	4.74	0.38	Suburban Wastewater	6.51	6.69	(0.18)	6.51	8.95	(2.44)
1.98	1.00	0.97	City Division	1.59	1.44	0.15	1.59	1.25	0.34

LEHIGH COUNTY AUTHORITY
MONTHLY FINANCIAL STATEMENTS - CONSOLIDATED
DECEMBER 2018

MONTH					YEAR-TO-DATE				FULL YEAR FORECAST			
Suburban Water	Suburban Wastewater	City Division	LCA TOTAL		Suburban Water	Suburban Wastewater	City Division	LCA TOTAL	Suburban Water	Suburban Wastewater	City Division	LCA TOTAL
				DECEMBER 2018 INCOME STATEMENT								
				Operating Revenues								
668,533	3,875,009	3,731,933	8,275,474	Charges For Services	9,089,776	13,677,260	35,897,463	58,664,499	9,089,776	13,677,260	35,897,463	58,664,499
8,005	-	-	8,005	Rent	91,546	-	-	91,546	91,546	-	-	91,546
1,919	-	20,768	22,687	Other Income	113,101	-	519,893	632,994	113,101	-	519,893	632,994
678,457	3,875,009	3,752,701	8,306,167	Total Operating Revenues	9,294,423	13,677,260	36,417,356	59,389,039	9,294,423	13,677,260	36,417,356	59,389,039
				Operating Expenses								
68,200	33,566	414,016	515,782	Salaries and Wages	1,035,186	460,904	5,410,578	6,906,668	1,035,186	460,904	5,410,578	6,906,668
173,571	66,766	784,073	1,024,409	General and Administrative	1,258,634	490,478	6,623,682	8,372,794	1,258,634	490,478	6,623,682	8,372,794
(2,018)	28,791	205,878	232,651	Utilities	437,255	290,197	1,985,067	2,712,518	437,255	290,197	1,985,067	2,712,518
50,859	56,681	117,709	225,249	Materials and Supplies	294,619	265,176	1,196,225	1,756,021	294,619	265,176	1,196,225	1,756,021
740,369	1,632,106	344,043	2,716,518	Miscellaneous Services	2,771,668	7,049,847	1,753,015	11,574,530	2,771,668	7,049,847	1,753,015	11,574,530
-	1,827,240	-	1,827,240	Treatment & Transportation	-	1,919,146	9,827	1,928,973	-	1,919,146	9,827	1,928,973
245,832	397,865	466,667	1,110,364	Depreciation and Amortization	2,949,984	4,774,380	5,600,004	13,324,368	2,949,984	4,774,380	5,600,004	13,324,368
1,276,814	4,043,016	2,332,385	7,652,214	Total Operating Expenses	8,747,345	15,250,129	22,578,398	46,575,872	8,747,345	15,250,129	22,578,398	46,575,872
(598,356)	(168,007)	1,420,316	653,953	Operating Income	547,078	(1,572,870)	13,838,958	12,813,167	547,078	(1,572,870)	13,838,958	12,813,167
				Non-Operating Revenues (Expenses)								
12,860	22,394	29,752	65,006	Tapping and Capital Recovery fees	221,405	902,732	563,921	1,688,058	221,405	902,732	563,921	1,688,058
8,250	-	966	9,216	Meter Sales	85,259	-	8,397	93,656	85,259	-	8,397	93,656
44,895	8,880	20,465	74,240	Inspection and Plan Reviews	180,579	36,898	44,961	262,438	180,579	36,898	44,961	262,438
-	-	361,572	361,572	Project Reimbursements	(0)	-	372,527	372,527	(0)	-	372,527	372,527
15,417	20,177	249,762	285,356	Interest Income	222,022	219,054	1,047,648	1,488,724	222,022	219,054	1,047,648	1,488,724
2,815	105	3,240	6,160	Other Income	30,205	1,565	47,662	79,432	30,205	1,565	47,662	79,432
(18,257)	(17,465)	(3,899,437)	(3,935,159)	Interest Expense	(1,334,604)	(197,000)	(19,329,507)	(20,861,111)	(1,334,604)	(197,000)	(19,329,507)	(20,861,111)
(1,908)	(15,687)	(443,612)	(461,207)	Other Expense	(3,152)	(48,452)	(2,604,496)	(2,656,100)	(3,152)	(48,452)	(2,604,496)	(2,656,100)
64,072	18,404	(3,677,292)	(3,594,816)	Total Non-Operating Revenues (Expenses)	(598,286)	914,797	(19,848,886)	(19,532,375)	(598,286)	914,797	(19,848,886)	(19,532,375)
(534,284)	(149,603)	(2,256,976)	(2,940,863)	Net Income Before Capital Contributions	(51,208)	(658,072)	(6,009,928)	(6,719,208)	(51,208)	(658,072)	(6,009,928)	(6,719,208)
-	-	-	-	Capital Contributions	-	-	-	-	-	-	-	-
(534,284)	(149,603)	(2,256,976)	(2,940,863)	NET INCOME	(51,208)	(658,072)	(6,009,928)	(6,719,208)	(51,208)	(658,072)	(6,009,928)	(6,719,208)

LEHIGH COUNTY AUTHORITY
MONTHLY FINANCIAL STATEMENTS - CONSOLIDATED
DECEMBER 2018

MONTH				YEAR-TO-DATE				FULL YEAR FORECAST				
Suburban Water	Suburban Wastewater	City Division	LCA TOTAL	DECEMBER 2018 CASH FLOW STATEMENT	Suburban Water	Suburban Wastewater	City Division	LCA TOTAL	Suburban Water	Suburban Wastewater	City Division	LCA TOTAL
				Cash Flows From Operating Activities								
678,457	3,875,009	3,752,701	8,306,167	Operating Revenues	9,294,423	13,677,260	36,417,356	59,389,039	9,294,423	16,777,260	36,417,356	62,489,039
(1,030,982)	(3,645,151)	(1,865,718)	(6,541,850)	Operating Expenses (ex D&A)	(5,797,361)	(10,475,749)	(16,978,394)	(33,251,504)	(5,797,361)	(13,575,749)	(16,978,394)	(36,351,504)
3,144,665	(198,280)	777,278	3,723,663	Non-Cash Working Capital Changes	(240,756)	76,879	(113,542)	(277,419)	(240,756)	76,879	(113,542)	(277,419)
2,792,141	31,578	2,664,261	5,487,980	Net Cash Provided by (Used in) Operating Activities	3,256,306	3,278,389	19,325,420	25,860,116	3,256,306	3,278,389	19,325,420	25,860,116
				Cash Flows From Financing Activities								
-	-	-	-	Lease Payments to City	-	-	(511,560)	(511,560)	-	-	(511,560)	(511,560)
-	-	-	-	Capital Contributions	-	-	-	-	-	-	-	-
-	-	-	-	Proceeds New Borrowing	-	-	18,735,000	18,735,000	-	-	18,735,000	18,735,000
(692,253)	(14,839)	(6,523,861)	(7,230,953)	Interest Payments	(1,508,149)	(171,690)	(13,321,283)	(15,001,122)	(1,508,149)	(171,690)	(13,321,283)	(15,001,122)
(1,751,365)	(40,799)	(18,735,000)	(20,527,164)	Principal Payments	(2,076,353)	(499,265)	(18,735,000)	(21,310,618)	(2,076,353)	(499,265)	(18,735,000)	(21,310,618)
(2,443,618)	(55,637)	(25,258,861)	(27,758,116)	Net Cash Provided by (Used in) Financing Activities	(3,584,502)	(670,956)	(13,832,843)	(18,088,300)	(3,584,502)	(670,956)	(13,832,843)	(18,088,300)
				Cash Flows from Capital and Related Activities								
68,820	31,379	54,423	154,622	Non-Operating Revenues	517,448	941,195	664,941	2,123,584	517,448	941,195	664,941	2,123,584
-	-	361,572	361,572	Project Reimbursement	(0)	-	372,527	372,527	(0)	-	372,527	372,527
2,294	3,917	-	6,210	Non-Operating Expenses	5,089	4,585	-	9,673	5,089	4,585	-	9,673
(1,272,631)	(755,341)	(2,767,630)	(4,795,602)	Capital Expenditures	(5,348,970)	(2,740,221)	(8,094,916)	(16,184,107)	(5,348,970)	(2,740,221)	(8,094,916)	(16,184,107)
(1,201,517)	(720,045)	(2,351,636)	(4,273,198)	Net Cash Provided By (Used In) Capital and Related Activities	(4,826,433)	(1,794,442)	(7,057,448)	(13,678,323)	(4,826,433)	(1,794,442)	(7,057,448)	(13,678,323)
				Cash Flows From Investing Activities								
759,772	504,296	-	1,264,068	Investments Converting To Cash	17,125,196	3,615,209	4,000,000	24,740,405	17,125,196	3,615,209	4,000,000	24,740,405
(229,815)	(18,214)	-	(248,029)	Purchased Invesments	(7,774,021)	(1,564,795)	-	(9,338,816)	(7,774,021)	(1,564,795)	-	(9,338,816)
15,417	20,177	249,762	285,356	Interest Income	222,022	219,054	1,047,648	1,488,724	222,022	219,054	1,047,648	1,488,724
545,374	506,259	249,762	1,301,395	Net Cash Provided By (Used In) Investing Activities	9,573,197	2,269,468	5,047,648	16,890,313	9,573,197	2,269,468	5,047,648	16,890,313
(307,622)	(237,845)	(24,696,473)	(25,241,939)	FUND NET CASH FLOWS	4,418,568	3,082,460	3,482,778	10,983,806	4,418,568	3,082,460	3,482,778	10,983,806
				DEBT SERVICE RATIO								
(265,994)	285,331	2,149,347	2,168,684	Total Cash Available For Debt Service	4,241,621	4,366,344	20,696,843	29,304,808	4,241,621	4,366,344	20,696,843	29,304,808
689,852	55,637	1,087,310	1,832,799	Debt Service	3,584,502	670,956	13,047,721	17,303,179	3,584,502	670,956	13,047,721	17,303,179
(0.39)	5.13	1.98	1.18	DSCR	1.18	6.51	1.59	1.69	1.18	6.51	1.59	1.69

LEHIGH COUNTY AUTHORITY
FINANCIAL STATEMENTS - SUBURBAN WATER
DECEMBER 2018

MONTH					DECEMBER 2018					YEAR-TO-DATE					FULL YEAR				
Actual	Forecast	Prior Yr	FC Var	PY Var	INCOME STATEMENT					Actual	Forecast	Prior Yr	FC Var	PY Var	Actual	Budget	Prior Yr	Bud Var	PY Var
					Operating Revenues														
668,533	768,131	795,177	(99,598)	(126,644)	Charges For Services					9,089,776	9,219,521	8,863,788	(129,745)	225,988	9,089,776	9,591,000	8,863,788	(501,224)	225,988
8,005	7,827	9,511	178	(1,506)	Rent					91,546	91,416	91,019	130	527	91,546	91,000	91,019	546	527
1,919	3,000	34,005	(1,081)	(32,086)	Other Income					113,101	110,840	99,307	2,262	13,794	113,101	51,000	99,307	62,101	13,794
678,457	778,958	838,693	(100,501)	(160,236)	Total Operating Revenues					9,294,423	9,421,777	9,054,114	(127,354)	240,309	9,294,423	9,733,000	9,054,114	(438,577)	240,309
					Operating Expenses														
68,200	76,000	87,546	7,800	19,346	Salaries and Wages					1,035,186	1,049,922	1,042,565	14,737	7,379	1,035,186	1,064,358	1,042,565	29,172	7,379
173,571	107,000	140,144	(66,571)	(33,427)	General and Administrative					1,258,634	1,226,237	1,257,063	(32,397)	(1,571)	1,258,634	1,251,856	1,257,063	(6,778)	(1,571)
(2,018)	87,000	29,972	89,018	31,990	Utilities					437,255	539,048	420,812	101,793	(16,443)	437,255	584,346	420,812	147,091	(16,443)
50,859	24,000	75,929	(26,859)	25,069	Materials and Supplies					294,619	260,069	422,730	(34,550)	128,111	294,619	320,654	422,730	26,035	128,111
740,369	741,000	346,249	631	(394,120)	Miscellaneous Services					2,771,668	2,852,517	2,270,359	80,849	(501,309)	2,771,668	2,758,370	2,270,359	(13,298)	(501,309)
-	-	-	-	-	Treatment & Transportation					-	-	-	-	-	-	-	-	-	-
245,832	245,837	(37,933)	5	(283,765)	Depreciation and Amortization					2,949,984	2,949,991	2,695,548	7	(254,436)	2,949,984	2,950,000	2,695,548	16	(254,436)
1,276,814	1,280,837	641,906	4,023	(634,907)	Total Operating Expenses					8,747,345	8,877,784	8,109,077	130,439	(638,268)	8,747,345	8,929,584	8,109,077	182,239	(638,268)
(598,356)	(501,879)	196,787	(96,477)	(795,143)	Operating Income					547,078	543,993	945,037	3,085	(397,959)	547,078	803,416	945,037	(256,338)	(397,959)
					Non-Operating Revenues (Expenses)														
12,860	222,000	33,775	(209,140)	(20,915)	Tapping and Capital Recovery fees					221,405	435,865	455,405	(214,460)	(234,000)	221,405	485,000	455,405	(263,595)	(234,000)
8,250	8,000	4,686	250	3,564	Meter Sales					85,259	84,238	112,468	1,021	(27,209)	85,259	105,000	112,468	(19,741)	(27,209)
44,895	20,000	100,023	24,895	(55,127)	Inspection and Plan Reviews					180,579	174,676	154,433	5,904	26,146	180,579	156,000	154,433	24,579	26,146
-	-	64,047	-	(64,047)	Project Reimbursements					(0)	(0)	109,343	-	(109,343)	(0)	23,000	109,343	(23,000)	(109,343)
15,417	20,000	48,714	(4,583)	(33,298)	Interest Income					222,022	226,471	127,486	(4,450)	94,536	222,022	125,000	127,486	97,022	94,536
2,815	3,000	(26,745)	(185)	29,560	Other Income					30,205	30,580	-	(375)	30,205	30,205	-	30,205	30,205	30,205
(18,257)	(285,365)	20,987	267,108	(39,244)	Interest Expense					(1,334,604)	(1,638,658)	(1,371,796)	304,054	37,192	(1,334,604)	(2,003,000)	(1,371,796)	668,396	37,192
(1,908)	-	(421,742)	(1,908)	419,834	Other Expense					(3,152)	(1,956)	(427,991)	(1,197)	424,839	(3,152)	-	(427,991)	(3,152)	424,839
64,072	(12,365)	(176,254)	76,437	240,326	Total Non-Operating Revenues (Expenses)					(598,286)	(688,784)	(840,652)	90,498	242,366	(598,286)	(1,109,000)	(840,652)	510,714	242,366
(534,284)	(514,244)	20,533	(20,040)	(554,817)	Net Income Before Capital Contributions					(51,208)	(144,791)	104,385	93,583	(155,593)	(51,208)	(305,584)	104,385	254,376	(155,593)
-	-	6,324,208	-	(6,324,208)	Capital Contributions					-	-	6,324,208	-	(6,324,208)	-	-	6,324,208	-	(6,324,208)
(534,284)	(514,244)	6,344,741	(20,040)	(6,879,025)	NET INCOME					(51,208)	(144,791)	6,428,593	93,583	(6,479,801)	(51,208)	(305,584)	6,428,593	254,376	(6,479,801)

LEHIGH COUNTY AUTHORITY
FINANCIAL STATEMENTS - SUBURBAN WATER
DECEMBER 2018

MONTH					DECEMBER 2018					YEAR-TO-DATE					FULL YEAR				
Actual	Forecast	Prior Yr	FC Var	PY Var	CASH FLOW STATEMENT					Actual	Forecast	Prior Yr	FC Var	PY Var	Actual	Budget	Prior Yr	Bud Var	PY Var
					Cash Flows From Operating Activities														
678,457	778,958	838,693	(100,501)	(160,236)	Operating Revenues					9,294,423	9,421,777	9,054,114	(127,354)	240,309	9,294,423	9,733,000	9,054,114	(438,577)	240,309
(1,030,982)	(1,035,000)	(679,839)	4,018	(351,142)	Operating Expenses (ex D&A)					(5,797,361)	(5,927,793)	(5,413,529)	130,432	(383,832)	(5,797,361)	(5,979,584)	(5,413,529)	182,223	(383,832)
3,144,665	900,000	(284,104)	2,244,665	3,428,769	Non-Cash Working Capital Changes					(240,756)	(586,329)	(284,104)	345,573	43,348	(240,756)	-	(284,104)	(240,756)	43,348
2,792,141	643,958	(125,250)	2,148,183	2,917,391	Net Cash Provided by (Used in) Operating Activities					3,256,306	2,907,655	3,356,481	348,651	(100,175)	3,256,306	3,753,416	3,356,481	(497,110)	(100,175)
					Cash Flows From Financing Activities														
-	-	6,324,208	-	(6,324,208)	Capital Contributions					-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	Proceeds New Borrowing					-	-	15,292,006	-	(15,292,006)	-	-	15,292,006	-	(15,292,006)
(692,253)	(422,754)	295,947	(269,499)	(988,201)	Interest Payments					(1,508,149)	(1,448,659)	(1,202,612)	(59,490)	(305,537)	(1,508,149)	(2,003,000)	(1,202,612)	494,851	(305,537)
(1,751,365)	(1,220,370)	(169,855)	(530,995)	(1,581,510)	Principal Payments					(2,076,353)	(1,708,853)	(1,667,818)	(367,500)	(408,535)	(2,076,353)	(1,741,000)	(1,667,818)	(335,353)	(408,535)
(2,443,618)	(1,643,124)	6,450,300	(800,494)	(8,893,918)	Net Cash Provided by (Used in) Financing Activities					(3,584,502)	(3,157,512)	12,421,576	(426,990)	(16,006,078)	(3,584,502)	(3,744,000)	12,421,576	159,498	(16,006,078)
					Cash Flows from Capital and Related Activities														
68,820	253,000	111,739	(184,180)	(42,918)	Non-Operating Revenues					517,448	725,359	722,306	(207,910)	(204,858)	517,448	746,000	722,306	(228,552)	(204,858)
-	-	64,047	-	(64,047)	Project Reimbursement					(0)	(0)	109,343	-	(109,343)	(0)	23,000	109,343	(23,000)	(109,343)
2,294	-	291	2,294	2,002	Non-Operating Expenses					5,089	871	-	4,218	5,089	5,089	-	-	5,089	5,089
(1,272,631)	(658,078)	(2,186,836)	(614,553)	914,205	Capital Expenditures					(5,348,970)	(4,885,289)	(5,698,875)	(463,681)	349,905	(5,348,970)	(9,296,000)	(5,698,875)	3,947,030	349,905
(1,201,517)	(405,078)	(2,010,759)	(796,439)	809,241	Net Cash Provided By (Used In) Capital and Related Activities					(4,826,433)	(4,159,059)	(4,867,226)	(667,374)	40,793	(4,826,433)	(8,527,000)	(4,867,226)	3,700,567	40,793
					Cash Flows From Investing Activities														
759,772	-	5,520,144	759,772	(4,760,372)	Investments Converting To Cash					17,125,196	11,806,248	5,520,144	5,318,948	11,605,052	17,125,196	4,000,000	5,520,144	13,125,196	11,605,052
(229,815)	-	(12,309,800)	(229,815)	12,079,985	Purchased Investments					(7,774,021)	(5,903,493)	(12,309,800)	(1,870,528)	4,535,779	(7,774,021)	-	(12,309,800)	(7,774,021)	4,535,779
15,417	20,000	48,714	(4,583)	(33,298)	Interest Income					222,022	226,471	127,486	(4,450)	94,536	222,022	125,000	127,486	97,022	94,536
545,374	20,000	(6,740,942)	525,374	7,286,315	Net Cash Provided By (Used In) Investing Activities					9,573,197	6,129,226	(6,662,170)	3,443,970	16,235,367	9,573,197	4,125,000	(6,662,170)	5,448,197	16,235,367
(307,622)	(1,384,244)	(2,426,651)	1,076,622	2,119,029	FUND NET CASH FLOWS					4,418,568	1,720,310	4,248,661	2,698,258	169,907	4,418,568	(4,392,584)	4,248,661	8,811,152	169,907
					DEBT SERVICE RATIO														
(265,994)	16,958	319,598	(282,952)	(585,592)	Total Cash Available For Debt Service					4,241,621	4,446,685	4,490,377	(205,064)	(248,756)	4,241,621	4,624,416	4,490,377	(382,795)	(248,756)
689,852	1,643,124	(126,092)	(953,272)	815,944	Debt Service					3,584,502	3,157,512	2,870,430	426,990	714,072	3,584,502	3,744,000	2,870,430	(159,498)	714,072
(0.39)	0.01	(2.53)	(0.40)	2.15	DSCR					1.18	1.41	1.56	(0.22)	(0.38)	1.18	1.24	1.56	(0.05)	(0.38)

LEHIGH COUNTY AUTHORITY
FINANCIAL STATEMENTS - SUBURBAN WATER
DECEMBER 2018

FORECAST VARIANCES - MONTH				
INCOME STATEMENT	Actual	Forecast	Variance	Comments
Operating Revenues				
Charges For Services	668,533	768,131	(99,598)	Lower industrial/commercial and residential revenues
Rent	8,005	7,827	178	
Other Income	1,919	3,000	(1,081)	
Total Operating Revenues	<u>678,457</u>	<u>778,958</u>	<u>(100,501)</u>	Lower customer charges
Operating Expenses				
Salaries and Wages	68,200	76,000	7,800	
General and Administrative	173,571	107,000	(66,571)	Higher internal service charges
Utilities	(2,018)	87,000	89,018	Lower utilities charges
Materials and Supplies	50,859	24,000	(26,859)	Higher D&C purchases
Miscellaneous Services	740,369	741,000	631	
Treatment & Transportation	-	-	-	
Depreciation and Amortization	245,832	245,837	5	
Total Operating Expenses	<u>1,276,814</u>	<u>1,280,837</u>	<u>4,023</u>	Higher G&A along with higher D&C purchases more than offset by lower utilities costs
Operating Income	<u>(598,356)</u>	<u>(501,879)</u>	<u>(96,477)</u>	Lower operating revenues
Non-Operating Revenues (Expenses)				
Tapping and Capital Recovery fees	12,860	222,000	(209,140)	Lower tapping fees
Meter Sales	8,250	8,000	250	
Inspection and Plan Reviews	44,895	20,000	24,895	
Project Reimbursements	-	-	-	
Interest Income	15,417	20,000	(4,583)	
Other Income	2,815	3,000	(185)	
Interest Expense	(18,257)	(285,365)	267,108	Favorable interest expense adjustment not forecasted
Other Expense	(1,908)	-	(1,908)	
Total Non-Operating Revenues (Expenses)	<u>64,072</u>	<u>(12,365)</u>	<u>76,437</u>	Lower interest expense offset partly by lower tapping fees
Net Income Before Capital Contributions	<u>(534,284)</u>	<u>(514,244)</u>	<u>(20,040)</u>	Lower operating income partially offset by higher non-operating revenues
Capital Contributions	<u>-</u>	<u>-</u>	<u>-</u>	
NET INCOME	<u>(534,284)</u>	<u>(514,244)</u>	<u>(20,040)</u>	
FORECAST VARIANCES - MONTH				
CASH FLOW STATEMENT	Actual	Forecast	Variance	Comments
Cash Flows From Operating Activities				
Operating Revenues	678,457	778,958	(100,501)	Lower customer charges
Operating Expenses (ex D&A)	(1,030,982)	(1,035,000)	4,018	
Non-Cash Working Capital Changes	3,144,665	900,000	2,244,665	More favorable working capital movements
Net Cash Provided by (Used In) Operating Activities	<u>2,792,141</u>	<u>643,958</u>	<u>2,148,183</u>	Favorable working capital movements
Cash Flows From Financing Activities				
Capital Contributions	-	-	-	
Proceeds New Borrowing	-	-	-	
Interest Payments	(692,253)	(422,754)	(269,499)	Timing issue on payments
Principal Payments	(1,751,365)	(1,220,370)	(530,995)	Timing issue on payments
Net Cash Provided by (Used In) Financing Activities	<u>(2,443,618)</u>	<u>(1,643,124)</u>	<u>(800,494)</u>	Unfavorable timing issue on debt service payments
Cash Flows from Capital and Related Activities				
Non-Operating Revenues	68,820	253,000	(184,180)	
Project Reimbursement	-	-	-	
Non-Operating Expenses	2,294	-	2,294	
Capital Expenditures	(1,272,631)	(658,078)	(614,553)	Higher project spending for the year
Net Cash Provided By (Used In) Capital and Related Activities	<u>(1,201,517)</u>	<u>(405,078)</u>	<u>(796,439)</u>	
Cash Flows From Investing Activities				
Investments Converting To Cash	759,772	-	759,772	Not forecasted
Purchased Investments	(229,815)	-	(229,815)	
Interest Income	15,417	20,000	(4,583)	
Net Cash Provided By (Used In) Investing Activities	<u>545,374</u>	<u>20,000</u>	<u>525,374</u>	
FUND NET CASH FLOWS	<u>(307,622)</u>	<u>(1,384,244)</u>	<u>1,076,622</u>	

LEHIGH COUNTY AUTHORITY
FINANCIAL STATEMENTS - SUBURBAN WASTEWATER
DECEMBER 2018

MONTH					DECEMBER 2018					YEAR-TO-DATE					FULL YEAR				
Actual	Forecast	Prior Yr	FC Var	PY Var	INCOME STATEMENT					Actual	Forecast	Prior Yr	FC Var	PY Var	Actual	Budget	Prior Yr	Bud Var	PY Var
					Operating Revenues														
3,875,009	3,392,573	(2,725,953)	482,436	6,600,961	Charges For Services					13,677,260	16,017,809	12,858,781	(2,340,549)	818,479	13,677,260	15,697,000	12,858,781	(2,019,740)	818,479
-	-	-	-	-	Rent					-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	Other Income					-	-	-	-	-	-	-	-	-	-
3,875,009	3,392,573	(2,725,953)	482,436	6,600,961	Total Operating Revenues					13,677,260	16,017,809	12,858,781	(2,340,549)	818,479	13,677,260	15,697,000	12,858,781	(2,019,740)	818,479
					Operating Expenses														
33,566	37,000	34,385	3,434	819	Salaries and Wages					460,904	460,694	424,208	(210)	(36,696)	460,904	461,482	424,208	578	(36,696)
66,766	47,000	103,884	(19,766)	37,119	General and Administrative					490,478	479,707	493,696	(10,771)	3,218	490,478	464,057	493,696	(26,421)	3,218
28,791	32,000	16,807	3,209	(11,984)	Utilities					290,197	294,668	226,197	4,471	(64,000)	290,197	285,486	226,197	(4,711)	(64,000)
56,681	47,000	29,863	(9,681)	(26,818)	Materials and Supplies					265,176	281,030	155,503	15,854	(109,673)	265,176	372,250	155,503	107,074	(109,673)
1,632,106	1,648,000	(650,776)	15,894	(2,282,882)	Miscellaneous Services					7,049,847	7,606,277	6,435,229	556,430	(614,618)	7,049,847	7,079,017	6,435,229	29,170	(614,618)
1,827,240	1,424,799	(1,035,686)	(402,441)	(2,862,926)	Treatment & Transportation					1,919,146	3,692,376	3,516,548	1,773,230	1,597,402	1,919,146	1,969,993	3,516,548	50,847	1,597,402
397,865	398,000	587,462	135	189,597	Depreciation and Amortization					4,774,380	4,774,785	4,599,096	405	(175,284)	4,774,380	4,776,000	4,599,096	1,620	(175,284)
4,043,016	3,633,799	(914,061)	(409,217)	(4,957,077)	Total Operating Expenses					15,250,129	17,589,538	15,850,477	2,339,409	600,348	15,250,129	15,408,285	15,850,477	158,156	600,348
(168,007)	(241,226)	(1,811,892)	73,219	1,643,885	Operating Income					(1,572,870)	(1,571,729)	(2,991,696)	(1,140)	1,418,826	(1,572,870)	288,715	(2,991,696)	(1,861,585)	1,418,826
					Non-Operating Revenues (Expenses)														
22,394	100,000	(604,186)	(77,606)	626,580	Tapping and Capital Recovery fees					902,732	998,648	449,376	(95,916)	453,356	902,732	1,015,000	449,376	(112,268)	453,356
-	-	-	-	-	Meter Sales					-	-	-	-	-	-	-	-	-	-
8,880	1,000	6,043	7,880	2,837	Inspection and Plan Reviews					36,898	30,917	12,444	5,980	24,454	36,898	92,000	12,444	(55,102)	24,454
-	-	-	-	-	Project Reimbursements					-	-	-	-	-	-	-	-	-	-
20,177	15,000	158,200	5,177	(138,022)	Interest Income					219,054	206,094	162,034	12,960	57,020	219,054	5,000	162,034	214,054	57,020
105	-	5,740	105	(5,635)	Other Income					1,565	1,185	7,520	380	(5,955)	1,565	-	7,520	1,565	(5,955)
(17,465)	(18,000)	(8,145)	535	(9,320)	Interest Expense					(197,000)	(201,026)	(204,418)	4,026	7,418	(197,000)	(216,000)	(204,418)	19,000	7,418
(15,687)	(2,000)	(29,134)	(13,687)	13,447	Other Expense					(48,452)	(24,474)	(30,104)	(23,978)	(18,348)	(48,452)	(301,000)	(30,104)	252,548	(18,348)
18,404	96,000	(471,482)	(77,596)	489,886	Total Non-Operating Revenues (Expenses)					914,797	1,011,345	396,852	(96,547)	517,945	914,797	595,000	396,852	319,797	517,945
(149,603)	(145,226)	(2,283,374)	(4,377)	2,133,771	Net Income Before Capital Contributions					(658,072)	(560,384)	(2,594,844)	(97,688)	1,936,772	(658,072)	883,715	(2,594,844)	(1,541,787)	1,936,772
-	-	2,055,943	-	(2,055,943)	Capital Contributions					-	-	2,055,943	-	(2,055,943)	-	-	2,055,943	-	(2,055,943)
(149,603)	(145,226)	(227,431)	(4,377)	77,828	NET INCOME					(658,072)	(560,384)	(538,901)	(97,688)	(119,171)	(658,072)	883,715	(538,901)	(1,541,787)	(119,171)

LEHIGH COUNTY AUTHORITY
FINANCIAL STATEMENTS - SUBURBAN WASTEWATER
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MONTH					DECEMBER 2018	YEAR-TO-DATE					FULL YEAR				
Actual	Forecast	Prior Yr	FC Var	PY Var	CASH FLOW STATEMENT	Actual	Forecast	Prior Yr	FC Var	PY Var	Actual	Budget	Prior Yr	Bud Var	PY Var
					Cash Flows From Operating Activities										
3,875,009	3,392,573	(2,725,953)	482,436	6,600,961	Operating Revenues	13,677,260	16,017,809	12,858,781	(2,340,549)	818,479	16,777,260	15,697,000	12,858,781	1,080,260	3,918,479
(3,645,151)	(3,235,799)	1,501,523	(409,352)	(5,146,674)	Operating Expenses (ex D&A)	(10,475,749)	(12,814,753)	(11,251,381)	2,339,004	775,632	(13,575,749)	(10,632,285)	(11,251,381)	(2,943,464)	(2,324,368)
(198,280)	697,135	(1,578,452)	(895,415)	1,380,172	Non-Cash Working Capital Changes	76,879	(61,909)	(1,578,452)	138,788	1,655,331	76,879	-	(1,578,452)	76,879	1,655,331
31,578	853,909	(2,802,882)	(822,331)	2,834,460	Net Cash Provided by (Used in) Operating Activities	3,278,389	3,141,147	28,948	137,243	3,249,441	3,278,389	5,064,715	28,948	(1,786,326)	3,249,441
					Cash Flows From Financing Activities										
-	-	2,055,943	-	(2,055,943)	Capital Contributions	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	Proceeds New Borrowing	-	-	-	-	-	-	-	-	-	-
(14,839)	(18,000)	(38,764)	3,161	23,925	Interest Payments	(171,690)	(182,922)	(204,418)	11,232	32,728	(171,690)	(216,000)	(204,418)	44,310	32,728
(40,799)	(39,500)	(39,943)	(1,299)	(856)	Principal Payments	(499,265)	(481,161)	(475,585)	(18,105)	(23,680)	(499,265)	(474,000)	(475,585)	(25,265)	(23,680)
(55,637)	(57,500)	1,977,236	1,863	(2,032,873)	Net Cash Provided by (Used in) Financing Activities	(670,956)	(664,083)	(680,003)	(6,873)	9,047	(670,956)	(690,000)	(680,003)	19,044	9,047
					Cash Flows from Capital and Related Activities										
31,379	101,000	(592,403)	(69,621)	623,782	Non-Operating Revenues	941,195	1,030,751	469,340	(89,556)	471,855	941,195	1,107,000	469,340	(165,805)	471,855
-	-	-	-	-	Project Reimbursement	-	-	-	-	-	-	-	-	-	-
3,917	-	-	3,917	3,917	Non-Operating Expenses	4,585	708	-	3,877	4,585	4,585	-	-	4,585	4,585
(755,341)	(380,700)	(260,459)	(374,641)	(494,882)	Capital Expenditures	(2,740,221)	(2,281,245)	(2,865,337)	(458,977)	125,116	(2,740,221)	(11,718,000)	(2,865,337)	8,977,779	125,116
(720,045)	(279,700)	(852,862)	(440,345)	132,817	Net Cash Provided By (Used In) Capital and Related Activities	(1,794,442)	(1,249,786)	(2,395,997)	(544,656)	601,555	(1,794,442)	(10,611,000)	(2,395,997)	8,816,558	601,555
					Cash Flows From Investing Activities										
504,296	-	5,445,346	504,296	(4,941,050)	Investments Converting To Cash	3,615,209	2,734,745	5,445,346	880,464	(1,830,137)	3,615,209	3,480,000	5,445,346	135,209	(1,830,137)
(18,214)	-	(5,618,502)	(18,214)	5,600,288	Purchased Invesments	(1,564,795)	(1,020,453)	(5,618,502)	(544,342)	4,053,707	(1,564,795)	-	(5,618,502)	(1,564,795)	4,053,707
20,177	15,000	158,200	5,177	(138,022)	Interest Income	219,054	206,094	162,034	12,960	57,020	219,054	5,000	162,034	214,054	57,020
506,259	15,000	(14,956)	491,259	521,216	Net Cash Provided By (Used In) Investing Activities	2,269,468	1,920,386	(11,122)	349,082	2,280,590	2,269,468	3,485,000	(11,122)	(1,215,532)	2,280,590
(237,845)	531,709	(1,693,464)	(769,554)	1,455,619	FUND NET CASH FLOWS	3,082,460	3,147,664	(3,058,174)	(65,204)	6,140,634	3,082,460	(2,751,285)	(3,058,174)	5,833,745	6,140,634
					DEBT SERVICE RATIO										
285,331	272,774	(1,658,633)	12,557	1,943,964	Total Cash Available For Debt Service	4,366,344	4,440,609	2,238,774	(74,265)	2,127,570	4,366,344	6,176,715	2,238,774	(1,810,371)	2,127,570
55,637	57,500	78,707	(1,863)	(23,070)	Debt Service	670,956	664,083	680,003	6,873	(9,047)	670,956	690,000	680,003	(19,044)	(9,047)
5.13	4.74	(21.07)	0.38	26.20	DSCR	6.51	6.69	3.29	(0.18)	3.22	6.51	8.95	3.29	(2.44)	3.22

LEHIGH COUNTY AUTHORITY
FINANCIAL STATEMENTS - SUBURBAN WASTEWATER
DECEMBER 2018

FORECAST VARIANCES - MONTH				
INCOME STATEMENT	Actual	Forecast	Variance	Comments
Operating Revenues				
Charges For Services	3,875,009	3,392,573	482,436	Higher Flows in WLI and higher hauler fees
Rent	-	-	-	
Other Income	-	-	-	
Total Operating Revenues	<u>3,875,009</u>	<u>3,392,573</u>	<u>482,436</u>	
Operating Expenses				
Salaries and Wages	33,566	37,000	3,434	
General and Administrative	66,766	47,000	(19,766)	Higher internal service charges
Utilities	28,791	32,000	3,209	
Materials and Supplies	56,681	47,000	(9,681)	
Miscellaneous Services	1,632,106	1,648,000	15,894	
Treatment & Transportation	1,827,240	1,424,799	(402,441)	Higher flows and loads
Depreciation and Amortization	397,865	398,000	135	
Total Operating Expenses	<u>4,043,016</u>	<u>3,633,799</u>	<u>(409,217)</u>	Higher Treatment & Transportation costs
Operating Income	<u>(168,007)</u>	<u>(241,226)</u>	<u>73,219</u>	Higher operating revenues partially offset by higher Treatment & Transportation costs
Non-Operating Revenues (Expenses)				
Tapping and Capital Recovery fees	22,394	100,000	(77,606)	Lower tapping fees
Meter Sales	-	-	-	
Inspection and Plan Reviews	8,880	1,000	7,880	
Project Reimbursements	-	-	-	
Interest Income	20,177	15,000	5,177	
Other Income	105	-	105	
Interest Expense	(17,465)	(18,000)	535	
Other Expense	(15,687)	(2,000)	(13,687)	
Total Non-Operating Revenues (Expenses)	<u>18,404</u>	<u>96,000</u>	<u>(77,596)</u>	
Net Income Before Capital Contributions	<u>(149,603)</u>	<u>(145,226)</u>	<u>(4,377)</u>	
Capital Contributions	<u>-</u>	<u>-</u>	<u>-</u>	
NET INCOME	<u>(149,603)</u>	<u>(145,226)</u>	<u>(4,377)</u>	

FORECAST VARIANCES - MONTH				
CASH FLOW STATEMENT	Actual	Forecast	Variance	Comments
Cash Flows From Operating Activities				
Operating Revenues	3,875,009	3,392,573	482,436	
Operating Expenses (ex D&A)	(3,645,151)	(3,235,799)	(409,352)	
Non-Cash Working Capital Changes	(198,280)	697,135	(895,415)	Unfavorable working capital movements
Net Cash Provided by (Used in) Operating Activities	<u>31,578</u>	<u>853,909</u>	<u>(822,331)</u>	
Cash Flows From Financing Activities				
Capital Contributions	-	-	-	
Proceeds New Borrowing	-	-	-	
Interest Payments	(14,839)	(18,000)	3,161	
Principal Payments	(40,799)	(39,500)	(1,299)	
Net Cash Provided by (Used in) Financing Activities	<u>(55,637)</u>	<u>(57,500)</u>	<u>1,863</u>	
Cash Flows from Capital and Related Activities				
Non-Operating Revenues	31,379	101,000	(69,621)	
Project Reimbursement	-	-	-	
Non-Operating Expenses	3,917	-	3,917	
Capital Expenditures	(755,341)	(380,700)	(374,641)	Higher than forecast on project spending
Net Cash Provided By (Used In) Capital and Related Activities	<u>(720,045)</u>	<u>(279,700)</u>	<u>(440,345)</u>	
Cash Flows From Investing Activities				
Investments Converting To Cash	504,296	-	504,296	
Purchased Investments	(18,214)	-	(18,214)	
Interest Income	20,177	15,000	5,177	
Net Cash Provided By (Used In) Investing Activities	<u>506,259</u>	<u>15,000</u>	<u>491,259</u>	
FUND NET CASH FLOWS	<u>(237,845)</u>	<u>531,709</u>	<u>(769,554)</u>	

LEHIGH COUNTY AUTHORITY
FINANCIAL STATEMENTS - CITY DIVISION
DECEMBER 2018

MONTH					DECEMBER 2018					YEAR-TO-DATE					FULL YEAR				
Actual	Forecast	Prior Yr	FC Var	PY Var	INCOME STATEMENT					Actual	Forecast	Prior Yr	FC Var	PY Var	Forecast	Budget	Prior Yr	Bud Var	PY Var
					Operating Revenues														
3,731,933	2,387,856	2,060,185	1,344,077	1,671,748	Charges For Services					35,897,463	33,765,808	32,451,561	2,131,655	3,445,902	35,897,463	33,039,000	32,802,663	2,858,463	3,094,800
-	-	-	-	-	Rent					-	-	-	-	-	-	-	-	-	-
20,768	33,412	8,710	(12,644)	12,058	Other Income					519,893	548,181	444,364	(28,288)	75,529	519,893	530,000	93,262	(10,107)	426,631
<u>3,752,701</u>	<u>2,421,268</u>	<u>2,068,895</u>	<u>1,331,433</u>	<u>1,683,806</u>	Total Operating Revenues					<u>36,417,356</u>	<u>34,313,989</u>	<u>32,895,925</u>	<u>2,103,367</u>	<u>3,521,431</u>	<u>36,417,356</u>	<u>33,569,000</u>	<u>32,895,925</u>	<u>2,848,356</u>	<u>3,521,431</u>
					Operating Expenses														
414,016	410,000	403,355	(4,016)	(10,661)	Salaries and Wages					5,410,578	5,402,086	4,989,618	(8,492)	(420,960)	5,410,578	5,483,083	5,756,508	72,505	345,930
784,073	490,000	243,593	(294,073)	(540,479)	General and Administrative					6,623,682	6,371,986	6,035,799	(251,696)	(587,883)	6,623,682	5,988,429	5,268,909	(635,253)	(1,354,773)
205,878	170,000	256,127	(35,878)	50,249	Utilities					1,985,067	1,962,638	1,903,666	(22,428)	(81,401)	1,985,067	1,983,202	1,903,666	(1,865)	(81,401)
117,709	156,000	174,944	38,291	57,235	Materials and Supplies					1,196,225	1,246,040	1,312,551	49,815	116,326	1,196,225	1,489,546	1,312,551	293,321	116,326
344,043	167,000	430,724	(177,043)	86,681	Miscellaneous Services					1,753,015	1,584,345	2,620,544	(168,670)	867,529	1,753,015	1,845,730	2,620,544	92,715	867,529
-	-	5,161	-	5,161	Treatment & Transportation					9,827	4,624	10,096	(5,203)	269	9,827	12,000	10,096	2,173	269
466,667	466,663	937,307	(4)	470,640	Depreciation and Amortization					5,600,004	5,600,000	5,887,307	(4)	287,303	5,600,004	5,600,000	5,887,307	(4)	287,303
<u>2,332,385</u>	<u>1,859,663</u>	<u>2,451,211</u>	<u>(472,722)</u>	<u>118,827</u>	Total Operating Expenses					<u>22,578,398</u>	<u>22,171,720</u>	<u>22,759,581</u>	<u>(406,678)</u>	<u>181,183</u>	<u>22,578,398</u>	<u>22,401,990</u>	<u>22,759,581</u>	<u>(176,408)</u>	<u>181,183</u>
<u>1,420,316</u>	<u>561,605</u>	<u>(382,316)</u>	<u>858,712</u>	<u>1,802,632</u>	Operating Income					<u>13,838,958</u>	<u>12,142,270</u>	<u>10,136,344</u>	<u>1,696,688</u>	<u>3,702,614</u>	<u>13,838,958</u>	<u>11,167,010</u>	<u>10,136,344</u>	<u>2,671,948</u>	<u>3,702,614</u>
					Non-Operating Revenues (Expenses)														
29,752	13,000	492,251	16,752	(462,499)	Tapping and Capital Recovery fees					563,921	559,830	741,982	4,091	(178,061)	563,921	144,000	725,230	419,921	(161,309)
966	1,000	(16,484)	(34)	17,450	Meter Sales					8,397	9,159	435	(762)	7,962	8,397	15,000	17,187	(6,603)	(8,790)
20,465	2,000	432,185	18,465	(411,720)	Inspection and Plan Reviews					44,961	30,825	447,545	14,136	(402,584)	44,961	293,000	1,132,206	(248,039)	(1,087,245)
361,572	190,000	0	171,572	361,572	Project Reimbursements					372,527	190,000	684,661	182,527	(312,134)	372,527	2,480,000		(2,107,473)	372,527
249,762	60,000	(130,513)	189,762	380,275	Interest Income					1,047,648	807,046	341,431	240,602	706,217	1,047,648	348,000	341,431	699,648	706,217
3,240	-	1,084,452	3,240	(1,081,212)	Other Income					47,662	39,817	1,123,827	7,845	(1,076,165)	47,662	-	1,123,827	47,662	(1,076,165)
(3,899,437)	(2,533,000)	(4,624,299)	(1,366,437)	724,862	Interest Expense					(19,329,507)	(18,532,280)	(18,516,650)	(797,227)	(812,857)	(19,329,507)	(16,735,000)	(18,516,650)	(2,594,507)	(812,857)
(443,612)	(200,000)	(919,708)	(243,612)	476,096	Other Expense					(2,604,496)	(2,528,705)	(3,312,624)	(75,791)	708,128	(2,604,496)	(4,980,000)	(3,312,624)	2,375,504	708,128
<u>(3,677,292)</u>	<u>(2,467,000)</u>	<u>(3,682,115)</u>	<u>(1,210,292)</u>	<u>4,823</u>	Total Non-Operating Revenues (Expenses)					<u>(19,848,886)</u>	<u>(19,424,307)</u>	<u>(18,489,393)</u>	<u>(424,579)</u>	<u>(1,359,493)</u>	<u>(19,848,886)</u>	<u>(18,435,000)</u>	<u>(18,489,393)</u>	<u>(1,413,886)</u>	<u>(1,359,493)</u>
(2,256,976)	(1,905,395)	(4,064,432)	(351,581)	1,807,455	Net Income Before Capital Contributions					(6,009,928)	(7,282,037)	(8,353,049)	1,272,109	2,343,121	(6,009,928)	(7,267,990)	(8,353,049)	1,258,062	2,343,121
-	-	-	-	-	Capital Contributions					-	-	-	-	-	-	-	-	-	-
<u>(2,256,976)</u>	<u>(1,905,395)</u>	<u>(4,064,432)</u>	<u>(351,581)</u>	<u>1,807,455</u>	NET INCOME					<u>(6,009,928)</u>	<u>(7,282,037)</u>	<u>(8,353,049)</u>	<u>1,272,109</u>	<u>2,343,121</u>	<u>(6,009,928)</u>	<u>(7,267,990)</u>	<u>(8,353,049)</u>	<u>1,258,062</u>	<u>2,343,121</u>

LEHIGH COUNTY AUTHORITY
FINANCIAL STATEMENTS - CITY DIVISION
DECEMBER 2018

MONTH					DECEMBER 2018					YEAR-TO-DATE					FULL YEAR				
Actual	Forecast	Prior Yr	FC Var	PY Var	CASH FLOW STATEMENT					Actual	Forecast	Prior Yr	FC Var	PY Var	Forecast	Budget	Prior Yr	Bud Var	PY Var
					Cash Flows From Operating Activities														
3,752,701	2,421,268	2,068,895	1,331,433	1,683,806	Operating Revenues					36,417,356	34,313,989	32,895,925	2,103,367	3,521,431	36,417,356	33,569,000	32,895,925	2,848,356	3,521,431
(1,865,718)	(1,393,000)	(1,513,904)	(472,718)	(351,813)	Operating Expenses (ex D&A)					(16,978,394)	(16,571,720)	(16,872,274)	(406,674)	(106,120)	(16,978,394)	(16,801,990)	(16,872,274)	(176,404)	(106,120)
777,278	863,438	(1,880,139)	(86,160)	2,657,417	Non-Cash Working Capital Changes					(113,542)	(407,997)	(1,880,139)	294,455	1,766,597	(113,542)	-	(1,880,139)	(113,542)	1,766,597
2,664,261	1,891,706	(1,325,148)	772,556	3,989,409	Net Cash Provided by (Used in) Operating Activities					19,325,420	17,334,273	14,143,512	1,991,147	5,181,908	19,325,420	16,767,010	14,143,512	2,558,410	5,181,908
					Cash Flows From Financing Activities														
-	-	4,000	-	(4,000)	Lease Payments to City					(511,560)	(511,560)	(504,000)	-	(7,560)	(511,560)	(512,000)	(504,000)	440	(7,560)
-	-	-	-	-	Capital Contributions					-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	Proceeds New Borrowing					18,735,000	18,735,000	-	-	18,735,000	18,735,000	1,720,000	-	17,015,000	18,735,000
(6,523,861)	(6,523,861)	(6,523,860)	0	(1)	Interest Payments					(13,321,283)	(13,321,283)	(13,047,721)	0	(273,562)	(13,321,283)	(13,748,000)	(13,047,721)	426,717	(273,562)
(18,735,000)	(18,735,000)	-	-	(18,735,000)	Principal Payments					(18,735,000)	(18,735,000)	-	-	(18,735,000)	(18,735,000)	-	-	(18,735,000)	(18,735,000)
(25,258,861)	(25,258,861)	(6,519,860)	0	(18,739,001)	Net Cash Provided by (Used in) Financing Activities					(13,832,843)	(13,832,843)	(13,551,721)	0	(281,122)	(13,832,843)	(12,540,000)	(13,551,721)	(1,292,843)	(281,122)
					Cash Flows from Capital and Related Activities														
54,423	16,000	1,992,404	38,423	(1,937,981)	Non-Operating Revenues					664,941	639,631	2,313,789	25,310	(1,648,848)	664,941	452,000	2,313,789	212,941	(1,648,848)
361,572	190,000	0	171,572	361,572	Project Reimbursement					372,527	190,000	684,661	182,527	(312,134)	372,527	2,480,000	684,661	(2,107,473)	(312,134)
-	-	-	-	-	Non-Operating Expenses					-	(2,240)	-	2,240	-	-	-	-	-	-
(2,767,630)	(1,811,000)	(2,162,678)	(956,630)	(604,952)	Capital Expenditures					(8,094,916)	(7,357,164)	(7,759,310)	(737,752)	(335,606)	(8,094,916)	(12,592,500)	(7,759,310)	4,497,584	(335,606)
(2,351,636)	(1,605,000)	(170,274)	(746,636)	(2,181,362)	Net Cash Provided By (Used In) Capital and Related Activities					(7,057,448)	(6,529,773)	(4,760,860)	(527,675)	(2,296,588)	(7,057,448)	(9,660,500)	(4,760,860)	2,603,052	(2,296,588)
					Cash Flows From Investing Activities														
-	-	10,136,360	-	(10,136,360)	Investments Converting To Cash					4,000,000	4,000,000	10,136,360	-	(6,136,360)	4,000,000	-	10,136,360	4,000,000	(6,136,360)
-	-	-	-	-	Purchased Investments					-	-	-	-	-	-	-	-	-	-
249,762	60,000	(130,513)	189,762	380,275	Interest Income					1,047,648	807,046	341,431	240,602	706,217	1,047,648	348,000	341,431	699,648	706,217
249,762	60,000	10,005,847	189,762	(9,756,085)	Net Cash Provided By (Used In) Investing Activities					5,047,648	4,807,046	10,477,791	240,602	(5,430,143)	5,047,648	348,000	10,477,791	4,699,648	(5,430,143)
(24,696,473)	(24,912,155)	1,990,566	215,682	(26,687,038)	FUND NET CASH FLOWS					3,482,778	1,778,703	6,308,722	1,704,074	(2,825,944)	3,482,778	(5,085,490)	6,308,722	8,568,268	(2,825,944)
					DEBT SERVICE RATIO														
2,149,347	1,091,638	2,207,354	1,057,709	(58,007)	Total Cash Available For Debt Service					20,696,843	18,750,918	18,325,297	1,945,925	2,371,546	20,696,843	17,129,856	18,325,297	3,566,987	2,371,546
1,087,310	1,087,310	-	-	1,087,310	Debt Service (Pro-Rated)					13,047,721	13,047,721	13,047,722	-	(1)	13,047,721	13,748,000	13,047,722	(700,279)	(1)
1.98	1.00	#DIV/0!	0.97	#DIV/0!	DSCR					1.59	1.44	1.40	0.15	0.18	1.59	1.25	1.40	0.34	0.18

LEHIGH COUNTY AUTHORITY
FINANCIAL STATEMENTS - CITY DIVISION
DECEMBER 2018

FORECAST VARIANCES - MONTH				
INCOME STATEMENT	Actual	Forecast	Variance	Comments
Operating Revenues				
Charges For Services	3,731,933	2,387,856	1,344,077	Higher water and wastewater revenues
Rent	-	-	-	
Other Income	20,768	33,412	(12,644)	
Total Operating Revenues	<u>3,752,701</u>	<u>2,421,268</u>	<u>1,331,433</u>	Higher user charges
Operating Expenses				
Salaries and Wages	414,016	410,000	(4,016)	
General and Administrative	784,073	490,000	(294,073)	Higher internal service costs
Utilities	205,878	170,000	(35,878)	Higher utilities costs
Materials and Supplies	117,709	156,000	38,291	Lower purchases
Miscellaneous Services	344,043	167,000	(177,043)	Higher Maintenance & Miscellaneous services
Treatment & Transportation	-	-	-	
Depreciation and Amortization	466,667	466,663	(4)	
Total Operating Expenses	<u>2,332,385</u>	<u>1,859,663</u>	<u>(472,722)</u>	
Operating Income	<u>1,420,316</u>	<u>561,605</u>	<u>858,712</u>	
Non-Operating Revenues (Expenses)				
Tapping and Capital Recovery fees	29,752	13,000	16,752	
Meter Sales	966	1,000	(34)	
Inspection and Plan Reviews	20,465	2,000	18,465	
Project Reimbursements	361,572	190,000	171,572	
Interest Income	249,762	60,000	189,762	
Other Income	3,240	-	3,240	
Interest Expense	(3,899,437)	(2,533,000)	(1,366,437)	Higher expenses for accretion
Other Expense	(443,612)	(200,000)	(243,612)	Higher capex charged to expense
Total Non-Operating Revenues (Expenses)	<u>(3,677,292)</u>	<u>(2,467,000)</u>	<u>(1,210,292)</u>	
Net Income Before Capital Contributions	<u>(2,256,976)</u>	<u>(1,905,395)</u>	<u>(351,581)</u>	
Capital Contributions	<u>-</u>	<u>-</u>	<u>-</u>	
NET INCOME	<u>(2,256,976)</u>	<u>(1,905,395)</u>	<u>(351,581)</u>	
FORECAST VARIANCES - MONTH				
CASH FLOW STATEMENT	Actual	Forecast	Variance	Comments
Cash Flows From Operating Activities				
Operating Revenues	3,752,701	2,421,268	1,331,433	
Operating Expenses (ex D&A)	(1,865,718)	(1,393,000)	(472,718)	
Non-Cash Working Capital Changes	777,278	863,438	(86,160)	
Net Cash Provided by (Used in) Operating Activities	<u>2,664,261</u>	<u>1,891,706</u>	<u>772,556</u>	
Cash Flows From Financing Activities				
Lease Payments to City	-	-	-	
Capital Contributions	-	-	-	
Proceeds New Borrowing	-	-	-	
Interest Payments	(6,523,861)	(6,523,861)	0	
Principal Payments	(18,735,000)	(18,735,000)	-	
Net Cash Provided by (Used in) Financing Activities	<u>(25,258,861)</u>	<u>(25,258,861)</u>	<u>0</u>	
Cash Flows from Capital and Related Activities				
Non-Operating Revenues	54,423	16,000	38,423	
Project Reimbursement	361,572	190,000	171,572	
Non-Operating Expenses	-	-	-	
Capital Expenditures	(2,767,630)	(1,811,000)	(956,630)	Higher than forecasted project spending
Net Cash Provided By (Used In) Capital and Related Activities	<u>(2,351,636)</u>	<u>(1,605,000)</u>	<u>(746,636)</u>	
Cash Flows From Investing Activities				
Investments Converting To Cash	-	-	-	
Purchased Invesments	-	-	-	
Interest Income	249,762	60,000	189,762	Higher income on invested balances
Net Cash Provided By (Used In) Investing Activities	<u>249,762</u>	<u>60,000</u>	<u>189,762</u>	
FUND NET CASH FLOWS	<u>(24,696,473)</u>	<u>(24,912,155)</u>	<u>215,682</u>	

CASH & INVESTMENT SUMMARY
DECEMBER 2018
YTD CHANGES IN CASH BALANCES

	Suburban Water	Suburban Wastewater	City Division
CURRENT MONTH			
CASH			
Operating	8,283,969.69	5,314,951.71	18,017,729.33
Capital	5,772,084.72	7,739,379.19	42,935.90
Restricted	1,564,965.39	337,562.23	34,521,520.50
Escrow	4,990,657.44	-	6,361.22
Total Cash	20,611,677.24	13,391,893.13	52,588,546.95
INVESTMENTS			
Operating	3,356,991.39	-	-
Capital	3,393,212.74	6,455,704.16	-
Restricted	25,521.88	-	3,940,640.00
Total Investments	6,775,726.01	6,455,704.16	3,940,640.00
TOTAL CASH & INVESTMENTS	27,387,403.25	19,847,597.29	56,529,186.95
BEGINNING OF YEAR			
CASH			
Operating	3,480,685.21	5,203,439.94	6,004,473.80
Capital	6,174,637.53	4,768,722.61	3,484,302.55
Restricted	1,547,128.82	337,270.77	39,610,631.77
Escrow	4,869,303.03	-	6,358.99
Total Cash	16,071,754.59	10,309,433.32	49,105,767.11
INVESTMENTS			
Operating	6,151,902.67	-	-
Capital	9,949,476.50	8,506,119.27	-
Restricted	25,508.45	-	7,940,640.00
Total Investments	16,126,887.62	8,506,119.27	7,940,640.00
TOTAL CASH & INVESTMENTS	32,198,642.21	18,815,552.59	57,046,407.11
YTD CHANGE IN BALANCES			
CASH			
Operating	4,803,284.48	111,511.77	12,013,255.53
Capital	(402,552.81)	2,970,656.58	(3,441,366.65)
Restricted	17,836.57	291.46	(5,089,111.27)
Escrow	121,354.41	-	2.23
Total Cash	4,539,922.65	3,082,459.81	3,482,779.84
INVESTMENTS			
Operating	(2,794,911.28)	-	-
Capital	(6,556,263.76)	(2,050,415.11)	-
Restricted	13.43	-	(4,000,000.00)
Total Investments	(9,351,161.61)	(2,050,415.11)	(4,000,000.00)
TOTAL CASH & INVESTMENTS	(4,811,238.96)	1,032,044.70	(517,220.16)
CASH WITHOUT ESCROW	4,418,568.24	3,082,459.81	3,482,777.61