

Published: March 20, 2017

BOARD MEETING AGENDA – March 27, 2017

- 1. Call to Order
 - NOTICE OF MEETING RECORDINGS

Meetings of Lehigh County Authority's Board of Directors that are held at LCA's Main Office at 1053 Spruce Road, Wescosville, PA, may be recorded for viewing online at lehighcountauthority.org. 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
 - March 13, 2017 Board meeting minutes
- 4. Public Comments
- 5. Action / Discussion Items:

FINANCE AND ADMINISTRATION

- Non-Union Employee Compensation Study Overview of Results (purple)
- Citizen Survey Results (ivory)

<u>WATER</u>

- Suburban Division Hydrant & Valve Exercising Program (blue)
- Waiver of Main Extension Policy provision for Mack Trucks (gray)

WASTEWATER

- Suburban Division Western Lehigh Interceptor (WLI) Easement Clearing (green)
- Flow Meter Data Evaluation (yellow)
- 6. Monthly Project Updates / Information Items (1st Board meeting per month)
- 7. Monthly Financial Review (2nd Board meeting per month) **February 2017 to be mailed under** separate cover
- Monthly System Operations Overview (2nd Board meeting per month) February 2017 report attached
- 9. Staff Comments
- 10. Solicitor's Comments
- 11. Public Comments / Other Comments
- 12. Executive Sessions
- 13. Adjournment

UPCOMING BOARD MEETINGS

Meetings begin at Noon at LCA's Main Office, unless noted otherwise below. April 10, 2017 April 24, 2017 May 8, 2017 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.

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

REVIEW OF AGENDA

Liesel Gross announced that today's Board meeting is being videotaped and streaming live which, if successful, will then be posted to the Authority's website. A statement regarding the live video recording is noted on the agenda and signage is placed in the room to inform anyone attending that the meetings are being recorded.

Ms. Gross also announced there will be an Executive Session regarding potential litigation.

APPROVAL OF MINUTES

February 27, 2017 Regular Meeting Minutes

On a motion by Richard Bohner, seconded by Norma Cusick, the Board approved the Minutes of the February 27, 2017 (5-0). Brian Nagle and Scott Bieber abstained.

PUBLIC COMMENTS

None.

ACTION AND DISCUSSION ITEMS

2017 Goals

Liesel Gross presented a PowerPoint presentation and gave an overview of the 2017 Goals. Using the Effective Utility Management (EUM) framework, she explained the methodology that Authority Staff used to select four EUM attributes to focus on: Product Quality, Financial Viability, Infrastructure Stability, and Employee & Leadership Development. Ms. Gross explained the long-term view, which is to establish measures for each attribute area, develop ways to leverage technology within all goal areas, look out through 2020 to develop longer-term plans in these (and other) areas, and have Board input on these and other community focused EUM attributes. All of these will help build a culture of continual improvement.

Ms. Gross questioned whether the Board is comfortable with the goals as outlined or are there other areas they would like to dig into deeper. She also asked for feedback on how often the Board would like to see progress reports on the goals.

Tom Muller commented that quarterly updates would be appropriate. Brian Nagle agreed and suggested that the report should contain information on any scope changes or challenges the staff encountered through the course of working on the goals. He also stated that the Board should view the goals as a way to measure performance of the organization and the chief executive officer.

Richard Bohner asked if the Authority maintained a goal of providing service to all customers who request it. After clarifying the question, Liesel Gross explained that maintaining water supply and wastewater treatment capacity to meet the needs of both current and future customers is a core component of the Authority's mission.

Kevin Baker noted that he would like to see the Authority consider environmental impact in its decisionmaking, although this may be achieved through project-specific presentations and analysis rather than as a specific or separate goal statement. Eric Andreus, an employee of Nestle Waters, commented on Water Resource Adequacy attribute and feels the region is blessed with an abundance of water supply and would like to see more being done to protect it.

Mike Siegel, a resident of Lower Macungie Township, commented he would like to see more emphasis on water quality protection from the Authority. Mr. Siegel informed the Board that Lower Macungie Township recently passed an ordinance prohibiting injection wells.

Scott Bieber asked for an update on the plans to construct stormwater injection wells at the DCT Industrial Warehouse in Upper Macungie Township. Chuck Volk said Al Guiseppe of Spotts, Stevens and McCoy, the hydrogeologist consultant for the Authority, has reviewed the plan and written a review letter for this site and recommended that injection wells not be used. Mr. Volk said the developer has responded that the injection wells will only be used for water runoff from rooftops, which is in line with Mr. Guiseppe's recommendations. Mr. Bieber stated that it should be the Authority's policy to oppose all injection wells. Mr. Volk said the Authority can only make recommendations because injection wells are permitted by the state.

Drought and Water Supply Monitoring Program

Al Guiseppe was present and gave a PowerPoint presentation on the Drought Triggers and Water Supply Monitoring program. Spotts, Stevens and McCoy evaluated the various components of the LCA Western Lehigh – Central Division and Allentown Division water systems to determine an appropriate Drought Monitoring Criteria with recommendations for criteria that would trigger drought declarations by the Authority. He explained that based on those recommended trigger points, the Authority would be in a Drought Watch stage.

Mr. Guiseppe then reviewed his recommendations for a Watershed Monitoring Program that would enlist the assistance of volunteers and citizen scientists to suppose the implementation of the monitoring plan. Stream gages and monitoring wells would be installed throughout the Little Lehigh Creek basin to gather data on stream flows and groundwater levels to determine how they are linked as water travels through the basin.

Rebecca Kennedy, who coordinates the Master Watershed Steward Program, explained how volunteers from her program could be utilized to support the Authority's efforts.

Chairman Nagle asked Mr. Guiseppe for a cost estimate for implementing the plan. He said that Spotts, Stevens and McCoy would propose to coordinate the first year of the program, to provide four monitoring events for six stations, plus the purchase of equipment, and the cost is estimated to be \$35,000. This cost does not include the technology required to gather data automatically and transmit it to the Authority, so additional expense would be incurred for telemetry equipment and other technology support.

Mike Siegel, a resident of Lower Macungie Township, suggested using Spring Creek Pumping Station as a point to gather telemetry and flood data due to the amount of flooding in that area and also because of the availability of electricity at the site.

Eric Andreus, and employee of Nestle Waters, asked if LCA issues a drought declaration, would the conservation measures be the same as those in place when the state declares a drought. Ms. Gross explained that in the Authority's drought contingency plan, whether it's an Authority-declared drought stage or state-declared drought stage, the Authority would be following the same conservation measures for that stage. If a drought emergency is declared either by the Authority or the state water use restrictions would be in place up to and including implementing the water rationing plan that is included in the Authority's drought contingency plan is required by the Pennsylvania Department of Environmental Protection.

Scott Bieber informed the Board that he contacted U.S. Geological Survey (USGS) via email regarding the costs for installing and maintaining stream gages. A copy of the response he received from USGS was provided to the Board.

Ms. Gross explained that the next step would be to reach out to municipalities and other stakeholders to determine what organizations may be interested in partnering with the Authority on this effort, since the watershed monitoring plan has useful implications for many potential partners. A more detailed implementation plan will then be presented to the Board.

Mike Siegel, as spokesman for the Lower Macungie Township Environmental Advisory Council (EAC), said he would present this information to the EAC. Ms. Gross asked Mr. Siegel to contact her and she would be happy to attend an EAC meeting to discuss with the group as well.

PROJECT UPDATES/INFORMATION ITEMS

Liesel Gross brought to the attention of the Board items listed in the report for upcoming meetings. Ms. Gross noted that under Finance and Administration, the preliminary Compensation Study will be added to the March 27, 2017 agenda.

STAFF COMMENTS

Liesel Gross announced that this is Tom Muller's last meeting as an Authority Board member. Ms. Gross, the Board and Staff thanked Tom for his many years of service.

SOLICITOR'S COMMENTS

Brad Landon reminded the Board that Ethics Forms and Financial Disclosure Statements are due April 30, 2017, although he has received a majority of the Board members' forms already.

PUBLIC COMMENTS / OTHER COMMENTS

None.

The Chairman called a break at 1:29 p.m. The meeting reconvened at 1:35 p.m.

EXECUTIVE SESSION

Chairman Nagle called an Executive Session at 1:35 p.m. to discuss potential litigation. Attorneys Alessandra Hylander and Devin Chwastyk of McNees Wallace & Nurick LLC entered the meeting at this time.

The Executive Session ended at 3:01 p.m.

On a motion by Linda Rosenfeld, seconded by Scott Bieber, the Board approved the retention of Asterion Consulting, a forensic accounting firm, to conduct an independent review of the Authority's financial analysis related to its dispute with the City of Allentown regarding the lease of the City's water and sewer systems (7-0).

On a motion by Scott Bieber, seconded by Richard Bohner, the Board approved proceeding with filing for arbitration with the American Arbitration Association regarding its dispute with the City of Allentown regarding the lease of the City's water and sewer systems (7-0).

On a motion by Norma Cusick, seconded by Tom Muller, the Board requested that the staff prepare a report exploring the revenues and expenses associated with converting to monthly billing for both the Allentown and Suburban divisions (7-0).

ADJOURNMENT

There being no further business, the Chairman adjourned the meeting at 3:05 p.m.

Richard H. Bohner Secretary



1053 SPRUCE ROAD * P.O. BOX 3348 * ALLENTOWN, PA 18106-0348 610-398-2503 * FAX 610-398-8413 * www.lehighcountyauthority.org email: service@lehighcountyauthority.org

MEMORANDUM

TO:	LCA Board of Directors
FROM:	Liesel Gross, CEO
DATE:	March 20, 2017
RE:	Compensation Study Results – Non-Union Employees

At the January 23, 2017 meeting of the Lehigh County Authority Board of Directors, a representative from Mosteller & Associates was present to review LCA's compensation study preliminary results and to seek feedback from the Board on the compensation philosophy to be employed when finalizing the recommendations to staff. A copy of the preliminary report that was presented in January is attached for your reference.

The Board's comments included the following key points:

- Recognition of the need to attract and retain highly skilled employees to support the achievement of LCA's mission. Addressing the current and future high turnover rates due to retirement will require additional consideration of compensation strategies to attract new employees to fill critical vacancies.
- LCA pay should be competitive with the market, but kept in balance with other factors such as the organization's public, non-profit status and the impact to customer rates.
- Where possible, corrections should be made to address equity issues and in particular to correct situations where employees are being paid well below today's market rates for similar positions in similar organizations.

Following this discussion, Mosteller provided recommended revisions to LCA's compensation program for non-union employees to address the issues outlined in the preliminary report and incorporating the Board's feedback. Primary issues addressed in the recommendations were:

Market Alignment – Where LCA's current paygrades were shown to be significantly out of alignment with market rates for similar positions, paygrade adjustments were recommended.

Internal Equity – Review of positions within the context of LCA's organization structure resulted in some additional paygrade adjustments based on internal alignment among all positions.

Equity Adjustments – Due to certain paygrades being adjusted to reflect market and/or internal alignment issues, existing employees' pay within the new paygrades was evaluated and a series of recommendations made to address equity issues that were identified.

New Non-Union Paygrades

LCA's non-union paygrades have been in place since 2011, with a minor 1% adjustment made in 2016. The old system included 23 individual grades, with several grades not in use by any positions within the organization. The mid-point "job rate" for the positions within each grade was determined based on aligning with the 55th percentile of the market-based data that was available at that time.

LCA Non-Union Pay Grades: 2011-2016				
Grade	Minimum	Market-Based (55th Percentile) "Job Rate"	Maximum	Note
	80%	100%	120%	
A11	\$26,531	\$33,164	\$39,798	No LCA positions in this grade
A12	\$28,654	\$35,818	\$42,982	
A13	\$30,659	\$38,325	\$45,990	No LCA positions in this grade
B21	\$34,604	\$43,254	\$51,905	
B22	\$37,574	\$46,967	\$56,360	
B23	\$40,543	\$50,680	\$60,816	
B24	\$43,523	\$54,404	\$65,284	
B25	\$46,493	\$58,116	\$69,739	
C41	\$52,442	\$65,553	\$78,664	
C42	\$55,413	\$69,266	\$83,119	
C43	\$58,183	\$72,729	\$87,275	
C44	\$61,362	\$76,702	\$92,043	
C45	\$64,332	\$80,415	\$96,498	
D61	\$70,282	\$87,852	\$105,422	
D62	\$73,796	\$92,244	\$110,693	No LCA positions in this grade
D63	\$77,486	\$96,857	\$116,228	No LCA positions in this grade
D64	\$80,585	\$100,731	\$120,877	No LCA positions in this grade
E81	\$88,120	\$110,151	\$132,181	
E82	\$91,091	\$113,863	\$136,636	
E83	\$94,061	\$117,576	\$141,091	
E84	\$96,883	\$121,103	\$145,324	No LCA positions in this grade
F101	\$108,930	\$136,162	\$163,395	No LCA positions in this grade
F102	\$119,822	\$149,778	\$179,734	

In designing updated paygrades, LCA sought to reduce the total number of grades, but maintain the overall structure whereby the minimum is set at 80% of the "job rate" and the maximum at 120% of the "job rate." Placement below the "job rate" is generally acceptable for employees who are newer in their position and who are advancing their knowledge, skills and abilities required to fully meet the expectations of the position, or whose performance is below the expectations for the position regardless of tenure. Movement above the "job rate" is available for high performing individuals via our merit-based approach to awarding annual pay increases.

By reducing the number of overall paygrades, each grade is more clearly differentiated from the grade above and below. This is expected to alleviate issues of pay compression whereby employees in a lower paygrade are able to earn the same as, or in many cases more than, their supervisor in the next highest paygrade. With greater differentiation between grades, it is also expected to serve as greater incentive for employees to seek advancement and grow their skills for such advancement.

It is worth noting that the 50-55th percentile of market-based data for similar positions was used for the new paygrades in order to align positions from the old system into the new paygrades. However, actual pay for LCA employees remains approximately 6.28% below the 50th percentile of this market data, per Mosteller's analysis. This is due to actual employee pay falling at approximately 90% of the market-based "job rates" shown below.

	LCA Non-Union Pay Grades – NEW			
Grade	Minimum	Market-Based (50-55th Percentile) "Job Rate"	Maximum	Note
	80%	100%	120%	
1	\$28,800	\$36,000	\$43,200	
2	\$31,680	\$39,600	\$47,520	No LCA positions in this grade
3	\$34,848	\$43,560	\$52,272	
4	\$38,333	\$47,916	\$57,499	
5	\$42,166	\$52,708	\$63,249	
6	\$46,383	\$57,978	\$69,574	No LCA positions in this grade
7	\$51,021	\$63,776	\$76,531	
8	\$56,123	\$70,154	\$84,185	
9	\$61,735	\$77,169	\$92,603	
10	\$67,909	\$84,886	\$101,863	
11	\$74,700	\$93,375	\$112,050	
12	\$82,170	\$102,712	\$123,255	
13	\$90,387	\$112,983	\$135,580	
14	\$99,425	\$124,282	\$149,138	
15	\$109,368	\$136,710	\$164,052	No LCA positions in this grade
16	\$120,305	\$150,381	\$180,457	

From an overview standpoint, there is no significant movement in the paygrades from the old system to the new grades shown above. This validates that both the former and current market-based studies are generally comparable, considering the sluggish economy (from a salary movement standpoint) since the last study was completed, and the overall shift toward meeting the 50th percentile of the market-based salary data vs. the 55th percentile in the 2011 study.

Position Slotting & Equity Adjustments

Mosteller & Associates was charged with designing a market-based compensation system for LCA and providing support for aligning LCA positions with the new paygrades. From the recommendations Mosteller provided, additional work was required to complete the analysis to address the organizational context in which the pay system is applied.

Staff conducted a thorough review of the positions currently staffed by LCA employees and Mosteller's recommended placement within the new paygrade structure. Some minor adjustments were made to these placements to reflect actual responsibilities and accountabilities of each position within our organization. In addition, all non-union employees' actual pay rates were evaluated to identify any significant inequities that must be addressed due to the new market-based job placements.

This analysis resulted in identifying \$68,818 in pay adjustments that address equity issues within LCA's non-union employee base. Such equity adjustments fall into three primary categories:

- Employee's pay falls below the new minimum pay rate for the job. (<u>5 employees impacted</u>)
- Employee's pay falls very near the new minimum pay rate for the job, and the employee has significant experience and historically strong performance in the job. (<u>9 employees impacted</u>)
- Job analysis conducted during the course of this study has resulted in an understanding that the employee's job duties were not adequately represented by their job placement, and promotion to the appropriate job and paygrade is required. (<u>4 employees impacted</u>)

Due to the relatively modest size of this adjustment, and the fact that they are necessary to address current pay inequities among our existing employees, LCA staff recommends implementing the equity adjustments for these 18 employees concurrently with the annual merit-based pay increases that are due to be awarded in April 2017. The \$68,818 in equity adjustments equates to a 1.8% increase in total salaries for the 59 non-union employees covered by this study (total salaries = \$3.85 million).

The overall impact to the personnel budget is expected to be significantly less than \$68,818 due to the partial year in which it is applied and considering delays in filling other vacant positions that further reduce LCA's 2017 payroll expenses. However, Board action to approve the equity adjustments is requested to illustrate Board commitment to achieving the goals of this compensation study. *If further detail about the equity adjustments is needed, it will provided to the Board in Executive Session.*

Quick Note: Why do these pay inequities exist?

LCA has undergone tremendous change since the last compensation study was conducted in 2011. Most notable is the lease of the Allentown water and sewer systems, which resulted in the quintupling of LCA's employee base. More than half of the positions included in the current compensation study did not exist in 2011 when the last study was completed. Since 2013, many new non-union positions were created, primarily in administrative areas such as human resources and purchasing functions, and plant operations management positions. When they were created, these positions were placed into LCA's paygrades based on advice from LCA's contracted recruiting firm and general pay requirements of applicants for the positions. This study has been useful in aligning these new positions into LCA's structure, and the equity adjustments identified are primarily focused on these newer positions.



Lehigh County Authority

COMPENSATION PROJECT REPORT (NON-UNION)

REVISED DRAFT 1/20/17

JANUARY 2017

Prepared by: Mosteller & Associates Reading, PA (610) 779-3870

Background

Lehigh County Authority (LCA or the Authority) is a public water and wastewater utility providing service to more than 55,000 customers in the City of Allentown and portions of Lehigh and Northampton Counties. LCA also provides municipal-level and customer-level sewer service in many areas of western and northern Lehigh County.

In May 2013, LCA signed a contract with the City of Allentown for a 50-year lease of the city's water and sewer systems. The closing date of the lease concession took place on August 7, 2013. As of that date, LCA's employee base increased from 37 to 121 and has further increased to its current level of approximately over 150.

LCA has two divisions: the Suburban Division, located in Wescosville, which houses the company headquarters and the City Division, located in Allentown, which is comprised of three facilities: the Water Filtration Plant, the Wastewater Treatment Plant, and the Distribution and Collection Facility.

LCA has collective bargaining unit agreements with two unions. The Service Employees' International Union (SEIU) represents blue collar and clerical workers of the City Division and the Sheet Metal Workers International Union (SMW) represents Operation and Maintenance and Compliance workers of the Suburban Division. Union employees represent 62% of the current workforce (95 employees) while non-union employees represent the remaining 38% (59 employees). The SMW Union contract was ratified in February 2014. The SEIU transferred to LCA from the City of Allentown. Both contracts expired December 31, 2016.

The SEIU includes blue collar as well as clerical members while the SMW Union includes blue-collar workers and Foremen. As a result of the merger of the two organizations, LCA has several positions where the Union status varies, depending on the employee's work location.

The following report is the overall compensation study/review to provide marketplace data as well as guidance to management at LCA for the future direction of compensation programs in the organization.

Objective

The purpose of this project is to ensure that LCA can continue to attract and retain highly qualified employees through a compensation program that is affordable, competitive, and equitable, and provides meaningful rewards for ongoing performance improvement. Specifically, LCA seeks to evaluate and improve in the following key areas:

- Develop and define Lehigh County Authority's overall Compensation Philosophy
- Generate understanding and buy-in for LCA's overall compensation philosophy once defined
- Establish a revised salary structure to meet LCA's goals for employee recruitment, retention, and satisfaction (last revision in 2011, prior to Allentown merger)
- Alignment of LCA's total compensation program with their new Strategic Plan, including mission, vision, and values (adopted in January 2015)
- Generate overall awareness, throughout the employee base, of the compensation package that LCA provides, and the ways in which LCA meets its stated Compensation Philosophy

Compensation Philosophy

Compensation philosophies vary according to the culture, leadership, management, and performance of the organization. The basis for compensation philosophies typically include the mix of base pay, variable pay, and benefits in the various programs. The positioning of each of these areas is usually compared to the competitive market; the marketplace from which the organization recruits for talent and the external market to which employees leave to seek other employment.

One example is to have a philosophy, which maintains pay a certain percentage below the middle of the competitive market but has a strong benefit program, which is above the market, perhaps in the health care area or in the pension area. Another approach is to provide a benefit program, which is minimal in coverages, a base pay program, which is below market, and a variable/bonus program, which is extremely strong, compared to the market. This type of philosophy frequently exists in start-up organizations or organizations, which are projected to have rapid growth and want to have low fixed expenses.

LCA has a mixed philosophy, given the assimilation of the Allentown operation. This frequently occurs when two organizations merge.

Within the base pay portion of the philosophy, several alternatives exist. The alternatives follow:

- 1. Structure of salary ranges
 - a. Spread of each range from minimum to midpoint to maximum
 - b. Different from one salary range to the next
 - c. Definition of what the range represents compared to the market
 - d. Frequency of adjustments to the range structure
- 2. Utilization of salary ranges
 - a. Split ranges into thirds, quartiles, or quintiles
 - b. Approach to employee pay movement within the range
 - c. Approach to employee promotion to a higher position

- 3. Slotting of positions within salary ranges
 - a. By external market match 50th percentile of market to closet salary range midpoint
 - b. By internal equity utilize an internal job evaluation system
- 4. Pay administration
 - a. Pay rates for new hires inexperienced and experienced
 - b. Pay adjustments merit, tenure, across the Board

Current LCA Salary Structure

LCA's current non-union salary structure is comprised of 15 salary ranges. The range minimum is 20% below the midpoint and the maximum is 20% above the midpoint.

It appears that the original structure differentiated one midpoint from the next by approximately \$3,700. This is a fairly narrow differential compared to the most competitive structures in the market. A 10% to 12% range differential is most common.

The salary structure below shows those ranges, which are currently populated by employees, there are additional ranges, which currently do not have any employees in positions. Currently there are 46 non-union positions, which include 58 employees.

	Minimum	Midpoint	Maximum
A12	\$28,654	\$35,818	\$42,918
B21	\$34,603	\$43,254	\$51,905
B22	\$37,574	\$46,967	\$56,360
B24	\$43,523	\$54,404	\$65,284
B25	\$46,493	\$58,116	\$69,740
C41	\$52,442	\$65,553	\$78,664
C42	\$55,413	\$69,266	\$83,119
C43	\$58,183	\$72,727	\$87,275
C44	\$61,362	\$76,702	\$92,043
C45	\$64,332	\$80,415	\$96,498
D61	\$70,281	\$87,852	\$105,422
E81	\$88,120	\$110,151	\$132,181
E82	\$91,091	\$113,863	\$136,636
E83	\$94,061	\$117,576	\$141,091
F102	\$119,822	\$149,778	\$179,734

Market Analysis

A competitive market analysis has been conducted of 23 benchmark LCA positions. The analysis was focused on base pay and did not include variable pay since the incidence of variable pay in the industry is small.

Methodology

- Review of position responsibilities to adequately compare to positions in the market with comparable responsibilities
- Collection of data
 - Includes two published surveys with appropriate size, industry, and geography
 - Includes survey data from American Water Works Association 2016 Wage Survey
 - Includes data from Mosteller & Associates' proprietary database including several clients in LCA's industry in central and eastern PA
 - For industry specific positions utilized industry data; for non-industry specific positions included other industries
- The 25th, 50th and 75th percentiles were calculated for each position based on the above data sources

Summary of Market Analysis

- For the benchmark positions, LCA's consolidated/aggregated comparison to the 50th percentile is -6.28%.
- There are 13 positions paid below the 25th percentile and 3 positions paid above the 75th percentile.
- LCA's base salary program is reasonably competitive. Those positions paid below the 25th percentile should be reviewed and determinations made concerning any potential interim salary adjustments. Of highest concern are those individuals who are performing well, have adequate experience, and are the type of employees who LCA definitely wants to retain.



1053 SPRUCE ROAD * P.O. BOX 3348 * ALLENTOWN, PA 18106-0348 610-398-2503 * FAX 610-398-8413 * www.lehighcountyauthority.org email: service@lehighcountyauthority.org

MEMORANDUM

TO:	LCA Board of Directors
FROM:	Liesel Gross, CEO
DATE:	March 20, 2017
RE:	Citizen Survey Results – Public Participation

In January 2017, LCA staff developed a web-based citizen survey to collect feedback on potential methods to improve public participation in meetings of the Board of Directors or other LCA meetings. Detailed results are attached for Board review, with some questions omitted that included specific respondent comments/identifiers.

Some observations of the results for Board consideration:

- With just 45 responses received, the results should not be viewed as a statistically valid representation of any specific trends in general public opinion about the topics covered in the survey. However, they do represent the opinions of those who participated in the survey.
 - The link to the survey was sent to a lengthy listing of stakeholders who had participated in prior LCA public input processes over the years. These individuals are expected to be more actively engaged in local decision-making than the general citizenry. Question 7 generally supports a theory that many responses were generated from this group, as 38% of the respondents reported having been actively engaged in local decision-making bodies within the past 10 years.
 - The survey was placed on LCA's home page and Facebook page for a period of 2 months, where visitors are expected to be primarily LCA customers. In addition, 1000 randomly selected residential customers received a postcard invitation to participate in the survey in an attempt to drive customer participation. Question 1 shows that most of the respondents are in fact LCA customers, but 24% are not.
 - These observations suggest the results include some participation bias as a larger proportion of respondents are non-LCA customers and/or "active engagers" than represented by the general public within LCA's service area.
- Survey results generally illustrate that public attendance at LCA Board meetings may increase if meetings were moved to an evening schedule. However, this response is not universal or particularly strong.
 - A little more than 70% of the respondents reported that the current Noon meeting time has little impact on their attendance at LCA meetings. (Question 3)

- Only 3 respondents reported that they "definitely" would attend more LCA meetings if they were held in the evening. However, 19 respondents (51%) said they "might" attend more often if there was an agenda item that was of interest to them. (Question 9)
- Questions were asked about topics the public may be interested in learning more about, therefore increasing attendance at LCA meetings. Some interesting observations from these questions:
 - Most respondents had not attended any of LCA's special sessions held in the evening to cover specific topics such as sewer system overflows or the budget review process. (Question 12 & 13)
 - However, respondents were somewhat interested in hearing about these topics from LCA. (Question 14).
 - Respondents most often attend municipal meetings, or are interested in attending LCA meetings, to cover topics (zoning and construction project details) that may not actually be on LCA's agenda with any regular frequency. (Questions 8 and 14)
 - The current drought and water supply situation appear to be of interest to respondents (Question 14), which is validated by the slight increase in attendance at LCA meetings when those topics are on the agenda.
- LCA is using technology in a generally positive way. Respondents have little difficulty finding information on our website (Question 16) and might watch videos of our meetings online when offered (Question 18).

Recommendations for Discussion

- 1. The low level of participation in the survey suggests public participation in LCA's operation is not a high priority issue for most people.
- 2. Holding night meetings on an ongoing basis to cover regular LCA business is unlikely to draw an audience because our routine business is not of great interest to the general public. However, some topics (sewer overflows and drought in particular) are of more interest than others and could be incorporated into a more targeted set of special-purpose public meetings.
- 3. LCA's recent attempts to hold special-purpose night meetings have not been successful in drawing attendance. We should review ways to let people know when the meetings will be held and the topics to be covered.
- 4. An alternative method to drive public participation in special topics would be to approach the municipalities LCA serves and request time on their regular municipal meeting agendas for LCA staff to present LCA topics on a semi-annual basis.

Q1 Are you a direct customer of Lehigh County Authority (LCA)? In other words, do you receive a water / sewer bill from LCA for services we provide to your property?

 Yes
 Image: Stripped: 0

 No
 0%
 10%
 20%
 30%
 40%
 50%
 60%
 70%
 80%
 90%
 100%

Answer Choices	Responses	
Yes	75.56%	34
No	24.44%	11
Total		45





Answer Choices	Responses
Never in the past 3 years	90.91% 40
Once every 1-3 years	0.00%
At least once per year	4.55% 2
2-6 times per year	2.27% 1
6 or more times per year	2.27% 1
Total	44

Q3 LCA meetings are held at Noon on the second and fourth Mondays of each month. Please tell us how LCA's Board meeting schedule impacts your decision to attend / not attend our meetings.



Answer Choices		
I attend because LCA's meetings fit my schedule and are convenient for me	0.00%	0
If I want to attend, I am able to arrange my schedule to be there	30.95%	13
I don't attend LCA's meetings because they are not convenient for my schedule	28.57%	12
No impact – I am unlikely to attend regardless of schedule	40.48%	17
Total		42

Q4 How often do you attend meetings of the Municipality (township, borough or city) that you live in?



Answer Choices	Responses
Never in the past 3 years	52.38% 22
Once every 1-3 years	9.52% 4
At least once per year	11.90% 5
2-6 times per year	9.52% 4
6 or more times per year	16.67% 7
Total	42



Answer Choices	Responses
Evenings	63.41% 26
Daytime	2.44% 1
l don't know	34.15% 14
Other (please specify)	0.00% 0
Total	41

Q5 When are your Municipality's meetings

Q6 Please tell us how your Municipality's meeting schedule impacts your decision to attend / not attend their meetings:



Answer Choices		
I attend because their meetings fit my schedule and are convenient for me	21.05%	8
If I want to attend, I am able to arrange my schedule to be there	34.21%	13
I don't attend their meetings because they are not convenient for my schedule	10.53%	4
No impact – I am unlikely to attend regardless of schedule	34.21%	13
Total		38

Q7 In the last 10 years, have you served on any public organization's board, committee or special council, or in any elected office?



Answer Choices	Responses	
Yes	38.46%	15
No	61.54%	24
Total		39

Q8 What topics are you most interested in when you attend either an LCA or a Municipal public meeting? (check all that apply)

Answered: 37 Skipped: 8 Budget Taxes Bills for municipal... Police, fire, other emerge... Zoning & development Environmental protection,... Traffic & road work Infrastructure projects,... Youth & community ... Other (please specify) 0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Answer Choices	Responses	
Budget	37.84%	14
Taxes	48.65%	18
Bills for municipal services (water, sewer, trash)	45.95%	17
Police, fire, other emergency services	43.24%	16
Zoning & development	75.68%	28
Environmental protection, greenways, etc.	43.24%	16
Traffic & road work	51.35%	19
Infrastructure projects, municipal buildings, etc.	56.76%	21
Youth & community services, libraries, special events, athletics, etc.	27.03%	10

Q9 If LCA moved its regular Board of Directors meetings to a weekday evening schedule, how would it impact your attendance and participation?

Answered: 37 Skipped: 8



Answer Choices	Responses	
No change – I would continue to attend as often as I do now	35.14%	13
I would definitely attend more often	8.11%	3
I might attend more often, if there was an item on the agenda that was interesting to me	51.35%	19
I would attend less often	5.41%	2
Total		37

Q10 What day(s) of the week would you prefer to attend an evening meeting? (check all that apply)



Answer Choices	Responses
Monday	36.36% 8
Tuesday	40.91% 9
Wednesday	54.55% 12
Thursday	18.18% 4
Friday	4.55% 1
No preference	13.64% 3
Total Respondents: 22	

Q11 LCA's Board meetings typically last about 2 hours. What time of evening would you prefer to attend an evening meeting of our Board of Directors? (check all that apply)





Answer Choices	Responses	
5:00 p.m.	0.00%	0
5:30 p.m.	4.55%	1
6:00 p.m.	45.45%	10
6:30 p.m.	50.00%	11
7:00 p.m.	40.91%	9
7:30 p.m.	4.55%	1
n/a – I don't think LCA needs to change the meeting time	0.00%	0
Other (please specify)	0.00%	0
Total Respondents: 22		

Q12 LCA occasionally schedules special meetings, presentations or events in the evening / weekends to review topics that may be of greater interest to citizens. Have you attended any of these meetings in the past 3 years?



Answer Choices	Responses
Yes	13.89% 5
No	86.11% 31
Not sure	0.00% 0
Total	36



presentation					
LCA presentation					
LCA presentation					
LCA presentation					
LCA presentation					
Other (please specify)					

40%

50%

60%

70%

80%

90% 100%

LCA

0%

10%

20%

30%

Answer Choices	Responses	
n/a – I didn't attend any	0.00%	0
Sewer system overflows	100.00%	5
LCA annual budget	0.00%	0
Rain barrel workshop / events	0.00%	0
Sewer system capacity planning / Act 537	40.00%	2
LCA presentation at Lehigh County Commissioners meeting about lead in drinking water	0.00%	0
LCA presentation at Lehigh County Commissioners meeting about capital improvements plans	60.00%	3
LCA presentation at Borough of Macungie meeting about sewer system overflows	0.00%	0

Q14 If LCA held more special meetings or events in the evening, what topics / discussions would you want to learn more about or participate in? (check all that apply)

Answered: 33 Skipped: 12



Answer Choices	Responses	
Sewer system overflows	45.45%	15
LCA annual budget / rates	36.36%	12
Rain barrel workshop / other educational events	30.30%	10
Sewer system capacity planning / Act 537	33.33%	11
Water supply planning / drought	60.61%	20
Construction / infrastructure projects in LCA' water/sewer system	72.73%	24
Policy review	12.12%	4
Regular business – financial reports, operations reports, etc.	9.09%	3
Other (please share your ideas!)	0.00%	0
Total Respondents: 33		

Q15 How often do you visit LCA's website (www.lehighcountyauthority.org) to view agendas, materials and minutes from the LCA Board meetings?

Answered: 35 Skipped: 10



Answer Choices	Responses	
Every month	8.57%	3
Every time I am planning to attend a meeting	2.86%	1
Occasionally, just out of curiosity	20.00%	7
Infrequently, just when I'm looking for something specific	25.71%	9
Never, or less than once a year	42.86%	15
Other (please specify)	0.00%	0
Total		35





Answer Choices	Responses	
Very easy – I can find whatever I am looking for	17.14%	6
Easy enough – I can usually find what I need	51.43%	18
Somewhat difficult – I sometimes have a hard time finding information	11.43%	4
Very difficult – I can't find anything on your website!	2.86%	1
Other (please specify)	17.14%	6
Total		35
Q18 LCA is considering video-taping its meetings and posting them online for public viewing. How do you think you might use this feature?

Answered: 35 Skipped: 10



Answer Choices		Responses	
I will probably watch the meetings online instead of attending a meeting in person	17.14%	6	
It is unlikely that I will watch the meetings online	22.86%	8	
I would watch the video of a meeting, if I cannot attend, or if an agenda item was interesting to me	54.29%	19	
Other (please specify)	5.71%	2	
Total		35	



Q19 Optional: Where do you live?



Q20	Optional:	How old	are	you?
-----	------------------	---------	-----	------

Answer Choices	Responses
Under age 18	0.00% 0
18-25	0.00% 0
26-40	22.86% 8
41-55	22.86% 8
56-70	42.86% 15
71 and older	11.43% 4
Total	35

Q21 Optional: Please select one option below that best describes your employment status.



Answer Choices	Responses
Unemployed	2.86% 1
Employed Full-Time	54.29% 19
Employed Part-Time	2.86% 1
Self-Employed	14.29% 5
Retired	22.86% 8
Other (please specify)	2.86% 1
Total	35

MEMORANDUM

Date: March 16, 2017

To: Lehigh County Authority Board

From: John Parsons, Chief Operating Officer

Subject: Central Lehigh Division – Valve and Hydrant Maintenance

MOTIONS / APPROVALS REQUESTED:

No.	Item	Amount
1	Professional Services Authorization – Valvetek, Inc.	\$320,184

PROJECT OVERVIEW:

The Lehigh County Authority (LCA) Central Lehigh Division Water Distribution System currently has 5,666 gate and butterfly valves of various sizes and 1,515 fire hydrants. It is the intent of LCA to hire a contractor to exercise and maintain all of the hydrants annually plus exercise and maintain 1/3 of the valves annually over a three year contract. Due to levels of staff, it has been historically difficult for LCA to maintain all of their valves and hydrants internally. Failure to maintain valves properly could result in difficulties with isolating parts of the distribution system should a main break occur. Hydrants need to be properly maintained to help insure public safety.

LCA's Suburban Division is in the process of installing a Computerized Maintenance Management System (CMMS) known as Cityworks. The contractor will be required to obtain and assemble an assortment of asset data for all of the valves and hydrants that will then be migrated into the CMMS. The asset data will be very important in helping LCA to properly maintain their assets in the future and once migrated, the data will also be used to help complete the CMMS installation. Also, the contractor will be required to provide sub-meter GPS locations for all assets so existing locations in LCA's GIS system can be corrected if required.

The contractor will provide the Project Manager with an assessment of how long it took them to perform the maintenance functions required for this project (i.e. assets maintained per day or per week). In doing so, the LCA Project Manager will be able to compare the contractors man-hours vs the availability of internal staff to see if there is any possibility of performing the valve and hydrant maintenance with LCA staff in the future and/or if additional staff may be required.

Should the contractor find any asset in need of repair, they will create a work order in Cityworks and the asset will be repaired by LCA staff. The contractor will be doing routine maintenance but no repairs. The corrective action work to be done by LCA staff might include repairing misaligned valve boxes, repairing rounded or broken valve nuts, etc.

The contractor and LCA staff will be working together to properly notify residences and businesses of possible service disruptions during this project. There are some businesses that will be sensitive to any disruptions and it has been made clear to the contractors through the Request for Proposals (RFPs) that there may be some assets that will need to be maintained during nights or weekends. The Project Managers for both LCA and the contractor will make every effort to insure there is as little inconvenience to homeowners and commercial sites as is possible.

FINANCIAL:

This Project is will be funded by LCA. Funding was budgeted in 2017 as an Operational Expense and is not being funding out of Capital.

CONSULTANT SELECTION PROCESS:

Three (3) firms specializing in utility maintenance were contacted, including Valvetek, Wachs, and Suez. All were invited to attend a voluntary site visit where they were able to tour the proposed work areas, access the conditions and ask questions related to the proposed work. Only Valvetek accepted this offer. All three firms have vast experience in many aspects of water utility maintenance functions. Because of the very large amount of asset data that is to be collected and assembled into a format that can be easily migrated into Cityworks by LCA staff, we are considering the contractor to be that of Professional Services.

Contractor	Annual Cost for (3) Years	Total Contract Cost
Valvetek	\$106,728 each year	\$320,184
Wachs	\$262,403 for 2017	\$623,089
	\$180,343 for 2018	
	\$180,343 for 2019	
Suez	\$261,066 each year	\$783,199
	—	

Proposals were received from each and the results are summarized below:

Based upon our review of all aspects of proposals submitted by the three firms, we recommend award of the project to Valvetek, Inc. Their proposal is on scope and represents what we believe is the best overall value for the Authority. References were checked and there were no performance issues noted by any of the entities that were contacted. Valvetek, Inc. will perform the services outlined in their proposal dated March 3, 2017.

PROJECT SCHEDULE: The Request for Proposals (RFP) had a requirement that all project tasks were to be completed by the end of 2019. Valvetek and LCA will work together to prepare asset lists to maintain each of the three years of the contract.

FUTURE AUTHORIZATIONS:

None at this time.



1053 Spruce Street * P.O. Box 3348 * Allentown, PA 18106-0348 (610)398-2503 * FAX (610)398-8413 * Email: service@lehighcountyauthority.org

PROFESSIONAL SERVICES AUTHORIZATION

Professional: VALVETEK UTILITY SERVICES 16 Interhaven Avenue, Suite 2 North Plainfield, NJ 07060

Date: March 16, 2017 **Requested By:** John Parsons

Approvals

Department Head: Chief Executive Officer:

Suburban Division - Central Lehigh System Valve and Hydrant Maintenance Program

The Suburban Division plans to hire a private contractor to exercise and maintain all of the valves and hydrants in the Central Lehigh System. The contractor will also be required to assemble and provide an assortment of asset data that will be imported into our Maintenance Management System. Also, every asset will be checked for location accuracy against LCA's GIS system as it has been determined that some of our asset location data is not totally accurate. Because of all the data that is involved with this project, we are considering this work to be Professional Services. The contract will be for a period of three (3) years. Valvetek will provide the following services as part of the contract:

	Professional Services		
1.	Maintain 1/3 of the 5,666 valves annually		
2.	2. Maintain all of the 1,515 hydrants annually		
3.	Provide sub-meter GPS locations for all assets		
4.	Assemble asset data for import to Cityworks		
5.	Create Work Orders for all assets needing repairs by LCA staff		

Project Cost (not to be exceeded without further authorization):

\$320,184 total for the 3-year contract \$106,728 annually for 2017-2019

Time Table and Completion Deadline: As required to meet various critical deadlines as set forth in the proposal.

	(For Authority Use Only)	
Authorization Completion:		

Approval: _____ Actual Cost: _____ Date: _____

PROFESSIONAL SERVICES AUTHORIZATION INDEMNIFICATION

Suburban Division - Central Lehigh System Valve and Hydrant Maintenance Program

(To be signed by Professional and returned to the Authority)

I am or represent the Professional indicated above, and as such I am authorized to:

□ Accept the terms of the professional services authorization dated March 16, 2017, attached; and

Name (signature):

Name (printed)

Title:_____

MEMORANDUM

DATE: 27 March 2017

To: Lehigh County Authority Board of Directors

FROM: Bradford E. Landon, Solicitor

SUBJECT: Main Extension Policy waiver

Mack Truck has requested water service for its manufacturing facility in Lower Macungie Township. Below is a map showing the location and water mains in the vicinity.



Under the Authority's Main Extension Policy, Mack is required to extend water mains along the perimeters of its property unless the Authority determines the extension, or part of one, is not necessary. The Authority waived this requirement for Mack along various frontages, as

indicated, because either it feels the extension isn't necessary or the obligation to construct resides with another developer who is developing sooner than Mack's connection. The potential future main extension at issue is marked in green on the west side of the property along Orchard Road and since there are several parcels at the end of that road that could require service at some point, there may be a future need. The southern boundary of the Mack property is bordered by the railroad and Orchard Road does not cross the railroad. Mack is not objecting to this requirement in regard to Orchard Road, but does not want to do the construction currently, instead invoking another provision of the Main Extension Policy that in lieu of construction of a main extension, it may contribute an amount of money, or other security acceptable to the Authority, equivalent to the estimated current construction costs. If the main extension is not constructed within ten years from the date of the contribution/posting of security, the Authority returns the contribution.

Typically we would ask for a letter of credit or escrowed funds as this type of security, but Mack does not want to provide either and has asked for alternatives. The construction cost estimate is \$297,551.80. We met with Mack management and each party shared its needs and concerns around certain types of security. Mack strongly preferred a surety bond. The Main Extension Policy language on this issue states:

"....The preferable form of performance security is an irrevocable letter of credit with a Federal or Commonwealth-chartered lending institution authorized to conduct the business of posting financial security within the Commonwealth of Pennsylvania. Another acceptable form of performance security is the establishment by Developer of an escrow in the form of a savings account in the name of only the Authority as holder in a Federal or Commonwealth-chartered lending institution authorized to conduct the business of posting financial security within the Commonwealth of Pennsylvania. A surety bond, however, is not a satisfactory form of security..." [emphasis added]

Since the Authority stated that its major concern is liquidity in case it has to invoke the construction requirement in the future and at that time Mack is not cooperative, surety bonds haven't been acceptable to the Authority because generally a surety bond is not a quick response and can involve a lot of time and expense to utilize. As a result of the Authority's concern, Mack got a representative from their insurer on a conference call and he made a suggestion to try to meet our concerns with liquidity and timeliness with a surety bond. Because Mack is an international company with a long-established relationship with its surety, Mack can provide a surety bond that guarantees payment within thirty (30) days. I explained that I tried to get a surety bond like that for years, but was told by various surety representatives and the national surety association that contractors wouldn't be able to get a surety to issue such a bond. This representative explained there is a big difference between contractors, who occasionally go belly up, and companies like Mack. Mack has provided a draft and the proposed surety bond language is as they indicated and meets our concerns. However, there is this specific provision in the Main Extension Policy prohibiting surety bonds. I recommend that the Authority waive this provision only in this case, or other cases where such a type of surety bond is provided.

MEMORANDUM

Date: March 16, 2017

To:	Lehigh County Authority Board
From:	John Parsons, Chief Operations Officer
Subject:	Western Lehigh Interceptor – Easement Clearing

MOTIONS / APPROVALS REQUESTED:

No.	Item	Amount
1)	Professional Services Authorization – DBi Services Inc.	\$250,961.60

PROJECT OVERVIEW:

The Western Lehigh Interceptor (WLI) has always been a major component of LCA infrastructure. Periodic maintenance is required on the WLI as it would be for any other collection system asset. Approximately 20-25 years ago, LCA stopped the practice of using internal staff to properly maintain the easements along the WLI, and now much of the area has become overgrown with brush and trees. Accessibility to the WLI is now impossible with any sort of vehicle, which presents itself with several operational concerns.

LCA staff can't get to manholes to properly inspect and maintain them. Should any sanitary sewer overflows (SSOs) develop, LCA can't mobilize appropriate equipment to stop the SSO. Also, in the event of a major failure like a manhole collapse or in the event of a sinkhole, there will not be any way to get heavy equipment to the site for an immediate repair and stop whatever overflow is occurring.

In 2016, the Operations Department began working towards regaining control of the easements so complete access is once again available. A pilot project was completed to assess the overall situation and also to begin using GPS to properly identify and locate the manholes and also to

identify easement centerlines so future clearing plans could be developed. From this pilot work, the scope for Phase I was developed.

A contractor that had been used for the pilot project will also provide complete services for Phase I in 2017. The contractor's scope will include all permitting with state and local entities as required, GPS verification of all assets, removal of all trees presently growing on top of the pipe or manholes, selective spraying of herbicides, stump treatment on all cut trees, and they will also be required to personally contact all homeowners in advance of any work being done. Between the engineering, environmental and data tasks being required of the contractor, it has been determined that this contract will be classified as Professional Services. To date, we have not been able to find any other firm that provides all of these services without having to hire any subcontractors.

Phase I (2017) will consist of clearing a 10' wide travel lane over approximately six (6) miles of existing easements. The target area of Phase I is located between Brookside Road and continuing westward to Route 100. After this first wave of clearing is completed, LCA will assess the feasibility of clearing the entire 20' wide easement for that area. Future phases will also include clearing of the remaining four (4) miles of WLI that was not addressed during Phase I.

It is anticipated that once the entire WLI has been cleared, and all of the stumps and shoots have been properly treated, that LCA staff will be used to cut back annual growth from then on as we had done in the past. The LCA fleet includes a bobcat with a brush hog attachment that works perfectly for such work and if the easements are properly maintained <u>on an annual basis</u>, there will not be a need for any outside contractors to do large scale clearing in the future.

FINANCIAL:

This Project is will be funded by LCA out of the 2017 Operational Budget. This project is not funded by Capital.

CONSULTANT SELECTION PROCESS:

As noted, a Pilot Project was run in 2016 to determine the level of activities that needed to be included in work scopes moving forward. With no other firms being found that provide for the entire range of services, it was determined that an RFP would not be beneficial and it is suggested that the award of Phase I be made to DBi Services as a Professional Services contract. Future

contracts for subsequent Phases will be negotiated with DBi and will be presented to the board for approval.

PROJECT SCHEDULE: All work for Phase I will be done prior to the end of 2017.

FUTURE AUTHORIZATIONS:

Annual contracts for years subsequent to 2017 will need to be authorized until the entire WLI is once again accessible to LCA staff.



1053 Spruce Street * P.O. Box 3348 * Allentown, PA 18106-0348 (610)398-2503 * FAX (610)398-8413 * Email: service@lehighcountyauthority.org

PROFESSIONAL SERVICES AUTHORIZATION

Professional: DBI SERVICES 100 North Conahan Drive Hazelton, PA 18201

Date: March 16, 2017 Requested By: John Parsons

Approvals

Department Head: _____ Chief Executive Officer:

Western Lehigh Interceptor – Easement Clearing Project

The Western Lehigh Interceptor (WLI) currently has approximately ten (10) miles of easements that have become overgrown with vegetation to the point that vehicular access is no longer possible. LCA staff used to maintain the easements but that was discontinued several decades ago due to budget constraints. DBi will now be contracted to begin clearing the easements that now are overgrown with vegetation ranging from brush to medium diameter trees. A pilot project was done in 2016 for this work and this contract is for Phase I to be done in 2017. LCA will continue with annual contracts until the entire WLI is accessible. DBi will provide the following services as part of the contract:

Professional Services			
1.	1. Fulfill all permitting requirements with local and state entities		
2.	Clear 10' wide clear sight between manholes		
3.	Clear all existing trees growing over the interceptor or manholes		
4.	4. Apply stump treatment to all cut trees		
5.	Apply appropriate herbicides to properly control undergrowth		
6.	Gather and provide GPS data for all existing assets		

Project Cost - Not to be exceeded without further authorization:

Phase I (2017) \$250,961.60

Time Table and Completion Deadline: As required to meet various critical deadlines as set forth in the proposal.

(For Authority Use Only)

Authorization Completion:

Approval: _____ Actual Cost: _____ Date: _____

PROFESSIONAL SERVICES AUTHORIZATION INDEMNIFICATION Western Lehigh Interceptor – Easement Clearing Project

(To be signed by Professional and returned to the Authority)

I am or represent the Professional indicated above, and as such I am authorized to:

□ Accept the terms of the professional services authorization dated March 16, 2017, attached; and

Name (signature):

Name (printed)

Title:_____

CAPITAL PROJECT AUTHORIZATION AMENDMENT NUMBER 26

PROJECT NO.:	S-08-	5 BUDGET FUND:		WLI Sewer Capital
PROJECT TITLE:	Signatory I & I In	vestigation/Remediation Program	Proj	ECT TYPE:
TOTAL PROJECT	Prior:	\$6,493,331		Construction Engineering Study
THIS AUTHORIZATION	Current:	\$131,000	_	Equipment Purchase

DESCRIPTION AND BENEFITS:

Full Project Overview:

Based on the EPA Compliance Order and the PADEP Chapter 94 requirements, LCA and the LCA Signatories are required to reduce infiltration and inflow from the system and eliminate SSOs from the LCA and Signatory sewer systems. The SCARP Program has been developed to investigate the sources of I & I and to remediate areas identified as having excessive I & I. The SCARP Program consists of engineering tasks necessary to define and quantity the problems, to evaluate methods of redress and to determine the corrective actions required to meet the regulatory requirements and prepare the CAP and schedule to be submitted to EPA by December 31, 2017.

Flow Monitoring Data Review/Evaluation:

The work completed by the Arcadis, the LCA I & I Program Consultant includes the following:

- Rain and flow meter data collected at 30 meter locations during 8 months (from March to October 2017) will be reviewed to ensure the data are valid, true, and suitable for RDII analysis, model calibration and verification, and catchment-wide rehabilitation effectiveness evaluations for WSLP Phase 1 Source Reduction Program work.
- 2. Arcadis will conduct rainfall derived removal potential evaluations (RDII analysis) of flow monitoring and rainfall data. The results of the RDII analysis will be used to identify the types and amounts of I&I for each catchment and determine the peaking factor for each storm event.
- Perform control basin method rehab effectiveness analyses of the flow data to demonstrate the real effectiveness of the Signatory mainline lining work conducted through 2016 and to calculate Development Flow Credits for reporting to PADEP.

Previously Approved	This Amendment	Total Approval	
Flow Monitoring ADS (thru 2014)	\$1,775,031		\$ 1,775,031
Flow Monitoring TFE	\$294,000		
Engineering Consulting	\$2,484,300	\$131,000	\$2,615,300
Rehabilitation	\$1,590,000		\$1,590,000
Staff	\$330,000	· · · · · · · · · · · · · · · · · · ·	\$330,000
Contingencies	\$20,000		\$20,000
Totals	\$ 6,493,331	\$131.000	\$6.624.331

REVIEW AND APPROVALS:

Pat Mandes	3/10/2017		
Project Manager	Date	Chief Executive Officer	Date
Capital Works Manager	Date	Chairman	Date



1053 Spruce Street * P.O. Box 3348 * Allentown, PA 18106-0348 (610)398-2503 * FAX (610)398-8413

PROFESSIONAL SERVICES AUTHORIZATION

AMENDMENT NUMBER 26

Professional:
Arcadis
Jim Shelton
1128 Walnut St.
Philadelphia, PA 19107

Date:	3/10/17
Requested By:	Pat-Mandes
Approvals Department Head:	Jut Mandes
Chief Executive Officer:	

Description of Services (Work Scope, Steps, Check Points, etc.):

This is an amendment to the current Arcadis authorization for the WLI Infiltration and Inflow Project: The work covered by this amendment includes Flow Monitoring Data Evaluation and includes the following:

- Screen all flow and rainfall data collected by TFE for LCA using quality control data review step to ensure they are accurate and valid.
- Conduct RDII (Rainfall Derived Inflow and Infiltration) analysis of storm events during the flow monitoring period to determine the nature and extent of infiltration and inflow leakage, compare this against the 2009 statistics for these same meter locations to preliminarily assess the effectiveness of the rehabilitation work done upstream of the meter since 2009, and to use hydrograph interpretation to help the WLSP Partners focus their Phase 1 work (both secondary SSES investigations and rehabilitation efforts) toward the sources contributing the leakage.
- Perform control basin method rehab effectiveness analyses that definitively demonstrate real effectiveness of the mainline lining work conducted through 2016 and to calculate Development Flow Credits for reporting to PADEP.

The scope of work is described in more detail in the proposal dated February 20, 2017.

Cost Estimate (not to be exceeded without further authorization): This amendment is not to exceed \$131,000 for Flow Metering Analyses.

Time Table and Completion Deadline:

During and no later than 5 months from completion of the flow monitoring.

(For Au Authorization Completion:	(For Authority Use Only)				
Approval:	Actual Cost:	Date:			
Capital Project S-08-05, Signatory I & I	Investigation/Remediation P	rogram			



Ms. Pat Mandes Wastewater Services Director Lehigh County Authority P.O. Box 3348 Allentown, PA 18106

Subject:

Sewer Capacity Assurance and Rehabilitation Program Scope and Budget for Flow Data QA/QC, RDII Analysis, and Rehabilitation Effectiveness

Dear Ms. Mandes:

ARCADIS is pleased to provide Lehigh County Authority (LCA) with this scope and budget for the review and validation of flow data and subsequent analysis of the data for RDII effects.

OBJECTIVES

There are three goals of this work.

- 1. To screen all flow and rainfall data collected by TFE for LCA using quality control data review step to ensure they are accurate and valid.
- 2. To conduct RDII (Rainfall Derived Inflow and Infiltration) analysis of storm events during the flow monitoring period to determine the nature and extent of infiltration and inflow leakage, compare this against the 2009 statistics for these same meter locations to preliminarily assess the effectiveness of the rehabilitation work done upstream of the meter since 2009, and to use hydrograph interpretation to help the WLSP Partners focus their Phase 1 work (both secondary SSES investigations and rehabilitation efforts) toward the sources contributing the leakage.
- Perform control basin method rehab effectiveness analyses that definitively demonstrate real effectiveness of the mainline lining work conducted through 2016 and to calculate Development Flow Credits for reporting to PADEP.

For the purposes of this scope and budget, we assume that 31 flow meters and 2 rain gauges will be installed by early March and remain in service until October 20, 2017.

Arcadis U.S., Inc. 1128 Walnut Street Suite 400 Philadelphia Pennsylvania 19107 Tel 215 625 0850 Fax 215 625 0172 www.arcadis.com

Date: February 20, 2017

Contact: Jim Shelton

Phone: 302.723.1450

Email: James.Shelton@arcadis.co m

Our ref: 0247-####

SCOPE OF WORK

Task 1 – Data Quality Assurance Reviews

While it is assumed that the flow meter contractor (TFE) will assess their data before submission to LCA, we have found that contractor QC'd data sets have a significant percentage (~20%) with defects in the data that, if used, would lead to erroneous findings. It is simply not in the flow meter contractor's best interests to self-identify defective data. Therefore, Arcadis will conduct data quality assurance (QA) reviews on the first (March), second (April-May), third (June-July) and last (August-October) submittals of the flow data collected by TFE.

These QA reviews will check that the data being collected are valid and suitable for the proposed analyses, and will provide recommendations for improving data suitability as needed. The Data Quality Objectives of these metering efforts are to ensure the delivery of data that are both valid (follow a logical depth:velocity profile) and true (consistently respond to rainfall, downstream flows appropriately higher than upstream flows). The accuracy of the flow and rain data collected at 30 meter locations during 8 months (from March to October 2017) will be reviewed to ensure the data are valid, true, and suitable for RDII analysis, model calibration and verification, and catchment-wide rehabilitation effectiveness evaluations for WSLP Phase 1 Source Reduction Program work.

The Arcadis data quality assurance reviews will assess the site set-up reports prepared by TFE to identify any site conditions that might affect the normal depth:velocity profile, evaluate depth and velocity patterns (scatter graphs), and assess responses to rainfall. We will use TSA to address such issues as:

- Meter imbalance (upstream vs. downstream flow balances)
- Sensor failure
- Low flow/level situations
- Sediment buildup
- Velocity gain adjustments
- Changes in depth:velocity relationship
- Supercritical or subcritical flow issues
- Flow pattern issues that could affect data accuracy
- Upstream and downstream flow loss (SSO) or impediment issues
- Response to rainfall
- Loss of storm peaks.
- Siphon impacts
- Force main influences
- Pump station fill-drain influences

Ms. Pat Mandes February 20, 2017

Arcadis' Time Series Analyzer (TSA) will be applied to automate much of this quality assurance process. We will work with LCA and TFE to resolve problems with flow meter or rain gauge data, especially during the first 3 week period following meter installation to ensure data meet quality objectives. During the flow metering period, all data will be validated to identify questionable flow meter and rain gauge data.

Task 2 – Rainfall Derived I&I Analysis

Arcadis will conduct rainfall derived removal potential evaluations (RDII analysis) of flow monitoring and rainfall data. The results of the RDII analysis will be used to identify the types and amounts of I&I for each catchment and determine the peaking factor for each storm event. The analysis can also be used to identify the most effective and

efficient SSES activities for locating actual sources in each catchment.

Upon receipt of the final flow and rainfall data set, wet weather events will be defined and classified according to local Intensity/ Duration/Frequency (IDF) curves. The four most significant wet weather events will then be selected. Flows from these storms will be evaluated for RDII analysis and model calibration.

For each metered location, the data will be analyzed and hydrographs will be developed and interpreted to identify suspected sources of I&I. TSA automates much of the analysis of flow and rainfall data, providing efficient and effective review of data quality and statistical summaries, base flow patterns, and magnitude of RDII impacts.

The following data assessments will be prepared for each valid and true meter catchment:

- Average dry day flow by individual week day
- · Rainfall duration and intensity (recurrence frequency) for each event
- Peak flow rate and peaking factor for each event
- Peak RDII flow (Q) rate per event
- RDII volume (V) per event
- RDII capture (Q vs. I)
- Normalized peak RDII Q and V (gpd/LF)

These assessments are the same that were performed during the 2009 short term metering study. The data assessments from the metering locations in 2017 will be compared to the 2009 data to assess impact of work completed to date.





Arcadis' Time Series Analyzer (TSA) will be used to analyze all flow data collected. This tool aids in calculating average daily flows, peak flows and I&I from each of the catchments. Wet weather and dry weather flow patterns will be established and peak, minimum, and average flow rates will be calculated for each catchment flow element: base infiltration, base sewage flow, and RDII.

For each of the valid and true data sets, appropriate storm hydrographs and scatter graphs will be developed in TSA for three to five storms occurring during the monitoring period. Where necessary, upstream flows will be subtracted from downstream flows to represent catchment RDII conditions. After completing analysis of the catchments, rainfall induced infiltration (RII), inflow, and total RDII parameters will be tabulated and compared to the 2009 statistics. The hydrographs will be analyzed qualitatively to determine the nature of RDII in each catchment.

Analysis of the flow hydrographs described above will provide insight into the remaining sources of RDII in each catchment. The hydrograph for each catchment can be used to select the SSES activities. Different sources of RDII have different flow signatures. For example, high peaks in the hydrograph over a short duration are evidence of sources of inundation or inflow; we would identify SSES activities for these catchments to specifically identify inflow and inundation sources as well as cross connections with storm sewer systems as well as illicit storm and/or groundwater connections to the sewer system by private property connections.



Conversely, hydrographs illustrating peaks that are sustained over a long duration are evidence of sources of rainfall-induced infiltration; for these, we would recommend night-time weiring. Hydrographs may also indicate a combination of infiltration and inflow within the same catchment.

The hydrographs and the data tables will be presented as Excel spreadsheets and GIS figures, which will be used to report the findings and, based on the amount and source(s) of RDII entering the catchment.

Task 3 – Rehabilitation Effectiveness Analysis

Arcadis will conduct a rehabilitation effectiveness analysis using the control basin methodology. This method requires that some basins be selected and/or set-aside to be compared to the basins in which rehabilitation is being performed. For this

study, 4 basins have been selected as control basins, leaving 27 basins available for rehabilitation effectiveness studies. It is typically recommended that the basins are monitored for 6-10 months prior to rehabilitation, and 6-10 months after rehabilitation, creating a "pre" and "post" data set. It is recommended that each data set contain 8-10 rain events. In this case, the pre-rehabilitation data set will be drawn from the 2009 data set, which has a known number of rain events only ranging in 3 or 4, depending on meter performance. The post data set will be drawn from this monitoring period. During this period the current state of the construction is that of completion of the mainlines. Because there are plans for performing lateral rehabilitation, this data set will be referred to as the "mid" rehabilitation data set. The results of the pre/mid rehabilitation study will become a major factor in guiding the potential necessity and location of the lateral rehabilitation work.

Arcadis recommends reduction in total system RDII volume resulting from a rain event be your primary yardstick. We find this method is the most reliable measure of performance. Reduction of peak flow rate during a rain event can also be examined, but is often inconsistent due to variability in rainfall intensities across the monitored area. These conclusions are based on actual post rehabilitation flow monitoring data for dozens of rehabilitation projects.

DELIVERABLES AND SCHEDULE

The quality reviews of data will be conducted within 30 days of receipt of data from TFE for the first two rounds. The RDII analysis and SSES recommendations will be completed within 5 months of the end of the flow monitoring period. Arcadis will deliver the results of the reviews and of the analysis in the form of tables, hydrographs, scatter-graphs, and GIS figures and will meet with LCA staff and stakeholders as necessary to present the results and recommendations. No written report will be provided.

BUDGET ESTIMATE

We estimate the cost and level of effort of this work as shown in the below table.

Area	Hours	Cost	Per meter basis	
Task 1 – Data Quality Assurance Reviews	270	\$36,000	\$150 per meter month	

Ms. Pat Mandes February 20, 2017

Task 2 – Rainfall Derived I&I Analysis	300	\$40,000	\$1350 per catchment
Task 3 – Rehabilitation Effectiveness	380	\$55,000	\$2100 per catchment
Total	950	\$131,000	

We propose to complete these services on a time and materials basis in accordance with the Agreement between LCA and Malcolm Pirnie, Inc., and the current Summary of Standard Charges for Lehigh County Authority. Arcadis will track the costs associated with this work and report them to LCA monthly throughout the project; we will not exceed the authorized budget without written professional services authorization from LCA. Payment for services will be based upon the actual labor and expenses incurred.

Please contact me with your authorization to proceed if this scope and budget are acceptable to you. If you have any questions, please do not hesitate to call me.

Sincerely,

ARCADIS U.S., Inc.

James W. Shelton

James W. Shelton, PE Vice President

_{Copies:} Paul Batman, PE

JP Travis

LEHIGH COUNTY AUTHORITY

FINANCIAL REPORT – FEBRUARY 2017

FINANCIAL REPORT FEBRUARY 2017

1. SUMMARY

A. Month

			FEBRUARY 2017					
MONTH		Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Income Statement	П							
Suburban Water		(60,538)	(113,812)	(113,812)	93,814	53,274	53,274	(154,352)
Suburban Wastewater		4,244	(111,445)	(111,445)	474,852	115,689	115,689	(470,608)
City Division		(298,335)	(1,059,350)	(1,059,350)	(943,241)	761,015	761,015	644,906
Cash Flow Statement (Indirect)								
Suburban Water		(92,203)	(633,045)	(633,045)	154,043	540,842	540,842	(246,246)
Suburban Wastewater		166,270	(404,391)	(404,391)	723,901	570,661	570,661	(557,631)
City Division		1,308,513	548,478	548,478	1,044,384	760,035	760,035	264,130

Net income

Suburban Wastewater had a positive net income for the month, while Suburban Water and City Division reported net losses for the month. However, all three funds were favorable with respect to forecast/budget.

Cash Flows

Suburban Wastewater and City Division reported positive cash flows, Suburban Water reported negative cash flows. All three funds are reporting cash flows favorable to forecast/budget.

B. YTD

		FEBRUARY 2017						
YTD	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var	
Income Statement								
Suburban Water	140,447	(119,697)	(119,697)	225,278	260,144	260,144	(84,831)	
Suburban Wastewater	363,666	(154,181)	(154,181)	352,989	517,847	517,847	10,676	
City Division	(280,300)	(2,150,588)	(2,150,588)	(1,365,981)	1,870,288	1,870,288	1,085,681	
Cash Flow Statement (Indirect)								
Suburban Water	53,007	(1,158,163)	(1,158,163)	361,350	1,211,170	1,211,170	(308,344)	
Suburban Wastewater	821,365	(740,073)	(740,073)	887,876	1,561,438	1,561,438	(66,511)	
City Division	3,000,917	1,065,068	1,065,068	2,334,802	1,935,849	1,935,849	666,115	
Debt Service Coverage Ratio								
Suburban Water	1.60	1.05	1.05	2.23	0.55	0.55	(0.63)	
Suburban Wastewater	10.29	2.10	2.10	8.70	8.19	8.19	1.59	
City Division	1.42	1.01	1.01	1.25	0.42	0.42	0.17	

Net income

Suburban Water and Suburban Wastewater net income YTD is positive, City Division is reporting a net loss YTD. Net income for all three funds, however, is better than forecast.

Cash Flows

Cash flows for all three funds are positive and are better than forecast.

Debt Service Coverage Ratio

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

2. SUBURBAN WATER

A. Month

MONTH - SUBURBAN WATER	FEBRUARY 2017						
Income Statement	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Operating Revenues	612,480	650,242	650,242	611,133	(37,762)	(37,762)	1,347
Operating (Expenses)	(609,443)	(734,533)	(734,533)	(558,719)	125,090	125,090	(50,724)
Operating Income	3,037	(84,291)	(84,291)	52,413	87,328	87,328	(49,377)
Non-Operating Revenues (Expenses)	14,709	66,167	66,167	37,341	(51,458)	(51,458)	(22,633)
Income Before Interest	17,746	(18,124)	(18,124)	89,755	35,870	35,870	(72,009)
Interest Income	6,571	16,667	16,667	4,277	(10,096)	(10,096)	2,294
Interest Expense	(84,855)	(112,355)	(112,355)	(219)	27,500	27,500	(84,636)
Capital Contributions	-		-		-		-
NET INCOME	(60,538)	(113,812)	(113,812)	93,814	53,274	53,274	(154,352)
MONTH - SUBURBAN WATER			F	EBRUARY 201	7		
Cash Flow Statement (Indirect)	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Net Income	(60,538)	(113,812)	(113,812)	93,814	53,274	53,274	(154,352)
Add: Depreciation & Amortization	245,832	245,833	245,833	245,832	(1)	(1)	-
Add: Non-Cash Interest Expense	(30)	-	-	-	(30)	(30)	(30)
Add: Capex Charged to Expense	-	8,333	8,333	-	(8,333)	(8,333)	-
Principal Payments	(138,822)	(152,816)	(152,816)	(136,426)	13,994	13,994	(2,396)
Investments Converting To Cash	-	-	-	-	-	-	-
New Borrowing	<u> </u>	<u> </u>	<u> </u>		<u> </u>	<u> </u>	<u> </u>
Net Cash Available For Capital Spending	46,442	(12,462)	(12,462)	203,220	58,904	58,904	(156,778)
Capital Expenditures	(138,645)	(620,583)	(620,583)	(49,176)	481,938	481,938	(89,469)
NET FUND CASH FLOWS	(92,203)	(633,045)	(633,045)	154,043	540,842	540,842	(246,246)

Net income

Net income was negative but was better than the loss forecasted/budgeted by \$53k. This was drive by significantly lower operating expenses and lower interest expenses to more than offset lower operating revenues, lower non-operating revenues, higher non-operating expenses, and lower interest income.

Cash Flows

Cash flows were negative but significantly better than forecast due to the favorable income variance along with lower capital project spending.

B. YTD

YTD - SUBURBAN WATER			FE	BRUARY 2017			
Income Statement	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Operating Revenues	1,363,873	1,408,411	1,408,411	1,335,822	(44,538)	(44,538)	28,051
Operating (Expenses)	(1,200,141)	(1,469,066)	(1,469,066)	(1,110,021)	268,925	268,925	(90,120)
Operating Income	163,732	(60,655)	(60,655)	225,801	224,387	224,387	(62,069)
Non-Operating Revenues (Expenses)	51,010	132,334	132,334	79,054	(81,324)	(81,324)	(28,044)
Income Before Interest Expense	214,742	71,679	71,679	304,855	143,063	143,063	(90,113)
Interest Income	13,159	33,334	33,334	9,919	(20,175)	(20,175)	3,239
Interest Expense	(87,454)	(224,710)	(224,710)	(89,497)	137,256	137,256	2,043
Capital Contributions	<u> </u>		<u> </u>				
NET INCOME	140,447	(119,697)	(119,697)	225,278	260,144	260,144	(84,831)
YTD - SUBURBAN WATER			FFI	BRUARY 2017			
Cash Flow Statement (Indirect)	Actual	Forecast	Budaet	Prior Year	FC Var	Bud Var	PY Var
Net Income	140,447	(119,697)	(119,697)	225,278	260,144	260,144	(84,831)
Add: Depreciation & Amortization	491,664	491,666	491,666	491,664	(2)	(2)	-
Add: Non-Cash Interest Expense	(115,702)	-	-	0	(115,702)	(115,702)	(115,703)
Add: Capex Charged to Expense	567	16,666	16,666	-	(16,099)	(16,099)	567
Principal Payments	(246,825)	(305,632)	(305,632)	(272,803)	58,807	58,807	25,978
Investments Converting To Cash	-	-	-	-	-	-	-
New Borrowing							
Net Cash Available For Capital Spending	270,151	83,003	83,003	444,140	187,148	187,148	(173,988)
Capital Expenditures	(217,144)	(1,241,166)	(1,241,166)	(82,789)	1,024,022	1,024,022	<u>(134,355</u>)
NET FUND CASH FLOWS	53,007	(1,158,163)	(1,158,163)	361,350	1,211,170	1,211,170	(308,344)

Net income

YTD Net income is positive and \$260k better than forecast. This is driven by significantly favorable operating expenses and lower interest expense to more than offset lower operating revenues, lower non-operating revenues, higher non-operating expenses, and lower interest income.

Cash Flows

YTD Cash Flow is positive and better than forecast by \$1.2m from favorable net income variances along with lower capital project spending.

3. SUBURBAN WASTEWATER

A. Month

MONTH - SUBURBAN WASTEWATER			F	EBRUARY 201	7		
Income Statement	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Operating Revenues	1,326,119	1,429,971	1,429,971	1,353,638	(103,852)	(103,852)	(27,518)
Operating (Expenses)	(1,487,993)	(1,546,447)	(1,546,447)	(950,860)	58,454	58,454	(537,132)
Operating Income	(161,873)	(116,476)	(116,476)	402,777	(45,397)	(45,397)	(564,651)
Non-Operating Revenues (Expenses)	183,340	66,083	66,083	88,909	117,257	117,257	94,431
Income Before Interest Expense	21,467	(50,393)	(50,393)	491,686	71,860	71,860	(470,219)
Interest Income	575	9,917	9,917	798	(9,342)	(9,342)	(223)
Interest Expense	(17,797)	(70,969)	(70,969)	(17,632)	53,172	53,172	(165)
Capital Contributions							<u> </u>
NET INCOME	4,244	(111,445)	(111,445)	474,852	115,689	115,689	(470,608)
MONTH - SUBURBAN WASTEWATER			F	EBRUARY 201	7		
Cash Flow Statement (Indirect)	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Net Income	4,244	(111,445)	(111,445)	474,852	115,689	115,689	(470,608)
Add: Depreciation & Amortization	364,694	327,083	327,083	334,133	37,611	37,611	30,561
Add: Non-Cash Interest Expense	2,896	-	-	2,838	2,896	2,896	58
Add: Capex Charged to Expense	-	25,000	25,000	-	(25,000)	(25,000)	-
Principal Payments	(39,240)	(93,946)	(93,946)	(53,231)	54,706	54,706	13,991
Investments Converting To Cash	-	-	-	-	-	-	-
New Borrowing	<u> </u>		<u> </u>				
Net Cash Available For Capital Spending	332,594	146,692	146,692	758,592	185,902	185,902	(425,998)
Capital Expenditures	(166,324)	(551,083)	(551,083)	(34,692)	384,759	384,759	(131,632)
NET FUND CASH FLOWS	166,270	(404,391)	(404,391)	723,901	570,661	570,661	(557,631)

Net income

Net income was positive and was \$116k better than forecast/budget. This was driven by lower operating expenses, higher non-operating revenues, lower non-operating expenses, and lower interest expenses to more than offset lower operating revenues

Cash Flows

Cash Flows were positive and \$571k better than forecast/budget due to higher net income and lower capital project spending.

B. YTD

YTD - SUBURBAN WASTEWATER			FE	BRUARY 2017			
Income Statement	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Operating Revenues	3,002,352	2,928,651	2,928,651	2,804,303	73,701	73,701	198,049
Operating (Expenses)	(2,838,097)	(3,092,894)	(3,092,894)	(2,573,300)	254,797	254,797	<u>(264,797</u>)
Operating Income	164,255	(164,243)	(164,243)	231,002	328,498	328,498	(66,747)
Non-Operating Revenues (Expenses)	234,321	132,166	132,166	151,853	102,155	102,155	82,468
Income Before Interest Expense	398,577	(32,077)	(32,077)	382,856	430,654	430,654	15,721
Interest Income	1,150	19,834	19,834	1,525	(18,684)	(18,684)	(375)
Interest Expense	(36,060)	(141,938)	(141,938)	(31,391)	105,878	105,878	(4,669)
Capital Contributions							
NET INCOME	363,666	(154,181)	(154,181)	352,989	517,847	517,847	10,676
YTD - SUBURBAN WASTEWATER			FE	BRUARY 2017			
Cash Flow Statement (Indirect)	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Net Income	363,666	(154,181)	(154,181)	352,989	517,847	517,847	10,676
Add: Depreciation & Amortization	729,388	654,166	654,166	677,078	75,222	75,222	52,310
Add: Non-Cash Interest Expense	5,822	-	-	6,122	5,822	5,822	(300)
Add: Capex Charged to Expense	133	50,000	50,000	196	(49,867)	(49,867)	(63)
Principal Payments	(79,495)	(187,892)	(187,892)	(96,778)	108,397	108,397	17,283
Investments Converting To Cash	-	-	-	-	-	-	-
New Borrowing							
Net Cash Available For Capital Spending	1,019,514	362,093	362,093	939,607	657,421	657,421	79,906
Capital Expenditures	(198,149)	(1,102,166)	(1,102,166)	(51,732)	904,017	904,017	(146,417)
NET FUND CASH FLOWS	821,365	(740,073)	(740,073)	887,876	1,561,438	1,561,438	(66,511)

Net income

YTD Net income is positive and is \$518k better than forecast/budget. This is driven by higher operating revenues, lower operating expenses, higher non-operating revenues, lower non-operating expenses, and lower interest expenses

Cash Flows

Cash Flows were \$1.6m better than forecast on significantly higher net income aided by lower capex project spending.

4. CITY DIVISION

A. Month

MONTH - CITY DIVISION			FI	EBRUARY 201	7		
Income Statement	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Operating Revenues	2,640,860	2,442,865	2,442,865	2,365,332	197,995	197,995	275,528
Operating (Expenses)	(1,691,261)	(1,871,840)	(1,871,840)	(1,576,720)	180,579	180,579	(114,541)
Operating Income	949,599	571,025	571,025	788,613	378,574	378,574	160,986
Non-Operating Revenues (Expenses)	9,982	(283,834)	(283,834)	(416,764)	293,816	293,816	426,746
Income Before Interest Expense	959,581	287,191	287,191	371,849	672,390	672,390	587,732
Interest Income	5,025	25,167	25,167	368	(20,142)	(20,142)	4,657
Interest Expense	(1,262,941)	(1,371,708)	(1,371,708)	(1,315,458)	108,767	108,767	52,517
Capital Contributions							-
NET INCOME	(298,335)	(1,059,350)	(1,059,350)	(943,241)	761,015	761,015	644,906
MONTH - CITY DIVISION			FI	EBRUARY 201	7		
Cash Flow Statement (Indirect)	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Net Income	(298,335)	(1,059,350)	(1,059,350)	(943,241)	761,015	761,015	644,906
Add: Depreciation & Amortization	450,000	466,667	466,667	450,000	(16,667)	(16,667)	-
Add: Non-Cash Interest Expense	1,262,941	1,371,708	1,371,708	1,315,458	(108,767)	(108,767)	(52,517)
Add: Capex Charged to Expense	43,480	658,667	658,667	373,462	(615,187)	(615,187)	(329,982)
Principal Payments	-	-	-	-	-	-	-
Cash Outlays on Lease & Lease Reserve	-	-	-	-	-	-	-
Investments Converting To Cash	-	-	-	-	-	-	-
New Borrowing							-
Net Cash Available For Capital Spending	1,458,086	1,437,692	1,437,692	1,195,679	20,394	20,394	262,407
Net Capital Expenditures	(149,572)	(889,214)	(889,214)	(151,295)	739,642	739,642	1,723
NET FUND CASH FLOWS	1.308.513	548.478	548.478	1.044.384	760,035	760.035	264,130

Net income

We had forecasted/budgeted a loss for the month. We are reporting a loss for the month, but the loss is \$761k lower than the forecast/budget. The favorable variance to forecast was due to higher revenues, lower operating expenses, favorable variances on non-operating revenues (expenses), and lower interest expenses, with a small offset from lower interest income

Cash Flows

Cash flow was a positive \$1.3m and was \$760k higher than forecast due to significantly higher net income along with lower capital project spending.

B. YTD

YTD - CITY DIVISION			FI	EBRUARY 201	7		
Income Statement	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Operating Revenues	5,331,098	4,853,842	4,853,842	4,836,244	477,256	477,256	494,854
Operating (Expenses)	(3,208,953)	(3,743,680)	(3,743,680)	(3,118,145)	534,727	534,727	(90,808)
Operating Income	2,122,145	1,110,162	1,110,162	1,718,099	1,011,983	1,011,983	404,046
Non-Operating Revenues (Expenses)	95,913	(567,668)	(567,668)	(453,550)	663,581	663,581	549,462
Income Before Interest Expense	2,218,057	542,494	542,494	1,264,549	1,675,563	1,675,563	953,508
Interest Income	27,525	50,334	50,334	386	(22,809)	(22,809)	27,139
Interest Expense	(2,525,882)	(2,743,416)	(2,743,416)	(2,630,916)	217,534	217,534	105,034
Capital Contributions							
NET INCOME	(280,300)	(2,150,588)	(2,150,588)	(1,365,981)	1,870,288	1,870,288	1,085,681
YTD - CITY DIVISION			FI	EBRUARY 201	7		
Cash Flow Statement (Indirect)	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Net Income	(280,300)	(2,150,588)	(2,150,588)	(1,365,981)	1,870,288	1,870,288	1,085,681
Add: Depreciation & Amortization	900,000	933,334	933,334	900,000	(33,334)	(33,334)	-
Add: Non-Cash Interest Expense	2,525,882	2,743,416	2,743,416	2,630,916	(217,534)	(217,534)	(105,034)
Add: Capex Charged to Expense	69,957	1,317,334	1,317,334	410,523	(1,247,377)	(1,247,377)	(340,566)
Principal Payments	-	-	-	-	-	-	-
Cash Outlays on Lease & Lease Reserve	-	-	-	-	-	-	-
Investments Converting To Cash	-	-	-	-	-	-	-
New Borrowing							
Net Cash Available For Capital Spending	3,215,539	2,843,496	2,843,496	2,575,458	372,043	372,043	640,081
Capital Expenditures	(214,623)	(1,778,428)	(1,778,428)	(240,656)	1,563,805	1,563,805	26,034
NET FUND CASH FLOWS	3,000,917	1,065,068	1,065,068	2,334,802	1,935,849	1,935,849	666,115

Net income

We are reporting a YTD loss of \$280k which is significantly better than the forecasted loss of \$2.1m by \$1.8m. Operating revenues are higher than forecast, operating expenses are lower, non-operating revenues (expenses) are better than forecast and interest expenses are lower with just a small offset from lower interest income.

Cash Flows

Cash flow was a positive \$3.0m and is \$1,9m higher than forecast due to significantly better net income position along with lower capital project spending.

5. FULL YEAR FORECAST

YTD, all three funds are showing favorable variances against budget for both net income and cash flows. The additional net income has been a primary driver for better than budgeted cash flows. Lower capital spending is aiding income and cash flows. The lower capital spending is due, mainly to, timing of projects spending. We have started slowly with respect to budgeted projects but that will start to ramp up in the upcoming months. Expenses are similar, we have a number of expense projects we have not executed yet

that have created some favorable now that will even out as we start these up as well. Overall, revenues are a little ahead of the phased budget. We complete closing for March which is ending soon and then take a look at a forecast for the remainder of the year incorporating some of these timing differences we have experienced so far through February.

LEHIGH COUNTY AUTHORITY SUBURAN WATER															
MONTHLY FINANCIAL STATEMENTS															
MONTH - SUBURBAN WATER			FE	BRUARY 2017				YTD - SUBURBAN WATER			FEB	RUARY 2017			
Income Statement	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var	Income Statement	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Operating Revenues	612,480	650,242	650,242	611,133	(37,762)	(37,762)	1,347	Operating Revenues	1,363,873	1,408,411	1,408,411	1,335,822	(44,538)	(44,538)	28,051
Operating (Expenses)	(609,443)	(734,533)	(734,533)	(558,719)	125,090	125,090	(50,724)	Operating (Expenses)	(1,200,141)	(1,469,066)	(1,469,066)	(1,110,021)	268,925	268,925	(90,120)
Operating Income	3,037	(84,291)	(84,291)	52,413	87,328	87,328	(49,377)	Operating Income	163,732	(60,655)	(60,655)	225,801	224,387	224,387	(62,069)
Non-Operating Revenues (Expenses)	14,709	66,167	66,167	37,341	(51,458)	(51,458)	(22,633)	Non-Operating Revenues (Expenses)	51,010	132,334	132,334	79,054	(81,324)	(81,324)	(28,044)
Income Before Interest	17,746	(18,124)	(18,124)	89,755	35,870	35,870	(72,009)	Income Before Interest Expense	214,742	71,679	71,679	304,855	143,063	143,063	(90,113)
Interest Income	6,571	16,667	16,667	4,277	(10,096)	(10,096)	2,294	Interest Income	13,159	33,334	33,334	9,919	(20,175)	(20,175)	3,239
Interest Expense Capital Contributions	(84,855)	(112,355)	(112,355)	(219)	27,500	27,500	(84,636)	Interest Expense Capital Contributions	(87,454)	(224,710)	(224,710)	(89,497)	137,256	137,256	2,043
NET INCOME	(60,538)	(113,812)	(113,812)	93,814	53,274	53,274	(154,352)	NET INCOME	140,447	(119,697)	(119,697)	225,278	260,144	260,144	(84,831)
MONTH - SUBJIRRAN WATER								VTD - SUBLIPRAN WATEP							
Cash Flow Statement (Indirect)	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var	Cash Flow Statement (Indirect)	Actual	Enrecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Net Income	(60.538)	(113,812)	(113,812)	93,814	53,274	53,274	(154,352)	Net Income	140.447	(119,697)	(119,697)	225.278	260,144	260,144	(84,831)
Add: Depreciation & Amortization	245,832	245,833	245,833	245,832	(1)	(1)	-	Add: Depreciation & Amortization	491,664	491,666	491,666	491,664	(2)	(2)	
Add: Non-Cash Interest Expense	(30)	1		1	(30)	(30)	(30)	Add: Non-Cash Interest Expense	(115,702)		1	0	(115,702)	(115,702)	(115,703)
Add: Capex Charged to Expense Detactional Devincents	- (138 827)	(152,816)	8,333	- (136.426)	(8,333)	(8,333)	- 10.206)	Add: Capex Charged to Expense Drincinal Davmants	567 (246 825)	16,666	16,666	- (27.2 80.3)	(16,099) 58.807	(16,099)	567 25.078
Investments Converting To Cash	-	-	-	-				Investments Converting To Cash	-	- (zen/ene)	- (zen'nne)	-	' ' '	- ' '	-
New Borrowing								New Borrowing						1	1
Net Cash Available For Capital Spending	46,442	(12,462)	(12,462)	203,220	58,904	58,904	(156,778)	Net Cash Available For Capital Spending	270,151	83,003	83,003	444,140	187,148	187,148	(173,988)
Capital Expenditures	(138,645)	(620,583)	(620,583)	(49,176)	481,938	481,938	(89,469)	Capital Expenditures	(217,144)	(1,241,166)	(1,241,166)	(82,789)	1,024,022	1,024,022	(134,355)
NET FUND CASH FLOWS	(92,203)	(633,045)	(633,045)	154,043	540,842	540,842	(246,246)	NET FUND CASH FLOWS	53,007	(1,158,163)	(1,158,163)	361,350	1,211,170	1,211,170	(308,344)
MONTH - SUBURBAN WATER			8	BRUARY 2017				YTD - SUBURBAN WATER			FEB	RUARY 2017			
Cash Flow Statement (Direct)	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var	Cash Flow Statement (Direct)	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Operating Revenues	612,480	650,242	(400,700)	(212,007)	(37,762)	(37,762)	1,347	Operating Revenues	1,363,873	1,408,411	1,408,411	(410.257)	(44,538)	(44,538)	28,051
	(IIO'COC)	(100/1001)	(466,700)	(100'710)	200/071	200/071	(+21,00)		(114/00/)	(00+'112)	(00+'114)	(100'010)	200,723	C74'007	(20,120)
Cash Flow From Operations	248,869	161,542	161,542	298,245	87,327	87,327	(49,377)	Cash Flow From Operations	655,396	431,011	431,011	717,465	224,385	224,385	(62,069)
Non-Operating Revenues (Expenses)	14,709	66,167	66,167	37,341	(51,458)	(51,458)	(22,633)	Non-Operating Revenues (Expenses)	51,010	132,334	132,334	79,054	(81,324)	(81,324)	(28,044)
Add: Capex Charged to Expense	•	8,333	8,333	•	(8,333)	(8,333)	•	Add: Capex Charged to Expense	567	16,666	16,666	•	(16,099)	(16,099)	567
Less: Froject Reminul sement	6,571	16,667	16,667	4,277	(960'01)	(10,096)	2,294	Interest Income	13,159	33,334	33,334	9,919	(20,175)	(20,175)	3,239
Net Cash Available For Debt Service	270,149	224,876	224,876	339,864	45,273	45,273	(69,716)	Net Cash Available For Debt Service	720,133	557,679	557,679	806,439	162,454	162,454	(86,306)
Interact Davmants	(9.4.995)	(112 366)	(112 266)	(010)	074.75	07470	(84.65)	Interset Davmonte	(203 156)	017 100	017 100	(90 406)	21 66.4	21 66.4	(113,660)
Principal Payments	(138,822)	(152,816)	(152,816)	(136,426)	13,994	13,994	(2,396)	Principal Payments	(246,825)	(305,632)	(305,632)	(272,803)	58,807	58,807	25,978
Net Cash After Debt Service	46,442	(40,295)	(40,295)	203,220	86,737	86,737	(156,778)	Net Cash After Debt Service	270,151	27,337	27,337	444,140	242,814	242,814	(173,988)
Project Reimbursement	'	27,833	27,833		(27,833)	(27,833)	•	Project Reimbursement	'	55,666	55,666		(55,666)	(55,666)	
Capital Contributions	'	•	'	•	•	'	•	Capital Contributions	'	'	•	•	•	•	'
Investments Converting Lo Cash New Borrowing		•	•				•••	Investments Converting Lo Cash New Borrowing		•	•		•	•	
Net Cash Available For Capital Spending	46,442	(12,462)	(12,462)	203,220	58,904	58,904	(156,778)	Net Cash Available For Capital Spending	270,151	83,003	83,003	444,140	187,148	187,148	(173,988)
Capital Expenditures	(138,645)	(620,583)	(620,583)	(49,176)	481,938	481,938	(89,469)	Capital Expenditures	(217,144)	(1,241,166)	(1,241,166)	(82,789)	1,024,022	1,024,022	(134,355)
NET FUND CASH FLOWS	(92,203)	(633,045)	(633,045)	154,043	540,842	540,842	(246,246)	NET FUND CASH FLOWS	53,007	(1,158,163)	(1,158,163)	361,350	1,211,170	1,211,170	(308,344)
DERT SEDVICE COVEDAGE DATIO															
Net Cash Available For Debt Service	270,149	224,876	224,876	339,864					720,133	557,679	557,679	806,439			
Debt Service	223,707	265,171	265,171	136,645					449,982	530,342	530,342	362,299			
DOCH	1.41	222	200	11.14	-	-	-		2221	201	201	2.44			1

LEHIGH COUNTY AUTHORITY															
MONTHLY FINANCIAL STATEMENTS															
MONTH - SUBURBAN WASTEWATER			FE	BRUARY 2017				YTD - SUBURBAN WASTEWATER			FEB	RUARY 2017			
Income Statement	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var	Income Statement	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Operating Revenues	1,326,119	1,429,971	1,429,971	1,353,638	(103,852)	(103,852)	(27,518)	Operating Revenues	3,002,352	2,928,651	2,928,651	2,804,303	73,701	73,701	198,049
	(0,401,1)	(1 + + + + 0 + c' 1)	(1,440,447)	(1000'1006)	20,434	20,404	(201,100)		(160'000'7)	(1440,240,c)	(140'740'c)	(0000'070'7)	161,902	161'407	161,402
Operating Income	(161,873)	(116,476)	(116,476)	402,777	(45,397)	(45,397)	(564,651)	Operating Income	164,255	(164,243)	(164,243)	231,002	328,498	328,498	(66,747)
Non-Operating Revenues (Expenses)	183,340	66,083	66,083	88,909	117,257	117,257	94,431	Non-Operating Revenues (Expenses)	234,321	132,166	132,166	151,853	102,155	102,155	82,468
Income Before Interest Expense	21,467	(50,393)	(50,393)	491,686	71,860	71,860	(470,219)	Income Before Interest Expense	398,577	(32,077)	(32,077)	382,856	430,654	430,654	15,721
Interest Income	575	6,917	9,917	798	(9,342)	(9,342)	(223)	Interest Income	1,150	19,834	19,834	1,525	(18,684)	(18,684)	(375)
Interest Expense	(17,797)	(70,969)	(70,969)	(17,632)	53,172	53,172	(165)	Interest Expense	(36,060)	(141,938)	(141,938)	(31,391)	105,878	105,878	(4,669)
Capital Contributions]	1		1	1	1	1	Capital Contributions		1	1	1	1	1	1
NET INCOME	4,244	(111,445)	(111,445)	474,852	115,689	115,689	(470,608)	NET INCOME	363,666	(154,181)	(154,181)	352,989	517,847	517,847	10,676
MONTH - SUBURBAN WASTEWATER			8	EBRUARY 2017	_			YTD - SUBURBAN WASTEWATER			FEB	RUARY 2017			
Cash Flow Statement (Indirect)	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var	Cash Flow Statement (Indirect)	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Net Income	4,244	(111,445)	(111,445)	474,852	115,689	115,689	(470,608)	Net Income	363,666	(154,181)	(154,181)	352,989	517,847	517,847	10,676
Add: Depreciation & Amortization	364,694	327,083	327,083	334,133	37,611	37,611	30,561	Add: Depreciation & Amortization	729,388	654,166	654,166	677,078	75,222	75,222	52,310
Add: Non-Cash Interest Expense	2,896	•	•	2,838	2,896	2,896	28	Add: Non-Cash Interest Expense	5,822		•	6,122	5,822	5,822	(300)
Add: Capex Charged to Expense	- (000)	25,000	25,000	- (100 03)	(25,000)	(25,000)	- 10.01	Add: Capex Charged to Expense	133	50,000	50,000	196	(49,867)	(49,867)	(63)
Frincipal Fayments Investments Converting To Cash	-			-	- '100	- ', UG		Frincipal Fayments Investments Converting To Cash			-				
New Borrowing						1		New Borrowing							
Net Cash Available For Capital Spending	332,594	146,692	146,692	758,592	185,902	185,902	(425,998)	Net Cash Available For Capital Spending	1,019,514	362,093	362,093	939,607	657,421	657,421	79,906
Capital Expenditures	(166,324)	(551,083)	(551,083)	(34,692)	384,759	384,759	(131,632)	Capital Expenditures	(198,149)	(1,102,166)	(1,102,166)	(51,732)	904,017	904,017	(146,417)
NET FUND CASH FLOWS	166,270	(404,391)	(404,391)	723,901	570,661	570,661	(557,631)	NET FUND CASH FLOWS	821,365	(740,073)	(740,073)	887,876	1,561,438	1,561,438	(66,511)
Cook Flow Statement (Street)	Lou de C	Lovenet	Purdant H	EBRUARY 201,	LC Mar	Divid Max	DVM	YIU - SUBURBAN WASI EWALER	Action	Lossocat	Pudant	Prior Voor	LC Max	Duel Max	DV Max
Cash Flow Statement (Direct)	ACTUAL	1 400 021	1 100 021	Prior Year	/102 0F3	/100 DED/	PY Var	Cash Flow Statement (Direct)	ACTUAL	POLECASI	p ppp c t c t	PLIOF YEAR	70 701	70 TO1	100 040
Operating Revenues Operating Expenses (Ex Deprectation)	(1.123.299)	(1.219.364)	(1.219.364)	(616.727)	96.065	96.065	(506.571)	Operating Revenues Operating Expenses (Ex Depreciation)	3,002,352 (2.108.709)	(2.438.728)	(2.438.728)	2,804,303 (1.896,222)	330.019	330.019	(212.487)
Cach Elow Erom Onarations	100 000	204.010	204.010	736 010	(397.7)	(307.7)	(624.000)	Cash Elow Erom Onorations	802 643	100 002	100 002		002 204	067 204	(12.4.27)
	170'707	100,001 2	100'01 7	014'00'	(00/'/)	(001.1)	(040/100)		200	C74'204	C74,70F	0001002	07/004	07/004	(10011)
Non-Operating Revenues (Expenses)	183,340	66,083 25.000	66,083 25.000	88,909	117,257	117,257	94,431	Non-Operating Revenues (Expenses)	234,321	132,166	132,166	151,853	102,155	102,155	82,468
Less: Project Reimbursement		-	-		-	- (nnn/rz)	•	Less: Project Reimbursement	· ·		-				(cn)
Interest Income	575	9,917	9,917	798	(9,342)	(9,342)	(223)	Interest Income	1,150	19,834	19,834	1,525	(18,684)	(18,684)	(375)
Net Cash Available For Debt Service	386,736	311,607	311,607	826,617	75,129	75,129	(439,882)	Net Cash Available For Debt Service	1,129,247	691,923	691,923	1,061,654	437,324	437,324	67,593
Interest Payments	(14,901)	(70,969)	(70,969)	(14,794)	56,068	56,068	(107)	Interest Payments	(30,238)	(141,938)	(141,938)	(25,269)	111,700	111,700	(4,969)
Principal Payments	(39,240)	(93,946)	(93,946)	(53,231)	54,706	54,706	13,991	Principal Payments	(79,495)	(187,892)	(187,892)	(96,778)	108,397	108,397	17,283
Net Cash After Debt Service	332,594	146,692	146,692	758,592	185,902	185,902	(425,998)	Net Cash After Debt Service	1,019,514	362,093	362,093	939,607	657,421	657,421	79,906
Project Reimbursement	•			•	'		,	Project Reimbursement			,	,			'
Capital Contributions	•	•	•	•	•	•	•	Capital Contributions	•		•	•	•		•
Investments Converting To Cash New Borrowing	•••		•••		•		• •	Investments Converting To Cash New Borrowing	•			•		•	•
Net Cash Available For Capital Spending	332,594	146,692	146,692	758,592	185,902	185,902	(425,998)	Net Cash Available For Capital Spending	1,019,514	362,093	362,093	939,607	657,421	657,421	79,906
	1100 1111	(FE4 000)	(FE 4 000)	1007 100	20.4 70.0	204 700	(00) 10 1/		1011 0017	(1) 100 100 10	11 100 11	(F.1. 200)	100400	10100	VE 1 1 1 1
Capital Expenditures	(166,324)	(551,083)	(551,083)	(34,692)	384,759	384,759	(131,632)	Capital Expenditures	(198,149)	(1,102,166)	(1,102,166)	(51,732)	904,017	904,017	(146,417)
NET FUND CASH FLOWS	166,270	(404,391)	(404,391)	723,901	570,661	570,661	(557,631)	NET FUND CASH FLOWS	821,365	(740,073)	(740,073)	887,876	1,561,438	1,561,438	(66,511)
DEBT SERVICE COVERAGE RATIO															
Net Cash Available For Debt Service	386,736	311,607	311,607	826,617					1,129,247	691,923	691,923	1,061,654			
Debt Service	54,142	164,915	164,915	68,025 13.1E					109,734	329,830	329,830	122,047			
DSCR	7.14	1.89	1.89	12.15					10.29	2.10	2.10	8.70			

LEHIGH COUNTY AUTHORITY CITY DIVISION															
MONTHLY FINANCIAL STATEMENTS															
MONTH - CITY DIVISION			FE	BRUARY 2017				YTD - CITY DIVISION			FE	BRUARY 2017			
Income Statement	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var	Income Statement	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Operating Revenues Operating (Expenses)	2,640,860 (1,691,261)	2,442,865 (1,871,840)	2,442,865 (1,871,840)	2,365,332 (1,576,720)	197,995 180,579	197,995 180,579	275,528 (114,541)	Operating Revenues Operating (Expenses)	5,331,098 (3,208,953)	4,853,842 (3,743,680)	4,853,842 (3,743,680)	4,836,244 (3,118,145)	477,256 534,727	477,256 534,727	494,854 (90,808)
Operating Income	949,599	571,025	571,025	788,613	378,574	378,574	160,986	Operating Income	2,122,145	1,110,162	1,110,162	1,718,099	1,011,983	1,011,983	404,046
Non-Operating Revenues (Expenses)	9,982	(283,834)	(283,834)	(416,764)	293,816	293,816	426,746	Non-Operating Revenues (Expenses)	95,913	(567,668)	(567,668)	(453,550)	663,581	663,581	549,462
Income Before Interest Expense	959,581	287,191	287,191	371,849	672,390	672,390	587,732	Income Before Interest Expense	2,218,057	542,494	542,494	1,264,549	1,675,563	1,675,563	953,508
Interest Income	5,025	25,167	25,167	368	(20,142)	(20,142)	4,657	Interest Income	27,525	50,334	50,334	386	(22,809)	(22,809)	27,139
Interest Expense Capital Contributions	(1,262,941)	(1,371,708)	(1,371,708)	(1,315,458)	108,767	108,767	52,517	Interest Expense Capital Contributions	(2,525,882)	(2,743,416)	(2,743,416)	(2,630,916)	217,534	217,534	105,034
NET INCOME	(298,335)	(1,059,350)	(1,059,350)	(943,241)	761,015	761,015	644,906	NET INCOME	(280,300)	(2,150,588)	(2,150,588)	(1,365,981)	1,870,288	1,870,288	1,085,681
MONTH - CITY DIVISION				BRUARY 2017				YTD - CITY DIVISION			Ë	BRUARY 2017			
Cash Flow Statement (Indirect)	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var	Cash Flow Statement (Indirect)	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Net Income	(298,335)	(1,059,350)	(1,059,350)	(943,241)	761,015	761,015	644,906	Net Income	(280,300)	(2,150,588)	(2,150,588)	(1,365,981)	1,870,288	1,870,288	1,085,681
Add: Depreciation & Amortization	450,000	466,667	466,667	450,000	(16,667)	(16,667)	•	Add: Depreciation & Amortization	000'006	933,334	933,334	000'006	(33,334)	(33,334)	•
Add: Non-Cash Interest Expense	1,262,941	1,371,708	1,371,708	1,315,458	(108,767)	(108,767)	(52,517)	Add: Non-Cash Interest Expense	2,525,882	2,743,416	2,743,416	2,630,916	(217,534)	(217,534)	(105,034)
Add: Capex Charged to Expense Principal Payments	43,480	- '00'860	- 100/800	3/3,402			- (329,982)	Add: Capex Charged to Expense Principal Payments				410,523			
Cash Outlays on Lease & Lease Reserve	•			•			•	Cash Outlays on Lease & Lease Reserve	•	•	•	•	•	•	1
Investments Converting To Cash New Borrowing		• •			• •			Investments Converting To Cash New Borrowing	• •		•			•	
Net Cash Available For Capital Spending	1,458,086	1,437,692	1,437,692	1,195,679	20,394	20,394	262,407	Net Cash Available For Capital Spending	3,215,539	2,843,496	2,843,496	2,575,458	372,043	372,043	640,081
Net Capital Expenditures	(149,572)	(889,214)	(889,214)	(151,295)	739,642	739,642	1,723	Capital Expenditures	(214,623)	(1,778,428)	(1,778,428)	(240,656)	1,563,805	1,563,805	26,034
NET FUND CASH FLOWS	1,308,513	548,478	548,478	1,044,384	760,035	760,035	264,130	NET FUND CASH FLOWS	3,000,917	1,065,068	1,065,068	2,334,802	1,935,849	1,935,849	666,115
MONTH - CITY DIVISION			Ξ.	BRUARY 2017				YTD - CITY DIVISION	•		Ξ.	BRUARY 2017			
Cash Flow Statement (Direct)	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var	Cash Flow Statement (Direct)	Actual	Forecast	Budget	Prior Year	FC Var	Bud Var	PY Var
Operating Revenues Operating Expenses (Ex Deprectation)	2,640,860 (1,241,261)	2,442,865 (1,405,173)	2,442,865 (1,405,173)	2,365,332 (1,126,720)	197,995 163,912	197,995	275,528 (114,541)	Operating Revenues Operating Expenses (Ex Depreciation)	5,331,098 (2,308,953)	4,853,842 (2,810,346)	4,853,842 (2,810,346)	4,836,244 (2,218,145)	477,256 501,393	477,256 501,393	494,854 (90,808)
Cash Flow From Operations	1,399,599	1,037,692	1,037,692	1,238,613	361,907	361,907	160,986	Cash Flow From Operations	3,022,145	2,043,496	2,043,496	2,618,099	978,649	978,649	404,046
Non-Operating Revenues (Expenses)	9.982	(283.834)	(283.834)	(416.764)	293.816	293.816	426.746	Non-Operating Revenues (Expenses)	95.913	(567.668)	(567.668)	(453.550)	663.581	663.581	549.462
Add: Capex Charged to Expense	43,480	658,667	658,667	373,462	(615,187)	(615,187)	(329,982)	Add: Capex Charged to Expense	69,957	1,317,334	1,317,334	410,523	(1,247,377)	(1,247,377)	(340,566)
Less: Project Reimbursement Interest Income	(17,373) 5,025	(327,750) 25,167	(327,750) 25,167	368	310,377 (20,142)	310,377 (20,142)	(17,373) 4,657	Less: Project Reimbursement Interest Income	(123,598) 27,525	(655,500) 50,334	(655,500) 50,334	386	531,902 (22,809)	531,902 (22,809)	(123,598) 27,139
Net Cash Available For Debt Service	1,440,713	1,109,942	1,109,942	1,195,679	330,771	330,771	245,034	Net Cash Available For Debt Service	3,091,942	2,187,996	2,187,996	2,575,458	903,946	903,946	516,483
Interest Payments								Interest Payments	'						
Principal Payments Cash Outlays on Lease & Lease Reserve								Principal Payments Cash Outlays on Lease & Lease Reserve	•	•				• •	
Net Cash After Debt & Lease Service	1,440,713	1,109,942	1,109,942	1,195,679	330,771	330,771	245,034	Net Cash After Debt & Lease Service	3,091,942	2,187,996	2,187,996	2,575,458	903,946	903,946	516,483
Project Reimbursement	17,373	327.750	327,750	•	(310,377)	(310,377)	17,373	Project Reimbursement	123,598	655,500	655,500	•	(531,902)	(531,902)	123,598
Capital Contributions	•	•	•	• •	•	• •	•	Capital Contributions	•	• •	•	• •	•	• •	•
New Borrowing					1	1	1	New Borrowing						1	
Net Cash Available For Capital Spending	1,458,086	1,437,692	1,437,692	1,195,679	20,394	20,394	262,407	Net Cash Available For Capital Spending	3,215,539	2,843,496	2,843,496	2,575,458	372,043	372,043	640,081
Capital Expenditures	(149,572)	(889,214)	(889,214)	(151,295)	739,642	739,642	1,723	Capital Expenditures	(214,623)	(1,778,428)	(1,778,428)	(240,656)	1,563,805	1,563,805	26,034
NET FUND CASH FLOWS	1,308,513	548,478	548,478	1,044,384	760,035	760,035	264,130	NET FUND CASH FLOWS	3,000,917	1,065,068	1,065,068	2,334,802	1,935,849	1,935,849	666,115
DEBT SERVICE COVERAGE RATIO															
Net Cash Available For Debt Service Debt Service	1,440,713 1,087,310	1,109,942 1,087,310	1,109,942 1,087,310	1,195,679					3,091,942 2,174,620	2,187,996 2,174,620	2,187,996 2,174,620	2,575,458 2,062,120			
DSCR	1.33	1.02	1.02	1.16					1.42	1.01	1.01	1.25			
	Ľ	ehigh County Authorit	ΞY												
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System Operations Review - February 2017															
Presented: March 27, 2017															
Critical Activities	System	Description	<u>Feb-17</u>	<u>2017-to-Date</u>	2016 Totals	<u>Permit</u>									
			Daily Avg (MGD)	Daily Avg (MGD)	Daily Avg (MGD)	Daily Max (MGD)									
Water Production	Allentown	Total	21.43	21.22	20.41	39.0									
		Schantz Spring	6.08	6.00	5.91	9.0									
		Crystal Spring	3.92	3.91	3.86	4.0									
		Little Lehigh Creek	11.37	11.24	10.46	30.0									
		Lehigh River	0.05	0.07	0.18	28.0									
	Central Lehigh	Total	8.58	8.52	9.27	19.04 MGD Avg									
		Feed from Allentown	7.21	7.04	5.99	7.0 MGD Avg 10.5 MGD Max									
		Well Production (CLD)	1.37	1.49	3.28	8.54 MGD Avg									
		Sum of all (12) other Suburban Water Systems	0.17	0.17	0.19	1.71 Sum of all wells									
Wastewater Treatment		Kline's Island	28.45	28.92	29.67	40.0									
		Pretreatment Plant	4.04	4.02	4.33	5.75 (design capacity)									
		Sum of all (5) other Suburban WW Systems	0.15	0.17	0.17	0.36									
			<u>Feb-17</u>	<u>2017-to-Date</u>	2016 Totals										
Precipitation Totals (inches)			1.7	5.09	36.82										
Compliance Reports Submitted to Allentown			21	50	269										
Notices of Violation (NOVs)		(Allentown + Suburban)	0	0	3										
Sanitary Sewer Overflows (SSOs)/Bypasses		(Allentown + Suburban)	1	1	16										
Main Breaks Repaired		Allentown	3	6	19										
		Suburban	0	2	11										
Customer Service Phone Inquiries		(Allentown + Suburban)	2,211	4,615	28,099										
Water Shutoffs for Non-Payment		(Allentown + Suburban)	164	324	1,685										
Injury Accidents		(Allentown + Suburban)	0	3	10										
Emergency Declarations		Allentown	0	(1) @ \$22,246	(2) @ \$87,079										
		Suburban	0	0	(1) @ \$33,495										
Significant Repairs: The secondary digester cover being emptied so the existin cold weather treatment equip Description of NOVs and/or S There were no NOVs for eithe was a single SSO on the Alle	at KIWWTP is co og cover can be o mment installatio SOS: er division durin entown system wh:	ompleted. Primary Diges removed. Arcadia WWTP i ons. ng February 2017. There ich resulted from a grea	ter #1 has bee s in the final were no SSOs se buildup.	n taken off-lin stages of pund in the suburban	ne and is curre ch list items f n division but	ently for its there									
Other Highlights:															

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