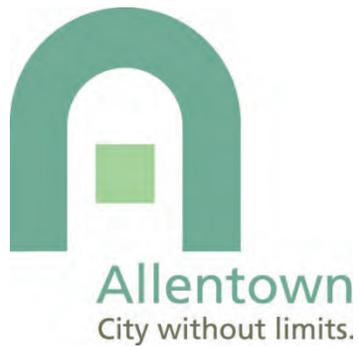




Statement of Qualifications
in response to
Allentown Water & Sewer System
Request For Qualifications
For Water & Sewer Concession

Submitted by:
Lehigh County Authority
Allentown, PA 18106
August 17, 2012





STATEMENT OF QUALIFICATIONS

in response to

**ALLENTOWN WATER & SEWER SYSTEM REQUEST FOR
QUALIFICATIONS FOR WATER AND SEWER CONCESSION**

Submitted by:



LEHIGH COUNTY AUTHORITY

1053 Spruce Street
PO Box 3348
Allentown, PA 18106

Aurel Arndt, General Manager

August 17, 2012



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August 17, 2012

Mayor Ed Pawlowski
City of Allentown
c/o Public Financial Management, Inc.
One Keystone Plaza
Suite 300
North Front & Market Streets
Harrisburg, PA 17101-2044

Dear Mayor Pawlowski,

Lehigh County Authority (LCA) thanks the City of Allentown for the opportunity to submit a Statement of Qualifications (SOQ) in response to the City's Request for Qualifications for Water and Sewer Concession.

As detailed in the attached SOQ, we believe LCA is uniquely and highly qualified to fulfill the City's expectations and meet Allentown customers' needs over the next 50 years.

We look forward to discussing our credentials with you and working with you to implement a concession arrangement. LCA's first priority in these discussions is to ensure the continuation of high quality, reliable and affordable water and wastewater services, which the City of Allentown has provided to its citizens for many decades.

Sincerely,

Aurel M. Arndt
General Manager

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EXECUTIVE SUMMARY

As the City of Allentown begins a conversation about the potential for its water and sewer systems to provide funding to address a major financial obligation, Lehigh County Authority (LCA) is uniquely positioned to help. As the City’s neighbor – and largest water and wastewater customer – LCA is the only utility with the infrastructure already in place and locally situated to provide a solution that will benefit our entire community.

This Statement of Qualifications (SOQ) will describe all of LCA’s qualifications. Most of these qualifications will already be quite familiar to Allentown officials due to our close working relationship on many projects over the past 40 years. However, this proposed concession arrangement requires a few other considerations that cannot be captured so neatly in the SOQ format. Below, we describe some of those considerations and why we believe LCA is the only utility capable of addressing them.

Rate Control for Allentown Customers

Allentown will undoubtedly receive proposals from other organizations that can offer the financial power needed to address the City’s financial obligations. Some may offer financial strengths that exceed LCA’s capabilities and Allentown’s needs. However, what is the cost of such proposals to Allentown’s residents? The answer to this important question will vary depending on the source of funding the City selects.

Simply put, every penny we collect in revenue from our customers is returned to the community through the services we provide.

From Lehigh County Authority’s viewpoint, the best way to control the rate impact to the City’s residents is through a nonprofit organizational structure. LCA is a nonprofit, non-taxing, tax-exempt municipal authority formed under the Pennsylvania Municipality Authorities Act. Our user rates are developed to recover the cost of service to our customers, with no additional costs such as delivering shareholder or investor returns. Simply put, every penny we collect in revenue is returned to the customers through the services we provide.

Over the years, this nonprofit structure has served LCA customers very well through our financing of large projects such as the water system interconnection with the City of Allentown, currently under way. As a nonprofit municipal authority, we have access to capital at the lowest rates available. This is enhanced by our AA Bond Rating, which lowers the cost of capital even further.

When the cost of financing and service goes down, LCA’s customers benefit through stable rates. In fact, LCA’s current water rates are among the lowest in the Commonwealth of Pennsylvania.

Quick & Effective Transition

For any organization to assume operational responsibility of a large network of facilities, a high level of water and sewer system management expertise will be required. Some proposers will offer adequate capabilities in this regard, based on their experience in other parts of the state or across the nation. Likewise, this SOQ illustrates that LCA brings all the required technical and management capabilities to manage Allentown’s system with the greatest care and attention.

What sets Lehigh County Authority apart, however, is our ability to “hit the ground running” due to our existing embedded knowledge of Allentown’s water and wastewater systems, and the region in which we both currently operate. This perspective will be invaluable to the development of a transition strategy. Some examples of how LCA’s knowledge would improve the transition schedule and effectiveness:

High Level of Familiarity with Allentown’s Key Personnel: For more than 40 years, LCA and Allentown utility employees have collaborated on projects such as water and sewer system maintenance programs, small and large capital projects, community outreach, planning studies, and grants for source water protection. As a result, we have a strong understanding of the strengths of Allentown’s key employees, and will be able to quickly develop a workforce transition plan to ensure both Allentown and LCA systems will be operated efficiently and effectively.

Intimate Knowledge of Regional Issues, Organizations and Community Leaders: Because LCA is already operating water and wastewater systems in the immediate vicinity of Allentown,

Allentown’s needs would be best served by an organization that brings critical knowledge to the table on the very first day.

our organization is already fully engaged in community issues, such as regional planning and economic development. These, along with local municipal needs, will drive the pace and scope of future capacity expansion programs that our local water and sewer systems will need to undertake. Under the scenario of LCA operation of the Allentown assets, this required planning for the future will continue seamlessly, with an added level of efficiency.

Existing Knowledge of Allentown Assets: In addition to knowledge gained from 40 years of LCA collaboration with Allentown, LCA’s current operations manager, Joe McMahon, previously served as the City’s Water Resources Manager and has intimate knowledge of

the Allentown treatment plant assets, their history, and their operational strengths and weaknesses. His knowledge will be immediately useful in developing capital planning and operational transition strategies.

Direct Involvement in City Projects, Contracts & Challenges: As the City’s largest water and sewer customer, LCA is already involved in many of the major projects, contracts and challenges that Allentown faces. LCA’s assumption of responsibility for addressing them will be streamlined, efficient and effective due to our intimate knowledge of these issues. For example, LCA has been leading the regional effort to address infiltration and inflow (I&I) issues within the municipal and regional sewer systems that serve western portions of Lehigh County. Allentown faces similar challenges, and the City’s work in this regard has a direct impact on LCA systems, and vice versa. If LCA is selected to operate the City systems, we would be able to quickly transition our existing I&I program to cover Allentown’s system as well to address the issue on a more regional basis.

LCA’s technical capabilities, which are strong, and its vast knowledge of local issues will strengthen a transition plan for this concession arrangement. LCA believes Allentown’s needs would be best served by an organization that brings critical knowledge to the table during both the planning and implementation stages on the very first day.

Allentown Residents Deserve a Utility Who Cares

High-quality water and sewer services, at a reasonable price, cannot be overlooked as a core service to current and future residents and businesses, and managing that service will be best achieved by an organization that has a stake in the community.

What started as a venture 46 years ago by the County of Lehigh to develop future water supplies for a growing community, today has grown into a dynamic and responsive organization that today serves 15 Lehigh County municipalities. Our sole Mission is “to provide continually improved, sustainable and reliable water and wastewater services in the region which meets the needs and expectations of existing and future customers.”

LCA, its employees and Board of Directors, all take this mission seriously. Every LCA initiative is first compared to that mission statement to ensure that our path is aligned with the community’s needs. Throughout this SOQ, you will see examples of benchmarks LCA has established to gauge performance, to ensure that we are providing the best value and quality of service available for customers. Allentown and its residents should expect no less dedication from LCA as their water and sewer service provider.

Success is no accident. It is hard work, perseverance, learning, studying, sacrifice and most of all, love of what you are doing or learning to do.

~ Pele, Brazilian Soccer Legend

To help ensure that LCA stays focused on this mission, the County of Lehigh appoints our Board of Directors to represent the interests of all LCA customers, to provide direction, review our financial performance, establish user rates, set policy and service standards, and more. For Allentown and its residents, LCA's Board would represent Allentown's interests, the same as every customer, in any action LCA might take.

Furthermore, LCA is already fully invested in the City's water and sewer systems. Our water systems are interconnected, with the final phase of a long-term water purchase agreement kicking off by January 2013. Our sewer systems are fully interconnected, with LCA-served suburban communities discharging flows equaling approximately one-quarter of the City's treated waste each day. Allentown and LCA have had this long relationship for more than four decades, and that mutual reliance will be strengthened under LCA operation of the Allentown system.

For LCA, this concession arrangement is so much more than a business transaction. Due to our past investment in the City's system and our sole mission of serving the community's needs, we are in a unique position to provide service to Allentown customers with a level of expertise, care and attention that no other entity can offer.

Moving Forward

As the SOQs are reviewed, we urge Allentown to consider the benefits of having an experienced and highly capable organization available that will offer the local control, rate stability and community focus that is unique to LCA's mix of qualifications, in addition to the financial capability and technical expertise required to do the job.

PROPOSER INFORMATION

Introduction

In this section, Lehigh County Authority (LCA) seeks to clearly demonstrate our capability and commitment to the City of Allentown in offering a strong team of technical and managerial experts who will ensure an efficient and effective transition of the City’s water and wastewater assets into LCA operations.

Description of Prospective Proposer

This Statement of Qualifications (SOQ) has been submitted by Lehigh County Authority, with no additional team members or partners. We believe this SOQ illustrates that LCA is fully prepared to accept the responsibility for all obligations, operational duties, financial requirements and contractual commitments under the proposed lease.

For more than 40 years, LCA has provided exceptional water and wastewater service to the Lehigh Valley communities we serve, and we believe LCA can build upon the foundation of service that the City has established for its residents and businesses.



LCA Offices in Wescosville, Lehigh County

LCA was created by the County of Lehigh under the Pennsylvania Municipality Authorities Act (Act) and is governed by a seven-member Board of Directors, who are appointed by the Lehigh County Executive and approved by the County Commissioners. LCA’s Board is vested with all powers allowed under the Act. LCA’s current Board members include:

Asa M. Hughes, Chair
Lowhill Township, Lehigh County

Richard H. Bohner, Secretary
Allentown, Lehigh County

Norma Cusick, Assistant Secretary
Salisbury Township, Lehigh County

Thomas M. Muller, Vice Chair
Lower Macungie Township, Lehigh County

Emrich M. Stellar, Treasurer
Upper Saucon Township, Lehigh County

Brian C. Nagle, Assistant Treasurer
Macungie Borough, Lehigh County

Scott C. Bieber
Upper Milford Township, Lehigh County

For more information on the current Board members, please see [Appendix 3, Other Available Information](#).

LCA funds ongoing systems operations and debt service expenses exclusively from customer rates and charges allowed under the Act. That is, we receive no ongoing operational subsidy from any governmental entity. Our systems' capital assets have been financed by a combination of tax-exempt bonds and loans, customer revenues, capital recovery fees and, occasionally, governmental grants.

To complement LCA's experience, capability and expertise, we have previously utilized contract operations arrangements to enhance the quality and economy of service we provide. For example, LCA currently employs an operator, CH2M Hill, to operate our wastewater treatment plant located in Upper Macungie Township. This arrangement has allowed us to achieve operational economies and certain revenue enhancements that have resulted in benefits for our customers across the region. However, such arrangements in no way diminish our singular responsibility to fulfill all obligations to our customers, municipalities, regulatory agencies, financial institutions, and others. While we may consider such an arrangement with CH2M Hill for the operation of the Allentown water and wastewater treatment plants, the details of that arrangement, if any, will be delineated at the Request for Proposal stage of this discussion with Allentown.

Roles of Team Members & Key Personnel

LCA employees at every level – customer service, operations, capital works, administration and management – will participate in providing high-quality service to Allentown's customers. Our 39 employees collectively have more than 700 years of hands-on experience exclusively in the water and wastewater field. This breadth of experience and associated expertise ensures that ongoing service to Allentown's customers will be maintained at the highest standard possible.

Lehigh County Authority offers the following key personnel who will deliver a seamless transition to a consolidated operation of LCA and Allentown utility systems:

Aurel Arndt, General Manager: Aurel has worked for LCA for 38 years, serving as our General Manager for the past 26 years. During his tenure, he has been responsible for negotiating and implementing all contracts that LCA currently has with the City of Allentown. He will lead all aspects of the proposal process, including negotiating terms and analyzing financial impacts of the lease arrangement. We will draw upon his vast experience in all aspects of utility management to guide the transition and ensure all operational, regulatory, financial, human resources and contractual obligations are met.

Douglas Young, Business Manager: Doug has worked for LCA for 37 years and is responsible for all accounting, financing and investment functions. He plans to retire in December 2012, but will be available for part-time consulting work on major projects such as this concession arrangement. He will also serve as a mentor and coach for Edward Bielarski, who starts as LCA's Chief Financial Officer in September 2012, to ensure a smooth transition and full knowledge transfer. *See description of Edward Bielarski's role, below.*

Joseph McMahon, Operations Manager: Joe is currently serving as LCA's Operations Manager, but previously served the City of Allentown's Water Resources Department for 24 years, most recently as the Manager of Water Resources. His intimate knowledge of the Allentown water and wastewater assets will be immediately useful in developing a transition strategy for the operation and maintenance of the City systems, as well as developing a workforce strategy to best utilize the expertise offered by both LCA's and Allentown's operational staff.

Frank Leist, Capital Works Manager: Frank has worked for LCA for 22 years and is responsible for managing all capital programs we undertake. He has direct project management experience for some of LCA's largest capital projects, and also leads our efforts to proactively plan for our future capital needs. For this project, Frank will provide direction and oversight for the review of asset condition and capital needs of the Allentown systems, developing a long-range plan to preserve these assets for superior long-term performance.

Liesel Adam, Customer Care & Communications Manager: Liesel has worked for LCA for 14 years and is responsible for managing all customer care programs including billing, metering, collections and customer satisfaction, in addition to public outreach programming. During the transition to LCA operation of the Allentown systems, Liesel will be responsible for ensuring customer service standards are met and billing responsibilities transfer seamlessly to LCA operations. She will also be responsible for reaching out to Allentown residents and businesses to build awareness of LCA's role in the community to provide excellent services and promote environmental stewardship.

Patricia Mandes, Wastewater Services Director: Pat is currently serving as LCA's wastewater services director, but previously served as the manager of the Nazareth Borough Municipal Authority for 16 years where she effectively managed wastewater treatment services and all operational staff. Previously, she served as the wastewater pretreatment coordinator for the Borough of Catasauqua. In addition to managing LCA's wastewater treatment plant, she is also leading our regional effort to address infiltration and inflow (I&I) issues throughout western Lehigh County. For this project, Pat will develop and implement transition strategies to bring Allentown's wastewater systems into the I&I program, and to provide management oversight for the Kline's Island Wastewater Treatment Plant operations.

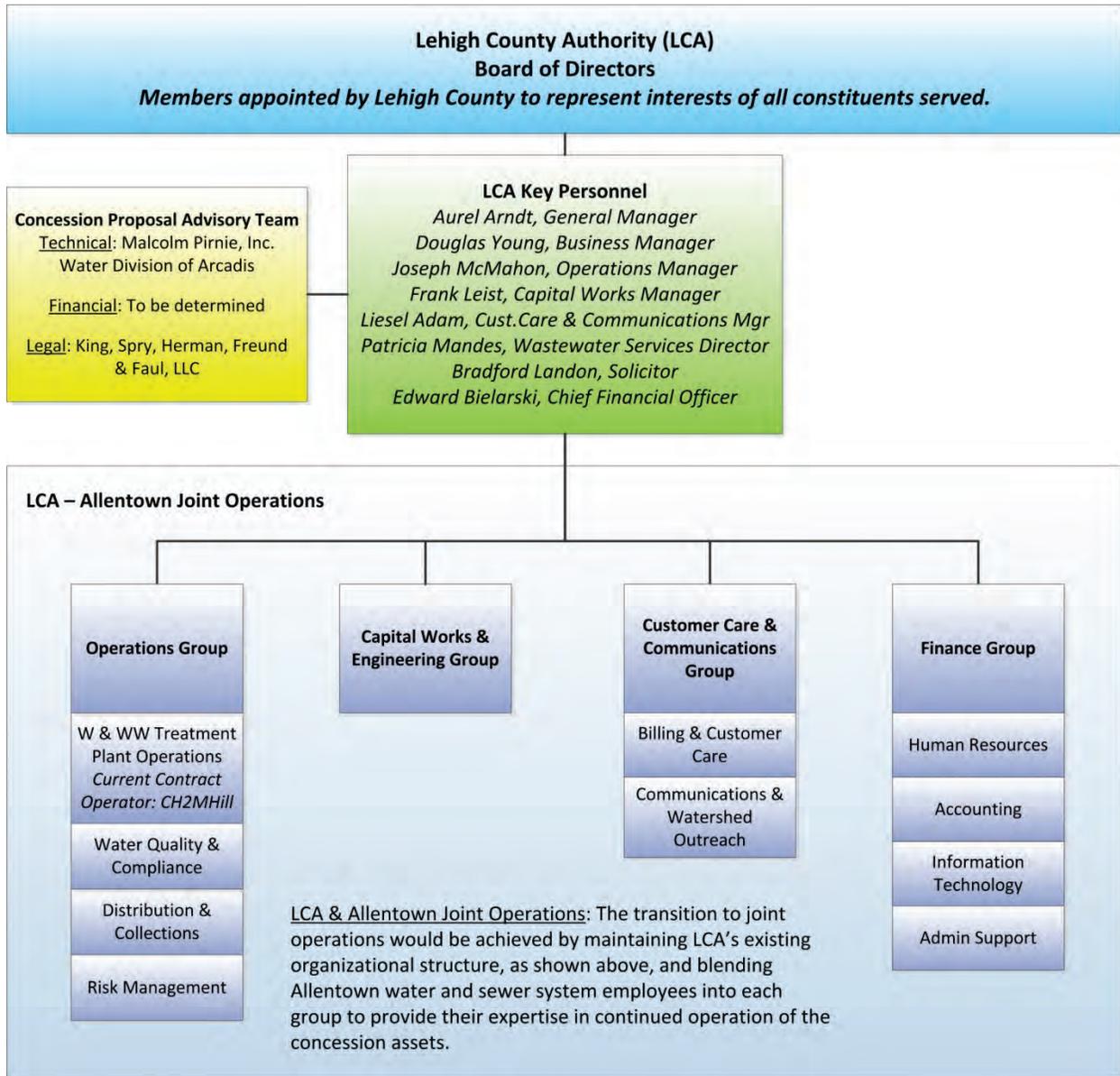
Bradford Landon, Solicitor: Brad's 30 years at LCA have been spent primarily to ensure all agreements, policies, contracts and programs position LCA to meet our high standards for service to our customers. His intimate knowledge of all LCA agreements, many of which Allentown is party to, will be invaluable in ensuring that this concession arrangement will meet the needs of all parties involved.

Edward Bielarski, Chief Financial Officer: Ed will begin his service to LCA in September 2012 as our Chief Financial Officer, after more than 20 years of experience in the energy utility industry. As a new member of LCA's management team, bringing Six Sigma leadership skills and strong financial management experience, we expect him to bring fresh ideas and perspectives to the table to help us discover solutions to any transition challenge we may face. Moving forward, one of his primary responsibilities will be to manage LCA's financing arrangements, revenue tracking and other important aspects of the concession arrangement.

More detailed biographical information about each team member is included in Appendix 1, Resumes of Key Personnel. In addition, the organization chart shown in Figure 1 below illustrates how LCA is generally structured, using these key personnel in critical management areas to achieve all aspects of effective utility management.

Moving forward with a transition toward consolidated operations of LCA and Allentown systems, the structure is already in place to address Allentown's needs.

Figure 1 – LCA Organization Chart



Operator

Lehigh County Authority will lead all aspects of operating the Allentown assets, and will assume full responsibility for all operational requirements. However, to ensure a smooth and timely transition to LCA operation, we may engage a reputable and well-established firm, such as CH2M Hill, to operate the water filtration and wastewater treatment plants. LCA has had past and ongoing experience with that approach which has brought continually improved and more economical operations despite aging plant facilities and increased customer demands.

LCA has had decades of hands-on operational experience in operating distribution, collection and treatment facilities. In addition to the growth of our service area in Lehigh County, LCA has

completed more than 30 acquisitions of water and sewer distribution, collection and treatment systems over the course of time. In many of these cases, we have taken responsibility for aged, neglected, or outright failing facilities and made immediate operational changes and capital upgrades to minimize or eliminate problems, followed by more permanent solutions such as interconnections, facility replacements and additional capital improvements to enhance service reliability.

LCA would offer this same level of care and attention to ensure the systems continue to operate in a manner consistent with our high standards, and Allentown's.

Contact Person

All contact with LCA regarding the concession arrangement can be directed to:

Aurel M. Arndt, General Manager
Lehigh County Authority
1053 Spruce Street
PO Box 3348
Allentown, PA 18106

610-398-2503
610-398-8413 (fax)

aurelarndt@lehighcountyauthority.org

Controlling Interest

Lehigh County Authority is a municipal authority created under the Pennsylvania Municipality Authorities Act (Act). As such, there is no ownership interest in LCA, nor any controlling interest other than the Board of Directors who are vested with all powers allowed under the Act.

Essentially, all assets owned by LCA are managed for the benefit of current and future customers of our systems. Similarly, all revenues and funds are used exclusively to pay costs of ongoing service to our customers, investment in water and wastewater capital projects and other costs related to meeting the water and wastewater needs of LCA's service area.

For more information on LCA service areas, and the municipalities we serve, please see [Appendix 2, Overview of LCA Service Areas](#).

Expected Advisors

LCA plans to employ the following advisors to assist in preparation of a proposal to the City of Allentown, contract negotiation, execution of the transition, and advice during the initial stages of the lease. We reserve the right to hire additional expert advisors to supplement or replace the capabilities of the experts listed below or those hired later.

Technical – Malcolm Pirnie, Inc., the Water Division of Arcadis

Evaluation, planning, forecasting and advice on facility operations, condition assessment, improvements and future needs; contract evaluation and negotiation assistance.

Financial – To be determined.

Evaluation, forecasting, advice and other assistance on financing transactions.

Legal – King, Spry, Herman, Freund & Faul, LLC

Evaluation, advice and other assistance on developing a proposal, contract terms and conditions and assistance in negotiations.

Comparable Projects

Smooth Transitions:

Over the past 46 years, LCA has acquired and/or leased more than 30 water and wastewater systems in Lehigh and Northampton counties, a practice that has clearly enhanced the regional approach to water and wastewater service in the Lehigh Valley. In every case, the acquisition has led to improved service, lower rates or operational economies – in short, better service.

Without question, serving Allentown customers would be the largest expansion of LCA's customer base to date, on a sheer volume basis. However, over the course of our history, LCA undertook acquisitions that immediately doubled our customer base or more. In every instance, the initiation of service to the new customers occurred smoothly and without compromising any aspect of service.

In recent years, LCA has developed a team-based methodology to lead, plan and implement the smooth integration of acquired and leased systems into our day-to-day operations.

Large System Lease Arrangements:

While most of LCA's experience has been through outright acquisition of water and wastewater systems from private and municipal owners, we have also assumed operating responsibility of

both water and wastewater systems via lease arrangement at times when this arrangement proved to be more workable.

The largest example of this can be found in LCA's operation of the Industrial Wastewater Pretreatment Plant located in Upper Macungie Township, PA. For nearly 15 years, this facility was owned and operated by the County of Lehigh, and not affiliated with LCA until 2006. A lease agreement was negotiated with the County, and LCA began operating the plant in May 2006. Under that lease, we assumed full responsibility for operations, administration, finance, capital improvements, and customer service for every aspect of this \$52 million facility.

Today, this plant is consistently turning a profit due to LCA's management approach, which includes the use of a contract operator, CH2M Hill, and development of aggressive pricing strategies to grow waste hauler revenues at this state-of-the-art facility. Additional economies will be achieved at this facility in the years ahead as LCA completes capital upgrades that will allow us to capture and convert biogas into electric power to fuel plant operations.

Measuring Performance:

LCA's success in managing the transition of acquired or leased systems, and the capital improvements that were necessary to enhance service, is measured by our long history of water rate stability and wastewater system cost control. Our water rates for residential, commercial, and industrial customers are among the lowest in the Lehigh Valley region, and across the state. LCA strives to maintain rates that increase by no more than the Consumer Price Index (CPI) over any five-year period. The benchmark graph shown in Figure 2 illustrates our performance in this area.

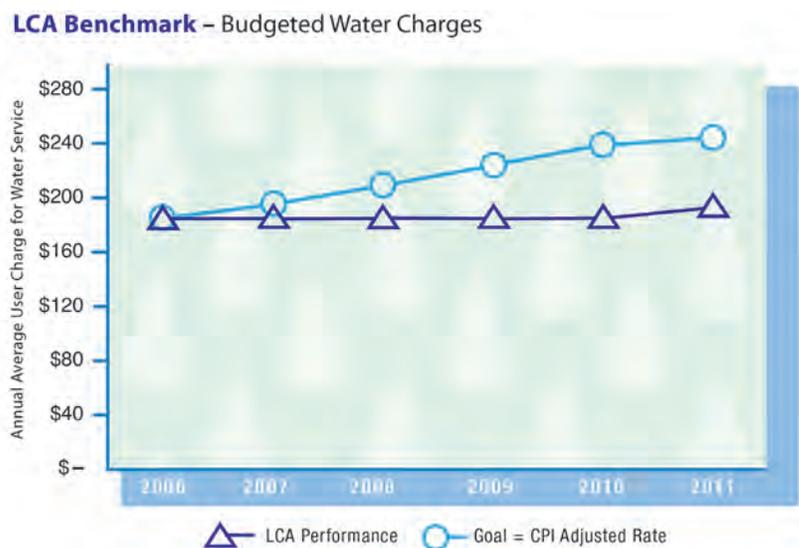


Figure 2 - LCA water rates have historically tracked well below our goal of the CPI adjusted rate over a five-year period.

Likewise, controlling the cost of wastewater service is an important measure to ensure LCA's assumption of increasing responsibilities does not negatively affect our customer base. LCA strives to maintain controllable wastewater costs at a level that increases by no more than the CPI over any five-year period. The benchmark graph shown in Figure 3 illustrates our performance in this area as well.

LCA Benchmark – Actual Wastewater Costs



Figure 3 - LCA's controllable wastewater costs track well below the CPI adjusted rate.

In planning ahead for a more regional approach to water and wastewater service, we would strive to achieve these goals for the benefit of Allentown as well. It is important to note that the competitiveness of LCA's rates and our ability to control water and wastewater costs have been major factors in attracting food processing and beverage producers to LCA's service area. Continued provision of high-quality,

reliable, and cost-effective utility services will continue to be important for both LCA and Allentown for the foreseeable future.

References

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TECHNICAL CAPABILITY

Introduction

Over the past 46 years, Lehigh County Authority (LCA) has proven its technical capabilities again and again as our service area has grown both through changes in local land use and also through acquisition of old, aging or poorly managed systems. Since its formation in 1966, LCA has completed more than 30 system acquisitions, each of which has been absorbed through a seamless transition into our operation. Today, as a result of this history, LCA operates water and wastewater systems throughout the Lehigh Valley, utilizing a broad range of technologies.

Our 13 water systems collectively serve approximately 52,000 people in Lehigh and Northampton counties, and include the following features:

- 48 groundwater wells
- 33 well stations and water treatment stations
- 6 water pressure booster pump stations
- 6 system interconnections with neighboring water suppliers
- 8 above-ground large water storage reservoirs
- 312 miles of water mains ranging from 2 to 42 inches in diameter

LCA's largest system, which serves eight municipalities in central Lehigh County, includes an interconnection with the City of Allentown that will provide up to 7 million gallons per day to our system upon completion by January 2013.

Our wastewater systems serve many of the same communities through a variety of arrangements, including our large regional interceptor system that transports sewage from 10 municipalities to Allentown's Kline's Island Wastewater Treatment Plant for final treatment and discharge. LCA also operates several smaller community systems with on-site package treatment plants. Features of LCA's wastewater systems include:

- 6 wastewater treatment plants
- 12 pump stations with capacity up to 24 million gallons per day
- 15 meter stations
- 80 miles of gravity and force mains ranging from 2 to 48 inches in diameter

One of the cornerstones of LCA's wastewater system is our regional wastewater treatment plant (WTP) located in Upper Macungie Township, PA. The WTP is a 5.75 million gallon per day plant with peak day capacity of 11 million gallons per day. The plant uses a pure oxygen, activated sludge treatment system to accommodate the high organic loads generated by

beverage and food manufacturers located in the service area. LCA assumed operational responsibility for this plant in 2006. See Figure 4 for more details on the WTP operations.

For more details on all LCA systems and service areas, please see [Appendix 2, Overview of LCA Systems](#).

The variety of water and wastewater systems currently under LCA operation establishes the backdrop for our technical capabilities to expertly operate the Allentown systems as well. The knowledge, expertise and dedication required to successfully operate such a wide variety of facilities in the Lehigh Valley is found within LCA's staff, and further illustrated by our commitment to excellence in the areas of operations and maintenance, customer service, safety and security, and capital improvements planning.

In the remainder of this section, we will focus on these specific aspects of our existing operations that, when blended with Allentown's, will allow for high-quality service to be provided to City residents.

Operations & Maintenance Expertise

At the heart of every water and wastewater utility is a team of employees on whom customers rely, 24 hours a day, to ensure that the water is flowing and is safe to drink, and their waste is handled in a safe and effective manner. The City of Allentown undoubtedly has employed a core group of dedicated employees who serve this function, and these employees would continue to operate the City's assets into the future under a lease agreement with LCA.

Figure 4 – Spotlight on LCA WTP Operations



LCA owns and operates the Wastewater Treatment Plant (WTP) in Upper Macungie Township. This WTP is one of the most technologically advanced wastewater treatment facilities in the nation. It is connected to the LCA Western Lehigh Interceptor system & the treated wastewater receives final treatment at Allentown's Kline's Island Wastewater Treatment Plant. This pure oxygen, activated sludge facility handles high-strength industrial waste from local industrial users, including the Sam Adams Brewery, and domestic waste from local communities & concentrated wastes delivered directly to the plant by waste haulers.

Each year, more than 1 billion gallons of waste flows through the WTP. Over 10 million pounds of BOD (biochemical oxygen demand) and 9 million pounds of influent TSS (total suspended solids) are removed annually. The average concentrations of these parameters when they arrive at the WTP and their final concentrations when departing the plant are:

BOD: 4,500-5,700 mg/l treated to 12 mg/l
TSS: 8,500-10,000 mg/l treated to 18 mg/l

Biosolids generated at the WTP are processed in anaerobic digesters, dewatered & beneficially used on farms as a fertilizer. The biosolids management program is carefully monitored for compliance with state & federal regulations. Careful management has resulted in zero landfill disposal of biosolids since LCA assumed operational responsibility for the WTP.

In this section, LCA will demonstrate our existing knowledge and expertise in operations and maintenance of water and wastewater systems of varying sizes and technologies. In addition, recognizing the considerable knowledge and expertise that Allentown employees will bring to the table, we will also highlight the practices and technologies LCA uses that will complement the City's existing programs.

People:

"The single most valuable asset shared between both the Water and Sewer Systems are the dedicated and experienced professionals who have worked diligently over the years to make each system the award winning unit that it is. The value that these individuals bring to this concession is immeasurable and it is the City's intent that this value be recognized throughout this concession lease process."

The quote above is excerpted from the City of Allentown's Request for Qualifications, and it perfectly captures the sentiment held by Lehigh County Authority as well. We have a long history of working with City employees on water and sewer projects, and value their technical capabilities, which will complement our own. LCA brings 39 additional dedicated and experienced professionals, whose experience covers a broad spectrum of technical, professional and managerial skills and qualifications, including:



- Water distribution system operations & maintenance (*including several PA Certified Water System Operators*)
- Water treatment facility operations & maintenance (*including several PA Certified Water System Operators*)
- Sewer collection system monitoring (*including several PA Certified Wastewater System Operators*)
- Wastewater treatment plant operations & maintenance (*including several PA Certified Wastewater System Operators*)
- Water & sewer system security (*with full NIMS compliance & ICS 100-400 certification*)
- Customer service
- Metering
- Water and sewer billing & collections
- Regulatory compliance management
- Water quality monitoring & sample collection

- Emergency response planning & preparedness
- Source water protection planning
- Wastewater quality monitoring & industrial pretreatment program management
- Long-range utility infrastructure planning & capacity development
- Capital improvements planning & project execution
- Accounting & financing expertise
- Payroll & benefits administration
- Public relations, public affairs & crisis communications
- Community outreach & youth education programming

Other areas of expertise are captured within the description of Key Personnel included in the “Proposer Information” section, and further outlined in Appendix 1, Resumes of Key Personnel, as well as throughout this SOQ.

LCA has a strong team of long-term, dedicated and knowledgeable employees who operate, maintain and improve our water and wastewater systems. Our 17 operational employees collectively offer nearly 350 years of service to either LCA or Allentown* water and wastewater systems.

**Note, our operations manager, Joe McMahon, has 24 years of experience with the City of Allentown, most recently as its Manager of Water Resources. During his tenure at Allentown, he led several water and wastewater plant upgrade and renovation projects, and played a key role in organizational restructuring, including developing cross training programs and creating an internal Information Technology team.*

LCA’s operational employees and managers are licensed to operate and maintain water and wastewater systems by the Pennsylvania Department of Environmental Protection. To advance the capabilities of our staff, we encourage active involvement in industry associations and regularly offer technical training not only to maintain their Operator Certifications, but also to increase LCA’s

Involvement in Professional Organizations

Lehigh County Authority is a member of many professional organizations, such as:

- *American Water Works Association (AWWA)*
- *AWWA, Pennsylvania Section & Northeast District*
- *AWWA, Water Research Foundation*
- *Water Environment Federation*
- *Pennsylvania Municipal Authorities Association*
- *Eastern Pennsylvania Water Pollution Control Operators Association*
- *Water Resources Association of the Delaware River Basin*
- *Pennsylvania Rural Water Association*
- *Pennsylvania Water Environment Association*
- *Government Finance Officers Association*

Many of our employees actively participate in committee and leadership roles in these and other organizations. Collectively, these organizations provide training and expertise in many aspects of water and wastewater operations, technology, finance, ratemaking, human resources and management. Additionally, they provide representation for their member utilities, like LCA, in regulatory and legislative matters at the state and national level.

technical proficiency and leverage the use of more efficient technology and practices.

Practices:

In addition to relying on LCA employees for their dedication and expertise, our operational performance is also driven by our standard approaches to system operation and maintenance. By regularly measuring performance through the use of benchmarks, we also ensure LCA's practices are achieving the levels of operational efficiency and effectiveness we require.

While not an exhaustive list, this section highlights some of the standard operating practices LCA employs to ensure optimum performance of our water and wastewater systems, and to address the ongoing maintenance needs of our buried assets. For more information on LCA's approach to capital improvements planning, which addresses our investment in long-term projects to address aging infrastructure, please see the Capital Improvements section beginning on page 31.

Unaccounted for Water: LCA has an aggressive program to reduce unaccounted for water, which includes many typical industry practices such as comparing water production to water sales figures, monitoring our facilities' pump run times, and regular calibration of system and large-industrial water meters. In addition, we use the latest in acoustic leak detection sensors and technology that transmits data via telemetry back to the LCA operations center, and leak correlation equipment. LCA's customer service group also tracks service line leaks and administers a proactive customer notification process to ensure they are addressed in a timely manner. See Figure 5 for LCA's benchmark performance in this important area.

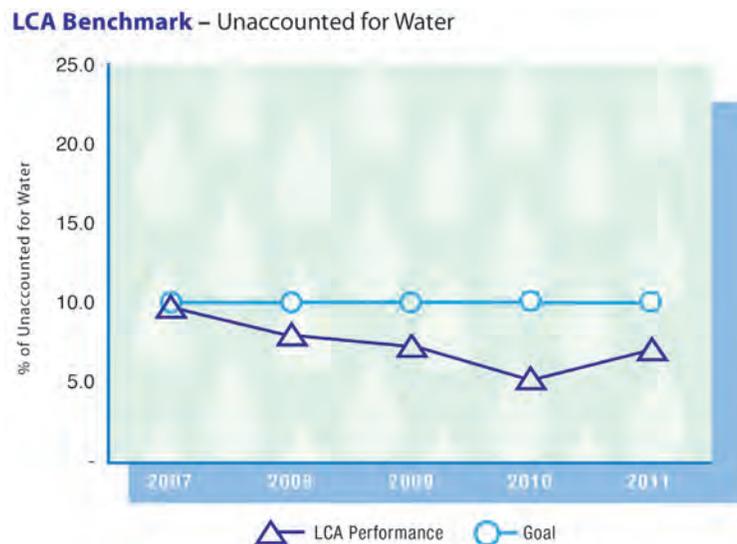


Figure 5 - LCA strives to ensure Unaccounted for Water represents no more than 10% of the total amount of water produced.

LCA Regulatory Compliance: LCA places a strong emphasis on regulatory compliance as another core practice. Due to the wide variety of small, medium and large water and wastewater facilities we operate, LCA's team of licensed operators share in the responsibility to achieve compliance, and work with our compliance coordinator to ensure performance in this area. LCA has had no drinking water MCL violations in more than 10 years.

Leak Response & Customer Outages:

LCA’s proven methodology for leak response has been a tremendous benefit to our customers. We have assembled a dedicated leak-response vehicle that can be quickly deployed with a field crew to address leaks in a timely manner. A critical measure for performance in this area is the average customer outage time incurred during a leak repair, and our employees are dedicated to completing such leak response activities in the most efficient manner possible. LCA’s performance in this area is highlighted in the benchmark graph shown in Figure 6.

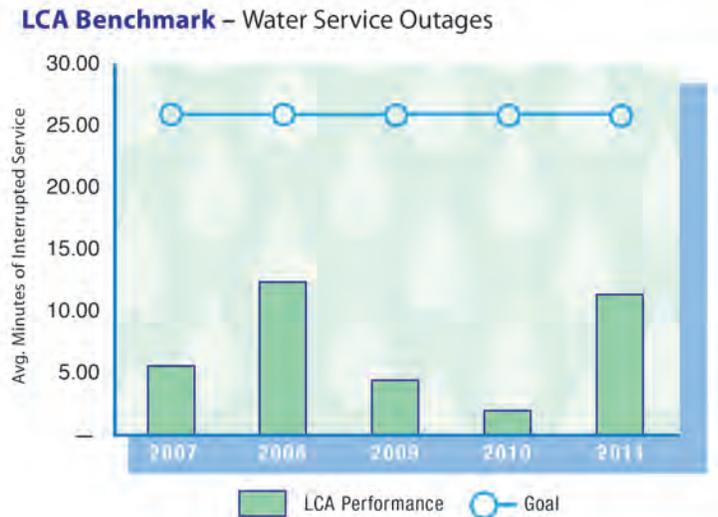


Figure 6 - LCA's water service interruptions are measured in minutes and compared to total minutes of service provided. LCA's performance far exceeds our service reliability benchmark of 99.995%, which would equate to no more than 26 minutes of service outage per customer per year.

Wastewater Collector System Monitoring & Maintenance: In addition to the long-term capital investment required to maintain LCA’s sewer collector system, as outlined in the Capital Improvements section below, our operations group has routinely been involved with monitoring and maintaining the collection system for optimum performance. Specifically, LCA has employed the use of an in-pipe closed-circuit television (CCTV) inspection system, using Pipeline Assessment Certification Program (PACP) ratings, to document system condition and prioritize rehabilitation projects. This work is completed in-house using LCA employee experts in CCTV and PACP work, with approximately 33 percent of our collector systems undergoing such evaluation each year. Rehabilitation projects initiated as a result of this work have included cured-in-place structural lining, cured-in-place point repairs, mechanical leak repairs, service line leak repairs, slip-lining projects, and manhole rehabilitation projects.

Preventative Maintenance & Inspections: Routine preventative maintenance is critical to extending the useful life of all water and wastewater system facilities. LCA’s program includes a variety of asset types including fire hydrants, valves, disinfection systems, well stations, pump stations, sewer meter stations, storage tanks, and more. For lower-cost, higher-volume assets, such as hydrants and valves, the program runs on a multi-year rolling basis. Critical assets, such as water supply facilities and pump stations, are on a weekly inspection cycle. LCA employees are fully cross-trained to complete this work throughout our service area. In addition, we use outside contractors as appropriate to complete more extensive inspection and maintenance programs, such as water tank maintenance, which requires specialized equipment and certifications.

Cross-Training & Knowledge Management: LCA has historically cross-trained our operational technicians on all systems and facility types that we operate. While some specialization is naturally required to effectively address the changing technology of today’s water and wastewater utilities, we have made every effort to ensure critical roles and responsibilities are shared by all employees. This ensures a more timely response to emergencies, opportunities for a more flexible scheduling approach, and more efficient operation overall. In 2010, LCA began a related effort across the entire organization to develop “Knowledge Management” tools and skills to begin documenting the institutional knowledge held by many of our long-tenured employees, in recognition of the future retirement of many long-term employees within the water and wastewater utility industry.

These and other proactive operational practices, along with performance measures to assess their effectiveness, are available to the City of Allentown in the future operation of their water and wastewater assets under a lease with LCA.

Technologies:

Water and wastewater utilities of the past relied primarily on human ingenuity and muscle along with new or proven standard practices to achieve the desired system performance. Increasingly, we now rely on technology as well to help manage our systems, work more efficiently, predict system performance, and minimize human error.

This has been especially the case for Lehigh County Authority, where a multitude of technologies have been employed to achieve these results. A key indicator of the effectiveness of our technology advancements is the operational efficiency LCA has achieved despite increasing customer

and regulatory demands. As illustrated in Figure 7, over the past 10 years, LCA’s customer base has more than doubled, while our employee base has increased by less than 20 percent. This is an important consideration for the Allentown concession

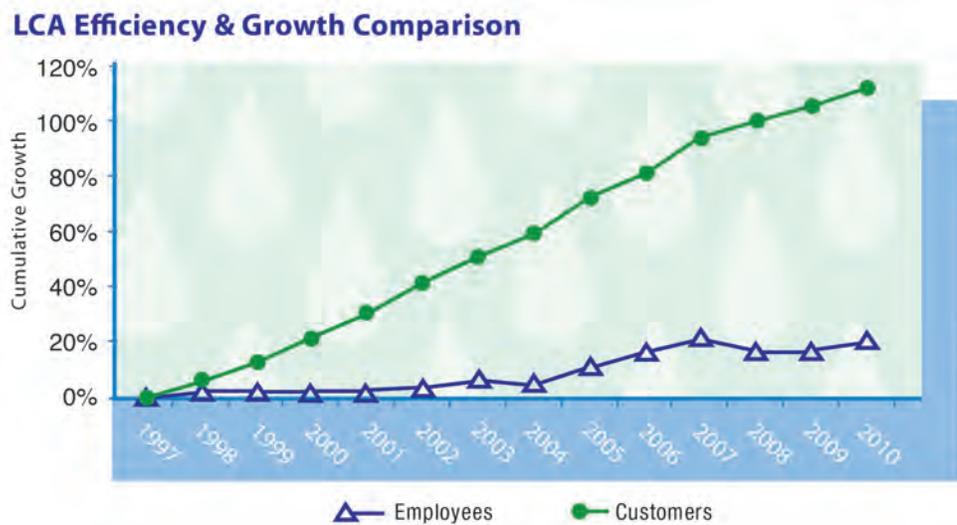


Figure 7 - LCA customer growth has more than doubled in the past 10 years, while advances in technology and a focus on efficiency have resulted in employee growth of less than 20%.

agreement, which will require strong cost control and effective use of technology in order to achieve the City's goals for system performance and rate stability.

Information technology (IT) systems in place at LCA are similar to those employed by Allentown. Therefore the transfer of knowledge and ability to share information between LCA and Allentown employees will be streamlined. The listing below is an example of how we use technology today.

Supervisory Control and Data Acquisition (SCADA): This system is used to remotely monitor and control LCA's water and wastewater facilities from our operations center or technicians' laptops, thereby improving response time and reducing manpower costs associated with travel and on-site system operations. All of LCA's operational employees are trained on SCADA, and we also utilize redundant alarm systems as a back-up to ensure system reliability.

Geographic Information System (GIS): LCA implemented our GIS system in the late 1990s, and we now have all water and sewer facilities accurately mapped electronically and attributed with facility data such as installation year, size, material, and more. This is an important component of an asset management program, but is also useful on a daily basis to help our employees quickly find the information they need within our network of water and sewer systems. In addition to deploying the full mapping software to key employees, we have also developed customized tools for a mobile application and customer service functions, which makes the system accessible to employees across the organization.

Mobile Technology: LCA's operational field employees use sophisticated "smart" phones and laptop computers to improve communications and efficiency in their daily work. Considering our broad geographical operating range, these devices allow for multiple means of communication with field staff (e.g. voice, text and email), as well as remote access to our IT systems including SCADA, GIS and others.

Laboratory Information Management System (LIMS): Data collection and analysis is critical for maintaining regulatory compliance, developing process control changes, and reporting on system performance. LCA's LIMS system achieves this, and is managed by our in-house compliance coordinator.

Financial Information System (FIS) and Utility Billing & Customer Information System (UBCIS): LCA recently upgraded its FIS and UBCIS to software systems by Tyler Technologies, which is the same provider the City of Allentown uses for its systems. These systems allow our employees to accurately bill customers, manage meter readings, administer collections programs, and complete all financial, human resources and accounting tasks required.

Water & Sewer System Modeling: In 2011, LCA developed hydraulic models for our largest water and sewer systems, for use in system planning and operations. For example, on the water side, the model has been used to analyze how water will flow through LCA’s water system from the planned interconnection with Allentown, scheduled for completion by January 2013. Results of this analysis will be critical in developing water quality programs such as system flushing and public outreach on fluoridation levels as we purchase increasing amounts of water from Allentown in the years ahead.

Many of the technologies listed here are also in use by Allentown’s employees, which will create positive synergies among the LCA and Allentown staff. Adding the broad range of LCA’s capabilities and similar practices and technologies will serve to enhance system performance and ensure a smooth transition for Allentown’s customers.

Customer Service

Lehigh County Authority’s commitment to customer service is a core element of our mission and strategic plan, which focuses on establishing the high standards for service quality we expect of our organization and our employees. Some of these standards are illustrated in the benchmark graphs presented throughout this SOQ. For a full copy of LCA’s Strategic Plan, please see [Appendix 3, Other Available Information](#).

LCA’s customer service strategy revolves around a few key elements, described in this section.

One-Stop Shopping:

LCA offers a full-service customer care department, made up of three customer care representatives and one field technician, who seek to provide complete and accurate responses to all customer inquiries. Our customer care staff is responsible for all metering work, billing, collections and customer inquiry response. Their goal is to address every customer inquiry that comes in via phone, email or walk-in, without needing to refer to other departments or personnel. The range of inquiries LCA’s customer care department addresses includes, but is not limited to:

Allentown customers would receive the same care and attention that all LCA customers receive.

- | | |
|-----------------------|--|
| Billing & collections | Billing account maintenance |
| Water quality | Refunds & adjustments |
| Move ins/Move outs | Metering issues (noisy, leaky, broken, etc.) |
| New installations | High/low usage |
| Water pressure | Payment options (including online billpay) |
| Service line leaks | Sewer backups |
| Backflow prevention | Capital project status information |

This “one-stop shopping” approach is based on LCA’s focus on our customers and their need for accurate and timely responses to their inquiries. We achieve this through establishing strong internal communication channels that connect our customer care group with all other departments so our representatives have access to the information they need, when they need it.

For the Allentown water and sewer systems, LCA would seek to provide this same level of service to the Allentown customers. The transition strategy will require a high level of integration and team-building among LCA and Allentown employees to expand those lines of communication to encompass the City systems. This transition can occur quickly due to LCA’s existing knowledge of the Allentown systems, and the technology links that already exist between LCA and Allentown.

Consistency, Fairness & Compassion:

LCA has long-established policies for metering and bill collection, which provide the framework under which our customer care representatives operate. Our user rates are reviewed and adopted by our Board of Directors and form the basis on which we prepare our customer billing statements. For more information about LCA’s policies and water and sewer rate schedules, please see Appendix 3, Other Available Information.

These policies and rate schedules are reviewed regularly and updated to reflect any changes that may be required by the Pennsylvania Municipality Authorities Act or other financial requirements established by our Board of Directors. If awarded the concession lease for Allentown systems, these policies and rate schedules would be reviewed quickly and updated to reflect the terms established in the lease for service to Allentown customers.

The responsibility to implement these policies, however, rests with LCA’s front-line customer care staff.



Due to the “one-stop shopping” approach described above, our customers often know our representatives on a first-name basis and call them regularly for updates on projects and issues that interest them. Likewise, when we issue customerwide notifications about changes to our policies or rates, customers often contact us directly with their questions and concerns.

Because LCA’s customer service staff is prepared to handle every inquiry we receive, we are able to communicate effectively with customers about our policies and procedures, and then work with customers to resolve any issues that arise.

This is especially important in our collections program, which requires a high level of sensitivity and compassion to address delicate situations with our customers. LCA’s customer care group routinely handles such situations by working with individual customers to establish payment plans to meet their needs, review their consumption history, provide advice on how to reduce household water usage, find leaks that may be wasting water, and other methods to help customer address their concerns. If a bill adjustment would be a helpful and appropriate solution to address a collections issue, we offer that as well, within a set of guidelines to ensure fairness and consistency for all customers.

Every phone call is different, and every customer approaches their water utility with their own individual point of view. Addressing customer needs requires a staff that understands our policies and procedures, and then helps customers understand them as well, looking for solutions along the way to resolve the customer’s concerns. This is the level of service we expect from our staff, and the level of service Allentown’s customers would expect to receive from LCA.

Measuring Performance for Continuous Improvement:

Because LCA’s customer care group holds such a broad level of responsibility for addressing customer concerns and generating revenue for our operations, we have established a strong set of departmental performance measures that help keep us focused on our primary goals:

billing accuracy, collections performance and customer satisfaction.

LCA Benchmark – Customer Service Satisfaction



Customer service satisfaction is paramount to LCA. Our strategic plan calls for customer service satisfaction of at least 93%, yet we have established a top-level benchmark goal of 95%. We measure this through monthly customer survey postcards that are sent to every customer who has phone contact with LCA, or who has a completed service visit from an LCA field technician. Our performance in this area is shown in the benchmark graph displayed in Figure 8.

Figure 8 - Percentage of customers "satisfied" or "very satisfied" with the level of customer service received from LCA personnel.

This benchmark was established based on requirements set forth by the Pennsylvania Public Utility Commission (PUC) for performance measures of electric and natural gas utilities in Pennsylvania, since no other comparable criteria have been established for regulated water and sewer utilities. LCA's performance in this area has exceeded the results of all electric and natural gas utilities surveyed by the PUC within the past five years.

Examples of other performance measures LCA tracks to ensure its customer service programs are meeting our customers' needs:

- Estimated vs. actual meter readings
- Customer satisfaction with employee knowledge
- Customer satisfaction with employee courtesy
- Percentage of delinquent customers
- Amount of outstanding water & sewer balances > 90 days late
- Payroll commitment to metering and collections activities

As the service provider to Allentown residents and businesses, LCA would not differentiate customers based on location. That is, customers of the Allentown system would be treated with the same care and attention that all LCA customers receive. Our continued measurement of our customer service performance will help us to quickly detect and correct any deficiencies in this regard.

Strategy for Seamless Transition:

In considering a transition of Allentown's water and sewer systems to LCA operation, we must keep the service to all customers as the primary focus. Ensuring a smooth transition requires attention first to the most critical functions of a water and sewer utility: provision of safe and reliable services.

As discussed throughout this SOQ, Lehigh County Authority has completed more than 30 water and sewer system acquisitions over the course of our history, and each has been completed with a smooth transition, and no interruption of services to any customer. We fully expect this to be the result of the transition under the Allentown concession arrangement.

Details of the transition will begin to be developed during the due diligence period; however our proven methodology would be employed here to ensure a seamless transition. This methodology starts with the assembly of a transition team, led by the Key Personnel listed in this SOQ. The team will draw on LCA technical experts to outline key data requirements that will be required to fully develop the plan, using our existing Data Requirements Checklist as a guideline for this effort. This checklist includes more than 50 items we will request from the City in order to fully understand the scope of the transition requirements. Some examples of the categories of items include:

- Customer service standards & practices
- Examples of billing records & customer consumption history
- Meter data & calibration history
- Distribution plans & maintenance programs
- Emergency response plans
- Monitoring schedules & permit requirements
- Capital improvements history & plans
- Asset condition reports
- Employee records & contracts

This information will be supplemented with a series of team meetings between LCA and Allentown managers and employees to develop a detailed transition plan for the technical aspects of operating the concession assets.

From a customer perspective, we would expect to develop a communications strategy to help all LCA and Allentown customers understand the impacts of this important decision. Key elements of this communications strategy would include methods to answer the questions we expect most customers to ask, such as:

How will my water / sewer bill be affected?

Who should I call when I have a problem with my water or sewer service?

How do I pay my bill?

Will my water quality be affected?

How is LCA going to protect my drinking water from pollution?

Is LCA going to address sewer system overflows?

How fast can LCA get to my house if I have leak?

As we move forward with discussions with Allentown about this concession arrangement, the answers to these questions will become clear, and LCA is committed to engaging in an open dialog with all customers about these concerns, and any others that may arise, so that all residents and businesses in our service area understand that LCA is here to complete a singular mission of providing services that meet their needs.

Safety & Security

It is apparent from the Request for Qualifications that the City of Allentown holds safety and security as a high priority. Lehigh County Authority shares this sentiment and is fully prepared to assume the responsibility for keeping system employees safe as they complete their work, and protecting public health and safety through strong measures to secure our systems.

Water and sewer systems are rightfully included in the Department of Homeland Security's "Critical Infrastructure" list, which requires a heightened level of security and preparedness to protect public health. For that reason, LCA can highlight our activities in this area only at the program level, to illustrate our understanding of the issues. If City officials wish to learn more about the specifics of our security programs, we would be happy to share that information upon discussion of appropriate measures to protect confidential and sensitive information.

The following sections describe LCA programs that will be expanded to encompass Allentown water and sewer systems, and integrate all the work Allentown has already completed in this arena.

Assessing & Addressing Vulnerabilities:

After the devastating events of September 11, 2001, LCA took on the task that all other utilities across the nation were required to do – assess our vulnerabilities. However, we took a unique approach to this work by partnering with a neighboring utility, Whitehall Township Authority, to select a consultant and to share our knowledge and experiences at a conceptual level, while still preserving our respective systems' integrity.

Following the formal vulnerability assessment work, in 2003, the two utilities jointly developed a regional workshop that included local emergency responders, health officials and state and federal emergency planners to begin an open dialog about these new threats to system security. All parties involved in this workshop learned about the threats to public health and safety, how public utilities function, and how emergency responders would react if called in to help during a security breach.



This joint approach to completing our vulnerability assessment was recognized by the American Water Works Association as an innovative and unique approach, and highlighted in their *AWWA Journal* magazine in March 2004, available in [Appendix 3, Other Available Information](#).

Following the vulnerability assessment, LCA quickly moved forward with capital improvements to all facilities that required upgrades to adequately protect them from threats such as terrorism, vandalism and natural disasters. This work was completed in 2005 for all LCA water and sewer systems.

One of the initial tasks in the transfer of operating responsibility for the Allentown water and sewer systems to LCA will be to review the City's existing vulnerability assessments and determine the status of any improvements that may be necessary to address them. Due to our high level of familiarity with the City systems, and strong existing connections with local emergency responders, we expect this to be a highly streamlined and efficient process. In fact, one of our key personnel assigned to this project, Joe McMahon, managed the City of Allentown's water and sewer system vulnerability assessment projects prior to his employment at LCA. His intimate knowledge of the concession assets from a security perspective will be invaluable to the transition process.

Emergency Response Planning:

LCA's approach to emergency response planning (ERP) has traditionally been team-based, with a designated team leader. Our current ERP team leader is Kevin German, a senior foreman with 33 years of service to LCA and strong connections to several local volunteer fire companies and emergency responders.

Due to some of the changes in the way water and sewer utilities now operate, since September 11, 2001, LCA has made several adjustments to our ERP approach, such as:

- Achieving National Incident Management System (NIMS) compliance
- Restructuring our Incident Command System (ICS) to adhere to NIMS guidelines
- Training all section chiefs and officers in our new ICS
- Achieving ICS 100 & 200 certification for all section chiefs and officers
- Achieving ICS 300 & 400 certification for all operational managers
- Entering into a mutual aid agreement via the Pennsylvania Water/Wastewater Agency Response Network (PaWARN)
- Serving on the PaWARN Board of Directors
- Developing a reduced workforce (e.g. pandemic) operations plan

These and other changes are reflected in LCA's official ERP document, which underwent a major update in 2010 and several minor updates since then. In late 2010, LCA conducted another regional water and wastewater system emergency response drill, which included the following participating agencies:

Federal Bureau of Investigation
Pennsylvania State Police

Department of Homeland Security
Pennsylvania Department of Environmental Protection

American Red Cross
Lehigh Valley Health Network
Upper Macungie Township
Cetronia Ambulance Corps

Lehigh County Emergency Management Agency
Lower Macungie Township
Allentown Fire Department
St. Luke's Hospital

This drill was instrumental in testing the 2010 major update to our ERP, and to continue to build relationships with local, state and national emergency responders who would likely assist us if our water or sewer systems faced an imminent threat.

Because LCA is already working in the same locale as the Allentown water and sewer systems, we would draw on these local connections to further examine how a threat to Allentown's systems would be mitigated. During a transition to LCA operation of the concession assets, one important task will be to review the ERP documents that exist for the City systems and compare them to LCA's to determine how they can be blended. Then, joint planning documents can be developed, and drills conducted with the LCA/Allentown staff and our established network of emergency responders, to ensure the combined ERP works.

Employee Safety:

LCA holds the safety of our employees as one of our most important goals – we strive for an accident-free workplace. This requires a great deal of focus considering the conditions we require some of our employees to work in: rain, snow, ice, using heavy equipment, working in streets with flowing traffic, entering confined spaces, and other adverse conditions.

The benchmark graph shown in Figure 9 illustrates LCA's performance in employee safety for the past five years.

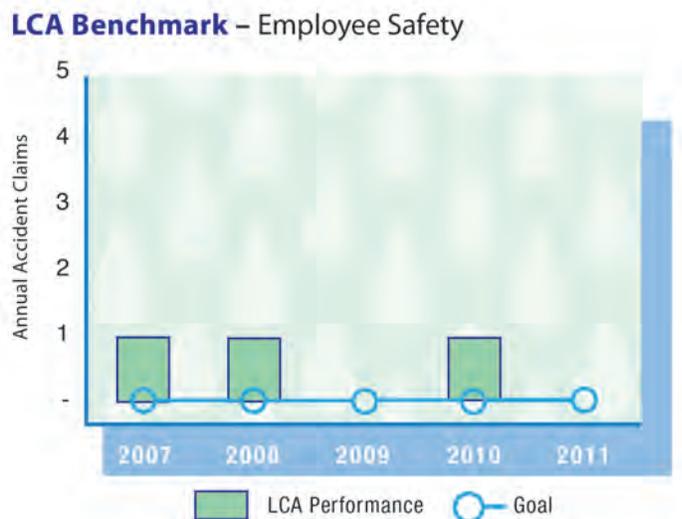


Figure 9 - Total number of accident claims per year.

Accidents can happen, and that's where LCA's risk management team enters the picture. This employee team is lead by Kevin German, also highlighted in the Emergency Response Planning section above, and includes four additional employees, some of whom serve on the team on a four-year rotation. The risk management team's primary responsibility is to ensure LCA facilities meet safety standards through an annual inspection process, and any accidents that do occur are thoroughly examined for root cause and future employee training opportunities.

LCA also employs uses from the Delaware Valley Workers Compensation Trust to help measure safety according to industry standards, develop employee safety training programs, and assess

risk at LCA facilities. Figure 10 shows LCA’s safety performance on a comparative basis with state and national performance, using data available through the Trust.

Figure 10 – LCA Safety Performance Comparative

Entity or Area	2007	2008	2009	2010	2011	5-Year Average
LCA	2.60	2.70	0.00	2.60	0.00	1.58
US-Overall	5.20	5.70	5.10	4.10	4.10	4.84
New York	8.80	8.80	3.70	3.20	3.20	5.54
New Jersey	6.60	12.90	12.70	12.70	12.70	11.52

** Incident rates in this chart are calculated as the number of injuries, divided by total productive man-hours worked, times 200,000, in order to compare to the latest Bureau of Labor Statistics data for the "water, sewage and other systems" employee class. Pennsylvania data is not available in the Bureau's report.*

To further promote employee safety and security, LCA has routinely offered training at our facility in Wescosville, PA, for industry associations that offer safety courses such as the Water System Security training course required of all water system operators during the 2011-2012 certification cycle. In addition, our garage facility includes a built-in confined-space entry “manhole” used solely for training and practice demonstrations for this important issue.

The employee safety program described here would be fully deployed for all Allentown water and sewer employees as part of the transfer of operating responsibility to LCA. We would also plan to review the City’s existing safety programs and performance history to determine how Allentown and LCA programs can be integrated to meet our collective needs.

Capital Improvements

Every year, water and sewer utilities across the country are faced with the realities of an aging infrastructure. Just as we age and face the aches and pains of getting older, so do the pipes, pump stations and treatment plants that we need to provide our customers with consistent, high-quality water and sewer services. Nationally, aging infrastructure is a growing problem that will require an investment of more than \$1 trillion for buried water system infrastructure alone, in the next 25 years.

Lehigh County Authority’s leaders have recognized this reality, and have been engaged nationally through our active participation in American Water Works Association (AWWA) initiatives to raise awareness of this critical need. LCA’s general manager, Aurel Arndt, has been particularly active in this arena, and has served on numerous national committees to promote infrastructure funding solutions. Most recently, in February 2012, Aurel testified at a hearing in front of the U.S. House Subcommittee on Water Resources & Environment on the proposed Water Infrastructure Financing and Investment Authority (WIFIA) legislation that would

generate sources of low-cost funding to meet this important need for water utilities across the country. For a complete copy of the AWWA report on this topic, “Buried No Longer,” prepared by the advisory working group chaired by Aurel Arndt, see [Appendix 3, Other Available Information](#).

It is important to note that having Allentown’s public water and sewer infrastructure needs represented on a national level through LCA’s strong involvement in industry initiatives of this nature will be critical for bringing funding to the City for the infrastructure upgrades that will undoubtedly be required during the next 50 years.

While the nation wrestles with this important issue, we still have much work to do today to keep up with capital improvements that are required to maintain our facilities to our high standards, meet ever-changing regulatory requirements, and expand capacity as needed to meet the region’s needs. To achieve this, LCA has historically taken a proactive approach to capital improvement planning and execution, which is described in the sections below.



In-House Planning Expertise:

LCA annually updates a 10-year capital plan that identifies and prioritizes anticipated administrative, water and wastewater needs and determines the financial impact of the range of projects that are proposed. The capital plan serves as a long-range planning tool and “wish list” to help our employees think creatively about what improvements would most benefit our systems and our customers, in addition to meeting regulatory and community requirements. To ensure the plan is aligned with the community’s needs, LCA also puts the plan through a rigorous public input and approval process that includes review by the County of Lehigh and the Lehigh Valley Planning Commission, as well as review by all municipalities within our service area, prior to our Board of Director’s adoption of the plan. Thereafter, individual projects included in the plan are individually budgeted, designed, bid and approved again by our Board prior to LCA committing funds to the project.

LCA’s most recent capital plan, which spans from 2012 to 2021, proposes more than \$154 million in capital improvements projects. All work associated with developing this plan is conducted by our capital works department staff, which includes a department manager, two professional engineers, two project managers and a project assistant. The annual plan development process includes a review of short-term and long-term infrastructure and capacity development needs, cost-benefit analysis for each project, and analysis of financial commitments required to finance the plan. LCA’s capital works staff is also responsible for

executing projects included in our capital budget, and are held accountable for project execution, as illustrated by one of our core benchmarks shown in Figure 11.

For a full copy of the 2012-2021 Capital Plan, please see [Appendix 3, Other Available Information](#).

In order for LCA to address the capital improvements that Allentown’s water and sewer systems may require, we would first assess the condition of the assets and draw on the expertise of the City’s technical staff and our technical advisors. In addition, we are already quite familiar with certain capital requirements and factors that will affect future investment needs, such as the need to address infiltration and inflow (I&I) concerns within the regional sewer system and municipal collector systems. We would expect these needs to be more fully defined as we move forward with the concession discussions, which will further refine the level of financing that LCA will need to dedicate to the Allentown systems.

LCA Benchmark – Capital Project Execution

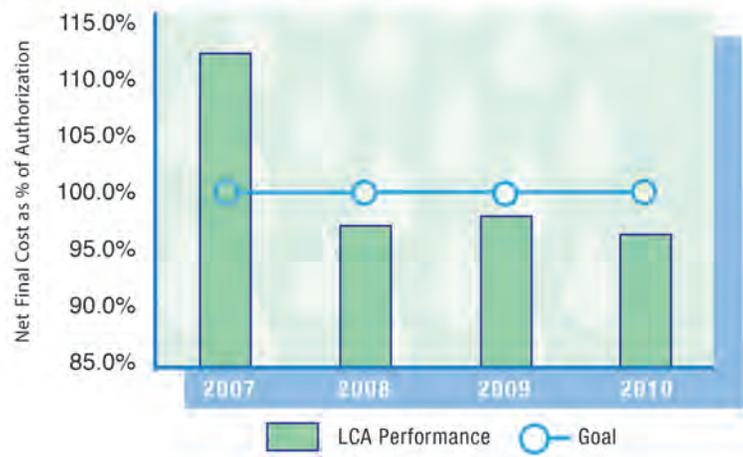


Figure 11 - Net final cost of LCA capital programs, as percentage of amounts authorized.

Project Execution:

LCA’s capital works staff offers full-service project management, which will supplement the skills of Allentown’s technical staff. Our capital projects are planned, designed and implemented through combined utilization of LCA staff for overall project management services, and the employment of outside engineering consultants and construction management firms, as needed. When outside consultants are used, they are selected independently for each project based on their qualifications and expertise, and their work is managed by an in-house LCA project manager. All projects are publicly bid in accordance with statutory requirements.

In addition to requiring contract compliance with all federal, state and local laws and regulations, we require performance and maintenance security to ensure proper completion of the construction contract and satisfactory project performance for a maintenance period after construction completion. Most of LCA’s projects require approvals from other agencies, such as the Pennsylvania Department of Environmental Protection (DEP), the Delaware River Basin Commission (DRBC), the Lehigh County Conservation District (LCCD), Pennsylvania Department of Transportation (PennDOT), local municipalities and others. As a result, LCA has extensive

knowledge of each of these organizations’ requirements, and we have established strong relationships with key regulators in order to streamline the approval process when possible. This expertise will be immediately available to Allentown in a concession arrangement, as any capital project undertaken in Allentown will require navigation of the same regulatory waters in which LCA currently operates.

Our success in capital project execution can be seen in the wide variety of projects LCA has undertaken. We have diverse capital improvement experience ranging from the design of small main replacement projects to the management of the construction of major upgrades to existing facilities. For example, Figure 12 below highlights projects completed in the last 10 years, for which LCA’s staff has overseen the planning, design and construction.

Figure 12 – Completed and Ongoing LCA Capital Projects

Type	Year	Project Name	Description	Cost
Water	2008	Reservoir #5	Design & construction of a 2 million gallon reservoir to support our Central Lehigh Division	\$2.5 M
Water	2008	Well Development - WL23/24	Design & construction of two new production well sources for the Central Lehigh Division	\$1.6 M
Water	2009	Applewood & Green Hills Pump Station upgrades	Improvements/upgrades to existing water pump stations to serve our highest service level in the Central Lehigh Division	\$900,000
Water	2010	LCA & City of Allentown Interconnection, Phase 1	Design & construction of a new 10.5 MGD water pump station and associated water mains to connect LCA to Allentown sources at Schantz Spring	\$4.3 M
Water	2010	Well Upgrades – WL8 & WL12	Improvements/upgrades to existing water well stations in the Central Lehigh Division to increase production and efficiency	\$2.5 M
Water	Ongoing	Water Meter Replacement Program	Replacement of 5,400 residential water meters 20 years or older and the installation of radio-read devices on an additional 8,400 meters	\$3.0 M (estimated)
Water	Ongoing	LCA & City of Allentown Interconnection, Phase 2	Completion of a 14,700 linear foot water main extension from LCA facilities at Schantz Spring to Allentown distribution mains at 26th and Chew Streets	\$3.4 M (estimated)
Water	Various & Ongoing	Cast Iron Water Main Replacement Projects	Design & construction of various cast iron water main replacement projects in older, residential communities with a history of leaks / breaks	\$1.5 M spent to date & \$700,000 est. for 2012

Type	Year	Project Name	Description	Cost
Sewer	2005	Spring Creek Force Main Extension	Design & construction of a 10,500' sewer force main to serve as relief for the Western Lehigh Interceptor	\$3.3 M
Sewer	2009	Western Lehigh Interceptor Rehabilitation	Correction of defects found in sections of sewer interceptor including manhole rehabilitation	\$780,000
Sewer	2010	Flow Equalization Basin	Design & construction of a 3 million gallon sewer holding tank at the LCA WTP to control sewer flow	\$5.5 M
Sewer	2010	South 7th Street Sewer System (Upper Milford Township)	Design & construction of a low pressure force main to serve 15 properties in Upper Milford Township	\$450,000
Sewer	Ongoing	Vera Cruz Sewer System (Upper Milford Township)	Design & construction of a low pressure force main to serve 280 properties in Upper Milford Township	\$5.2 M (estimated)
Sewer	Ongoing	Western Weisenberg Wastewater Treatment Plant	Design & construction of a new wastewater treatment plant to serve the Arcadia Industrial Park and surrounding area in Weisenberg Township	\$3.4 M (estimated)
Sewer	Ongoing	Western Lehigh Interceptor I & I Work	Infiltration and Inflow remediation work within our sewage collection systems	\$10.3 M (estimated)
Admin	2010	LCA Office Remodel / Expansion	The remodel and expansion of LCA's office and operations center	\$5.9 M
Admin	2010	Financial Information System Purchase & Implementation	Implementation of new FIS including both accounting and customer service/billing modules	\$675,000

Project Highlights – Keeping our Systems Young:

Cast Iron Water Main Replacement Projects – Cast iron was the most commonly used water pipe material in the United States until the 1970s, and LCA acquired several systems with that type of pipe. If not properly constructed, these mains are particularly prone to leaks and major breaks. Lehigh County Authority began a robust water main replacement program in the late 1990s to identify and target these areas for replacement. Since the program's inception, more than 25,000 linear feet of pipe in residential areas has been replaced. This program has reduced the total number of unscheduled water outages due to breaks, improving customer confidence in LCA's ability to provide exceptional water service.

Western Lehigh Interceptor Condition Assessment & Manhole Rehabilitation – The Western Lehigh Interceptor, which transports sewage from western Lehigh County to Allentown's Kline's Island Wastewater Treatment Plant, has more than 22 miles of various size pipe and 500 manholes. LCA has been exceptionally proactive in evaluating sections of the interceptor and rehabbing joint leaks and cracks as needed. This has included the

installation of cured-in-place linings to the corroded cement pipes. In addition, LCA has lead regional efforts to address infiltration & inflow (I&I) issues within the Western Lehigh Interceptor and the signatory collector systems that discharge into it. See Figure 13 for more details on the I&I Program.

Project Highlights – Building for the Future:

City of Allentown Water System

Interconnection – In 2009, LCA entered into a landmark water supply agreement with the City of Allentown. This agreement required LCA to construct infrastructure to facilitate the purchase of water directly from the City’s distribution system. The first phase included the design and construction of a 10.5 million gallon per day pumping station at Schantz Spring and the water mains necessary to connect LCA’s existing system to that station. The second phase required a 14,000-foot main extension to connect the City’s water distribution system to the new pump station. The first phase of this project was designed and completed in less than two years. The second phase will be completed by the end of 2012. This project involved negotiating numerous easement agreements and cooperation from various parties, including the City.

Vera Cruz Sewer System – As part of LCA’s sewer system agreement with Upper Milford Township, a new low-pressure sewer force main consisting of more than 28,000 linear feet of pipe was installed to serve 280 properties in the Vera Cruz area of the township. For this project, LCA worked directly with Upper Milford’s Board of Supervisors and staff to facilitate the project and assist the residents with their

Figure 13 – Spotlight on LCA I&I Program



In 2009, EPA issued an Administrative Order to LCA, the City of Allentown, and the associated municipal systems to eliminate all sanitary sewer overflows by December 31, 2014. Prior to the issuance of this order, LCA had taken a leadership role in educating the LCA signatory communities on the impacts of the peak flows which generated interest in establishing a program to deal with rain-derived infiltration and inflow (I&I).

LCA and the communities connected to our interceptors formed the Western Lehigh Sewerage Partnership (WLSP) to jointly investigate and develop an appropriate corrective action plan to address the wet weather issues. This plan, referred to as the Sewer Capacity Assurance and Rehabilitation Program (SCARP), was developed to address both PADEP & EPA concerns as well as other related long-term wastewater needs.

LCA is acting as the I&I program manager for the WLSP and is implementing the SCARP program and reporting results to state and federal regulators. Since 2009, we have:

- *Completed flow monitoring of the entire LCA & signatory collector systems*
- *Constructed a 3 million gallon per day Flow Equalization Basin at the WTP*
- *Built and calibrated a hydraulic model*
- *Developed a \$10 million capital plan to implement the I&I program*

Additional projects and I & I related work will be completed over the next 2 ½ years.

connection requirements. This project is especially important to LCA and the City of Allentown, as it addresses the high percentage of malfunctioning septic systems in this neighborhood, which has affected water quality in the Leibert Creek basin, which is tributary to Allentown drinking water sources.

Flow Equalization Basin – This project included the construction of a 3 million gallon flow equalization basin (FEB) at the LCA Wastewater Treatment Plant (WTP), including an above-ground concrete tank, mixing system, pumping station and an odor-control system. Although the FEB is used in some instances to assist in the control process of the WTP, its primary function is to divert and hold wet weather flows to address wet weather capacity and regulatory compliance issues in the Western Lehigh Interceptor System, also affecting Allentown’s Kline’s Island Wastewater Treatment Plant performance.

Project Highlights - Finding Funding:

Several of our recent projects have been awarded grants and/or low-interest financing through both state and federal funding agencies. These awards have been obtained through LCA’s aggressive pursuit of funding, when new infrastructure programs become available through local, state and federal programs. Our in-house capital works staff completes this work by developing grant applications and forging strong relationships with agency personnel who assist in the administration of the funding programs. Some of our most recent funding awards are shown in Figure 14.

Figure 14 – Recently Awarded Capital Project Funding

Project	Funding Agency	Amount
Vera Cruz Sewer System	EPA & H2O PA	\$2.5 M
Water Meter Replacement Project	H2O PA	\$298,300
Water Meter Replacement Project	PennVest	\$1.6 M
Western Weisenberg WWTP	PennVest	\$2.9 M
Flow Equalization Basin	PennVest / ARRA	\$6.0 M
Well Development - WL23/24	PennWorks	\$420,000
Well Upgrades - WL8 & WL12	PennWorks	\$1.8 M

Capital Planning for Allentown Assets:

Lehigh County Authority’s approach to capital improvement planning and project execution allows us to save money and time and remain an industry leader in providing affordable high-quality water and sewer services to our customers. Because of the strong capital planning and execution processes that we already have in place, LCA is prepared to adapt this process to include the City’s water and sewer assets. We would follow the same procedures to identify

City assets that need attention and then make the necessary decisions as to how best to proceed. This capital improvement process will ensure that Allentown residents continue to receive the highest quality of service possible.

FINANCIAL CAPABILITY

Introduction

Strong financial management has been one of Lehigh County Authority's key organizational strengths, which will be critical for the implementation of the concession arrangement with the City of Allentown. In this section, we will discuss key factors that will influence our ability to raise financing for the upfront concession, as well as to continue funding capital improvements that will be necessary for the next 50 years of a lease term. As Allentown's residents and businesses will be significantly impacted by this concession, through their future water and sewer rates, it is important for both LCA and Allentown to review these financial implications carefully as the discussion continues.

Financial Capacity

Lehigh County Authority has substantial capacity to finance this concession lease and to maintain the leased assets to ensure high quality, reliable and economical service to City customers.

As of December 31, 2011, LCA's financial picture includes the following features:

- Unrestricted Current Assets of \$25,145,000
- A Current Ratio of 3.55
- Restricted Water System Assets of \$10,057,000, available for capital projects
- Net assets (excluding funds restricted to debt service) of \$173,720,000
- A Net Asset to Long-term Debt Ratio of 4.43
- A Long-term Debt to Total Assets Ratio of .176

Collectively, these criteria highlight both funds on hand and the capacity to issue additional debt to finance the lease concession.

LCA's water bonds have been rated AA by Standard and Poor's, a strong credit rating that facilitates access to the municipal bond market and other lenders. This strong rating was garnered due to our high level of operational reserves, strong bond coverage and diversification of our revenue base.

Our 2011 Comprehensive Financial Annual Report includes a large volume of additional financial, statistical and audit information about LCA, reflecting consistently strong financial performance. For a full report, please see [Appendix 3, Other Available Information](#). Also

available in [Appendix 3](#) are financial statements and independent auditors' reports for 2010 and 2009.

To monitor performance in a variety of areas, LCA tracks 19 measures of organizational performance. Several of these benchmarks are shown throughout this SOQ. For this section, it is important to highlight LCA's bond coverage performance (Figure 15), as well as our experience in controlling overhead costs (Figure 16), as these bear directly on our ability to provide adequate funds to meet operational and capital needs in an affordable way.

In addition, under the Pennsylvania Municipality Authorities Act, LCA's Board of Directors has the ability to set rates without approval by any regulatory agency or any governmental unit. However, the Act requires that rates must be "reasonable and uniform." The term "reasonable" requires that rates be designed to reflect the true cost of service, with discretion granted to determine what costs should be included in this calculation. The term "uniform" requires that the rates charged to similar customers or types of customers, such as classes of customers, must be the same.

LCA Benchmark – Water System Bond Coverage



Figure 15 - LCA has established a goal of maintaining a bond coverage ratio of at least 1.20. Despite economic conditions that have slowed the rate of growth in our service area in recent years, we have successfully and routinely exceeded this goal.

LCA Benchmark – Overhead Costs



Figure 16 – As shown above, LCA seeks to control overhead costs so they do not exceed the CPI adjusted cost over a five-year period.

Given these constraints, municipal authorities like LCA are typically able to obtain any financing that is necessary for projects, up to the point where rates become unaffordable to the impacted customers.

Ability to Raise Financing

Since 1984, LCA has issued \$71 million in municipal bonds and borrowed an additional \$38 million from banks and the Pennsylvania Infrastructure Investment Authority (PENNVEST). We have also obtained more than \$10 million in grants from state and federal agencies during that time. Figures 17 and 18 show LCA bonds and loans during that time span, segregated by water and wastewater funds.

Figure 17 – Summary of Issued Debt – LCA Water Fund

Issue Date	Issue	Initial Amount	Purpose
Dec-84	Adjustable/Fixed Rate Water Revenue Bonds, 1984 Series	\$ 14,700,000	Refund \$8,974,276 of existing debt & new money
Aug-86	Water Construction Note (PNC Bank)	3,000,000	Finance various projects
Aug-89	Fixed Rate Water Revenue Bonds, 1989 Series A	3,465,000	Retire PNC Bank loan
Dec-93	Fixed Rate Water Revenue Bonds, 1993 Series A	6,540,000	Defease 1989 Bonds and System Improvements
Dec-95	Water System Note (Meridian Bank)	303,000	Design & Purchase SCADA System
Mar-98	Water Revenue Bond, 1998 Series (National Penn Bank)	1,686,200	Finance various projects
Oct-01	2001 Pennvest Note	1,972,096	Washington Twp Main Replacement project
Dec-01	Water Revenue Bonds, 2001 Series	11,780,000	Refund 1984, 1989 & 1993 (Portion) bonds & finance various projects
Nov-03	Water Revenue Bonds, Series of 2003	3,840,000	Refund 1993 remaining bonds
Oct-07	2007 State Pennworks Loan	3,000,000	Finance various projects
Jun-08	Water Revenue Bond, Series of 2008 (PNC Bank)	10,000,000	Finance various projects
Mar-10	Water Revenue Bonds, Series of 2010 A	11,590,000	Finance various projects
Mar-10	Water Revenue Bonds, Series of 2010 AA	10,070,000	Refund portion of 2001 bonds, retire remaining 2003 bonds & finance various capital projects
Jun-11	2011 Pennvest Note	1,660,303	Finance Water Meter Replacement program
Total Water Debt Issued		\$ 83,606,599	

While many of LCA’s financings might be characterized as “plain vanilla,” we have used innovative financing approaches. As an early example, in 1984 and 1985, LCA issued two series of variable rate demand bonds (VRDB) which were supported by a standby letter of credit (LOC) with Mellon Bank. Owing to subsequent Mellon credit downgrades, LCA contracted with ABN-

AMRO Bank to provide a replacement LOC. LCA also entered into a swap agreement with Merrill Lynch to artificially establish a fixed rate on the VRDBs, which was then terminated in 2000. More recently, in 2010, LCA issued a series of Build America Bonds to finance water system expansion.

Figure 18 – Summary of Issued Debt – LCA Wastewater Fund

Issue Date	Issue	Initial Amount	Purpose
Jan-85	Sewer Revenue Refunding Bonds, 1985 Series A	\$ 1,970,000	Refund 1982 Bonds
Feb-85	Adjustable/Fixed Rate Sewer Revenue Bonds, 1985 Series B	5,250,000	Improvements to WW Relief Interceptor System
Dec-85	Sewer Revenue Note, 1985 Series C	3,675,000	Purchase Allocation
Dec-87	Sewer Construction Note (Meridian Bank)	405,000	Rt 29 Sewer Project Preliminary Study & Design
Sep-88	Sewer Construction Note (Meridian Bank)	1,270,000	Rt 29 Sewer Project Interim financing
Oct-88	1988 Pennvest Note	1,157,400	Rt 29 Project financing
Dec-91	1991 Sewer System Note (Meridian Bank)	250,000	Refund debt & pay for planning costs.
Nov-92	1992 Construction Note (U. Milford Twp)	138,200	Ramer Heights Collector System
Dec-92	1992 Sewer System Note (Meridian Bank)	24,400	Ramer Heights Collector System
Oct-96	Fixed Rate Sewer Revenue Bonds, Series of 1996	1,705,000	Fund portion of WL Relief Facilities
Jan-97	1997 Pennvest Note	2,679,000	Fund a portion of WL Relief Facilities Project
Mar-99	Sewer Construction Note (New Tripoli National Bank)	575,000	Heidelberg Heights WWTP Interim financing
Feb-00	2000 Pennvest Note	750,423	Fund Heidelberg Heights WWTP & Collector system repairs
Nov-09	2009 Pennvest Note	5,389,323	Finance Flow Equalization Basin Project
Total Wastewater Debt Issued		\$ 25,238,746	

LCA’s access to tax-exempt debt has provided substantial savings to ratepayers compared to regulated utility rates of return. We estimate that savings have varied between 4 and 6 percent, depending on market conditions from time to time.

LCA ratepayers have also benefited from the use of capital reserves to finance capital improvements. These reserves have been derived from debt service coverage incorporated into the development of user rates and capital recovery fees that are collected from new customer

connections. Reserves have also been boosted by LCA's conservative approach to projecting growth and forecasting revenue.

Financing the Concession & Managing for the Future:

While the details of the concession arrangement with the City of Allentown remains to be discovered during the Request for Proposal period, it is clear that Lehigh County Authority has taken a thoughtful approach to financing all of our investments over the past several decades. When entering into any financing arrangement, from the smallest project to the largest investment of our history, we focus on a two critical items: taking best advantage of our non-profit status to gain access to tax-exempt financing; and managing our operations so that all investments pay off for our customers through stable rates.

LCA applies commonly accepted financial management, accounting and ratemaking principles to ensure that our performance meets the highest standards possible. We have well-established accounting and internal control procedures, such as standard purchasing guidelines and automated approval request notifications. Our financial statements and procedures are audited annually by an independent Certified Public Accountant, and these audits have always included clean audit opinion letters reflecting no material weaknesses or deficiencies. All accounting functions are completed under the direction of the business manager and are administered by LCA's accounting department employees.

Rate analysis and other ratemaking activity has primarily been handled by LCA employees, including determining capital recovery fees (also known as tapping fees) and setting rates for all wastewater systems. We have also engaged consultants to assist in cost-allocation studies and developing proposed rates for our water systems, which are subject to a single rate schedule for most customers. LCA evaluates the adequacy of current rates as part of our annual budget development and adjusts rates, subject to approval by our Board of Directors, to ensure sufficient revenue to cover all obligations and expenses. Current water and wastewater rate schedules are available in Appendix 3, Other Available Information.

By applying these and other standard practices, Lehigh County Authority is in a strong position to not only address the upfront financing arrangement that will be required in this concession arrangement, but also to take on the full responsibility of ensuring the stable financial performance of the City systems well into the future.

CONFIDENTIALITY & DATA ROOM USAGE AGREEMENT

The Confidentiality & Data Room Usage Agreement is included here in draft format, and will be signed as soon as practical following resolution of terms currently under discussion by Lehigh County Authority and the City of Allentown.

**CONFIDENTIALITY AND DATA ROOM
USAGE AGREEMENT - DRAFT**

This Confidentiality and Data Room Usage Agreement ("Agreement") is made as of this day of

_____, 2012, by and between the City of Allentown ("ALLENTOWN"), and _____, a(n) [insert business entity type and State of formation] (the "Receiving Party").

ALLENTOWN agrees to disclose to the Receiving Party certain information through a secure, virtual data room. The virtual data room will contain ALLENTOWN information, which may include but is not limited to, user statistics, financial data, statistical data, and existing equipment. The Receiving Party agrees to access the virtual data room under the following terms and conditions.

1. Confidentiality. Subject only to the provisions of paragraph 2 below, the Receiving Party will not disclose any Confidential Information (as defined below) received from ALLENTOWN to anyone except employees of the Receiving Party and those members of the Receiving Party's "project team" ("Team Members") with a need to know who have been informed by the Receiving Party of the confidentiality of such information. The Receiving Party agrees that it and its Team Members will use such information only for the purpose of preparing the Receiving Party's submittal in response to ALLENTOWN's Request for Qualification (the "RFQ") and Request for Proposal for Concessionaires (the "RFP"). Upon the completion of the RFP process, or at such time if earlier that the Receiving Party decides that it does not wish to pursue the RFP process further, the Receiving Party acknowledges and agrees that its access to the virtual data room shall be terminated and it further agrees to destroy all copies of Confidential Information in its possession that are capable of being destroyed, as directed by ALLENTOWN.

a. "Confidential Information" shall be all information disclosed, in writing, orally, visually, electronically or otherwise, by ALLENTOWN to the Receiving Party, including all documents, data and/or information contained in ALLENTOWN's virtual data room.

b. With respect to the Confidential Information, the Receiving Party specifically shall cause all it Team Members to:

i. Protect and preserve the confidential and proprietary nature of all Confidential Information and the information contained therein;

ii. Not disclose, give, sell or otherwise transfer or make available, directly or indirectly, any Confidential Information or the information contained therein to any third party for any purpose, except on a need to know basis as is reasonably necessary for evaluation by advisors, consultants or agents of the Receiving Party or potential investors or other financing sources who have been informed by the Receiving Party of the confidentiality of such information, or otherwise as explicitly permitted in advance in writing by ALLENTOWN

- iii. Not use, transcribe or make records or copies of the Confidential Information except as necessary to prepare the Receiving Party's submittal to the RFP;
- iv. Limit the dissemination of the Confidential Information within the Receiving Party's own organization and within the organizations of any reasonably required advisors, consultants, agents, potential investors or other financing sources, to those individuals whose duties justify the need to know the Confidential Information, and then only provided that there is a clear understanding by such individuals of their obligation to maintain the confidential and proprietary nature of the Confidential Information in accordance with this Agreement;
- v. Notify ALLENTOWN immediately of any loss or misplacement of Confidential Information, in whatever form; and
- vi. Promptly advise ALLENTOWN if it learns of any unauthorized use or disclosure of the Confidential Information. In addition, the Receiving Party agrees to cooperate fully and provide any assistance necessary to protect against the unauthorized use or disclosure of such Confidential Information.

2. Exceptions. Notwithstanding the provisions of paragraph 1:

a. The Receiving Party's obligation with respect to keeping the Confidential Information confidential and with respect to the use of Confidential Information shall terminate with respect to any part of such information which appears in printed or online publications or which ceases to be confidential through no fault of the Receiving Party.

b. The Receiving Party shall not be precluded from disclosing or making any use whatsoever of any information which it can show was in its possession prior to the disclosure made by ALLENTOWN or which subsequently comes into its possession from a source independent of ALLENTOWN, which source was not, to the knowledge of Receiving Party, under any obligation of confidentiality to ALLENTOWN, or which was independently developed by the Receiving Party.

c. For the purpose of keeping confidential the Confidential Information received by it, the Receiving Party agrees that it shall treat all such Confidential Information with no less than the same degree of care to avoid disclosure to any third party as the Receiving Party employs with respect to its own proprietary and confidential information.

d. In the event that the Receiving Party is ordered by a court of competent jurisdiction to release to a third party or to such court any of the Confidential Information provided by ALLENTOWN, the Receiving Party may release such Confidential Information provided, however, that the Receiving Party promptly notifies ALLENTOWN of such legal action in advance of the release of such Confidential Information. ALLENTOWN shall have, to the extent provided by law, the opportunity to contest such

legal action seeking release. Nothing contained herein shall be deemed to require the Receiving Party to disclose Confidential Information.

3. Accessing the Virtual Data Room. Within a reasonable time after both parties execute this Agreement, the Receiving Party will receive usernames and passwords to access the virtual data room.

4. Rules of Use. The virtual data room and all content within the virtual data room may not be copied, reproduced, republished, uploaded, posted, or transmitted; provided, however, that ALLENTOWN grants the Receiving Party non-exclusive, non-transferable, limited permission to access and display the Web pages within the virtual data room, solely on a computer or computers owned and operated by the Receiving Party. All materials contained within the virtual data room that are made available for downloading, access, or other use shall constitute Confidential Information and shall be governed by the terms of this Agreement.

5. Indemnification. The Receiving Party agrees that its compliance with this Agreement is of utmost importance and, accordingly, the Receiving Party agrees to indemnify, defend and hold harmless ALLENTOWN and any third party (to the extent a breach of this Agreement affects the proprietary rights of such third party) with respect to any claims, losses, damages and expenses (including reasonable outside attorney's fees) which are attributable to or arise out of the Receiving Party's and or the Team Members' breach of this Agreement. The obligations of the Receiving Party under this Agreement and the indemnification provisions provided herein shall survive termination of this Agreement. Further, the Receiving Party agrees that neither ALLENTOWN nor any official, trustee, officer or employee thereof shall have any liability to the Receiving Party or any person asserting claims on behalf of the Receiving Party as a result of any matter associated with the transactions contemplated hereby, except in the case of willful misconduct of such party (and such exception shall apply only as to such party) or gross negligence.

6. Insider Trading. The Receiving Party acknowledges that it is aware that United States securities laws prohibit any person who has received from an issuer material, non ~~ip~~ information concerning the matters which are the subject of this confidentiality agreement from purchasing or selling bonds or other securities of such issuer or from communicating such information to any other person under circumstances in which it is reasonably foreseeable that such person is likely to purchase or sell such bonds or other securities.

7. Disclosure relating to Confidential Information. Subject to the exceptions set forth in paragraphs 1.b.ii and 2, without the prior written consent of ALLENTOWN, the Receiving Party and its agents and employees shall not disclose Confidential Information to any person (including, without limitation, any person or entity directly or indirectly bidding on, or otherwise involved in, this concession or the transactions contemplated hereby).

8. Waiver. No failure or delay by ALLENTOWN in exercising any right, power or privilege hereunder will operate as a waiver thereof, nor will any single or partial exercise thereof preclude any other or further exercise thereof or the exercise of any other right, power or privilege hereunder.

9. Disclaimer of Warranty. All Confidential Information is provided “as is.” ALLENTOWN does not make any representation or warranty, either express or implied, as to its quality, adequacy, completeness, accuracy, fitness for a particular purpose, sufficiency or freedom from defects of any kind. ALLENTOWN shall not be liable in damages of whatever kind as a result of the Receiving Party's reliance on or use of the Confidential Information provided hereunder.

10. Remedies. The Receiving Party acknowledges that the breach of any of the covenants or agreements contained in this Agreement on the part of the Receiving Party and/or its employees will result in irreparable harm and continuing damages to ALLENTOWN, and that ALLENTOWN's remedy at law for any such breach or threatened breach would be inadequate. Accordingly, in addition to such remedies as may be available to ALLENTOWN at law or in equity, in the event of any such breach, any court of competent jurisdiction may issue an injunction (both preliminary and permanent), without bond, enjoining and restricting the breach or threatened breach of any such covenant, including, but not limited to, an injunction restraining the Receiving Party and/or its employees from disclosing, in whole or in part, any Confidential Information. The Receiving Party shall pay all of ALLENTOWN's costs and expenses incurred in enforcing such covenants.

11. Ownership. Confidential Information disclosed hereunder shall be and remain the property of ALLENTOWN. No license, right, title or interest is granted herein, directly or indirectly, by implication or otherwise, to the Confidential Information by virtue of ALLENTOWN disclosing said Confidential Information to the Receiving Party, except such license or other rights as may be mutually and expressly agreed upon between the parties by separate written agreement.

12. Notice. Whenever notice is required to be given pursuant to this Agreement, the same shall be in writing, and either personally delivered, sent by a nationally recognized overnight delivery service, postage prepaid, or sent via United States certified mail, return receipt requested, postage prepaid, and addressed to the parties at their respective addresses as set forth on the signature page of this Agreement, or at such other addresses as any party, by written notice in the manner specified above to the other party hereto, may designate from time to time. All notices shall be deemed to have been given upon receipt (or refusal of receipt) thereof.

13. Parties. This Agreement inures to the benefit of ALLENTOWN and is binding upon ALLENTOWN and the Receiving Party, and their respective successors and assigns. This Agreement shall not be construed to recognize or create a joint venture, partnership, or other formal joint business or agency relationship.

14. Governing Law and Venue. This Agreement will be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania applicable to agreements made and to be performed within such State without regard to the conflict of laws principles thereof. Any dispute arising out of this Agreement, if litigated, shall be resolved by a state or federal court in Lehigh County, PA, and the parties hereby consent to the jurisdiction of such court.

15. Severability. In the event any provision of this Agreement is found to be invalid or unenforceable by a court of competent jurisdiction, the remainder of this Agreement shall

not be affected thereby, the provisions of this Agreement being severable in such circumstances.

16. Entire Agreement. This Agreement (a) constitutes the entire agreement and supersedes all written and oral communications between the parties relating to the subject matter hereof, and (b) may be modified or amended only by a written instrument specifically stating that it modifies this Agreement, signed by the parties hereto.

17. Counterparts. This Agreement may be executed in any number of counterparts, all of which taken together shall constitute one and the same document.

IN WITNESS WHEREOF, ALLENTOWN and the Receiving Party have executed this Agreement as of the day and year first above written.

RECEIVING PARTY

CITY OF ALLENTOWN

APPENDIX

APPENDIX 1 Resumes of Key Personnel

APPENDIX 2 Overview of LCA Service Areas

APPENDIX 3Other Available Information

APPENDIX 1 – Resumes of Key Personnel

Aurel Arndt, General Manager

Serves as Chief Executive Officer, providing general management of all operations and activities of the Authority. Provides strategic direction and develops plans to achieve organization goals and objectives

Key Skills & Knowledge Areas:

Strategic Planning

Government and Utility Finance

Organizational Leadership

Organization Development

Legislative/Regulation/Community Relations

Contract Negotiations

Examples of Professional Experience:

Infrastructure Finance – Led effort on behalf of water industry to develop and enact innovative water infrastructure financing programs.

Strategic Planning – Developed first LCA Strategic Plan involving stakeholder participation; led development of regular plan updates including public participation.

Wastewater Treatment Plant Lease/Acquisition – Negotiated lease/acquisition contract with County of Lehigh and related contracts with municipalities, largest customer and contract operator to ensure financial feasibility of ongoing operations.

Highlights of Educational, Certification & Professional Credentials:

Master's in Business Administration, Lehigh University

Bachelor of Science, Ursinus College

American Water Works Association (AWWA), Executive Committee, Board of Directors

AWWA Water Utility Council, Chair, Infrastructure Finance Committee

AWWA, George Warren Fuller Award

AWWA, Samuel Baxter Award

Pennsylvania Municipal Authorities Association (PMAA), Past President

PMAA, William H. Markus Award

Governor's Local Government Advisory Committee, Municipal Authorities Representative

Government Finance Officers Association, Past Executive Board Member

PA Municipal Retirement Board, Past Chair

PENNVEST, Past Board Member

Douglas Young, Business Manager

Manages business, human resources and related administrative matters for the organization; oversees accounting function, benefits administration, insurance activity, budget preparation, investments and development of water and sewer rates and capital recovery fees.

Key Skills & Knowledge Areas:

Accounting Principles	Insurance and Benefits Administration
Rate Applications & Processes	Team-Building
Internal Control Principles	Capital Recovery Fee Development

Examples of Professional Experience:

Comprehensive Annual Financial Report (CAFR) – For the past 25 years produced LCA’s CAFR and received Government Finance Officers Associations recognition award for achieving the highest standards in accounting and financial reporting.

Personnel Management – Worked with consultants to develop surveys for salary and benefit information and provide recommendations to the Board of Directors. Headed an employee team that reviewed the existing performance evaluation process and recommended major changes to the forms and process.

Rate-Making – Developed a rate model to consolidate small independent collector systems under one common rate structure. Responsible for reviewing annual interceptor rate charges to our signatories and City of Allentown billings to LCA to ensure accuracy.

Risk Management – Serves as permanent member of LCA’s Risk Management team since late 1970s with responsibility for claims management and insurance procurement.

MUNIS Financial System Implementation – Played lead role in selection and implementation of new Financial Information System in 2006-2007.

Highlights of Educational, Certification & Professional Credentials:

Bachelor of Arts, Business Administration, Kutztown University of Pennsylvania
Government Finance Officers Association (GFOA), East Regional Chapter, Board Member
Pennsylvania Municipal Health Insurance Cooperative, Treasurer
GFOA, East Regional Chapter, Past President
GFOA of Pennsylvania, Past Membership Chair
Pennsylvania Municipal Investment Program, Past Board Member
Lehigh Valley Insurance Cooperative, Past Board Secretary

Joseph McMahon, Operations Manager

Manages all operational and maintenance aspects of LCA's water and wastewater systems including 17 employees, budgeting, regulatory compliance, allocation of resources, system performance and optimization, operational and maintenance practices. Leads information technology master planning efforts, and serves in multiple other cross-functional teams including involvement in capital project development, wastewater capacity development and organizational development. Formerly served as the Manager of Allentown Water Resources.

Key Skills & Knowledge Areas:

Watershed Protection	W/WW Treatment Optimization
Labor Relations	Information Technology (IT)
System Planning	Regulatory Compliance
Contract Negotiations	Emergency Response – ICS 100 to 400

Examples of Professional Experience:

Organizational Change Management & Development – Implemented the largest reorganization in Allentown history. Created a matrix organization in the treatment plants with cross functional teams and rotated cross- trained plant operators between the water and wastewater treatment plants, this was unprecedented for large treatment plants. The efficiency gained allowed for the reduction in operator positions and the creation of an IT Team. Managed an overall reduction in staff while increasing program development and organizational efficiency.

Information Technology (IT) – Created and managed Allentown's Water Resources IT Master Plan and Team. Implemented state of the art software and hardware: ARCGIS, Maintenance Management, Laboratory Management, Plant Control Systems, Oracle Enterprise Databases, networked multiple locations. Managed LCA's IT Master Plan project.

Water Treatment Optimization – Instituted Allentown's Water Plant in-house individual water filter turbidity limit well below and years before EPA and the Partnership for Safe Water limits were established. Committed Allentown to joining the Partnership for Safe Water and created a team to reach Level 3 status in record time.

Highlights of Educational, Certification & Professional Credentials:

Bachelor of Science, Environment Resources Management, Pennsylvania State University
Associate of Arts, Business Administration, Lehigh Carbon Community College
Wastewater Treatment Plant Operator Certification Class A & E, 2-4
Water Operator Certification Class B & E, 1-14
Water Resources Association, Board of Directors, Executive Committee
PaWARN, Board of Directors
Eastern PA Water Pollution Control Operators Association, Clean Streams Award
USEPA and Water Environment Federation, National Biosolids Award for Beneficial Reuse

Frank Leist, Capital Works Manager

Manages all capital works activities, which includes capital improvements planning, project execution and functions related to developer-initiated system expansion. Administers the capital budget, project funding approvals, and allocation of capital works staff. Ensures organizationwide compliance with construction standards, customer contact requirements and related project specifications.

Key Skills & Knowledge Areas:

Capital Planning
Project Management
Capital Budget Control

Acquisition Analysis & Implementation
Operations Management
Team-Building

Examples of Professional Experience:

Capital Project Oversight – From 2002 through 2011 approximately thirty-four projects have been completed with a total cost of more than \$35 million, the great majority of which were brought in under budget. Currently there are numerous projects in various stages, with the two largest – Phase 2 of the LCA-Allentown water system interconnection, and the Vera Cruz Low Pressure Sewer System – totaling an estimated \$8.6 million.

Vera Cruz Low Pressure Sewer System – Led LCA efforts on behalf of Upper Milford Township during the Act 537 Planning process, design and construction to provide public sewage service to approximately 280 properties in the village of Vera Cruz. The majority of the affected properties had failing on-lot sewage disposal systems, having a negative impact on the local environment. The \$5.2 million mandatory connection project was awarded \$2.5 million in grants. LCA completed the construction of the project in June of 2012 and expects all properties to be connected by September 2012.

Operations Management – Managed LCA’s operations department from 2005 to early 2010, in addition to simultaneously serving as the capital works manager. During this time, responsibilities included management of all phases of the water and wastewater system operations, the preparation and oversight of the operating budgets and management of the Authority’s environmental laboratory, in addition to the capital works duties described above.

Highlights of Educational, Certification & Professional Credentials:

LCA Capital Works Manager, 2002-Present
LCA Operations Manager, 2005-2010
LCA Engineering Technician/ Project Manager, 1990-2002
Utility Construction Industry (field & management positions), 1971-1990

Liesel Adam, Customer Care & Communications Manager

Manages all customer care activities and programs including metering, billing, collections, customer satisfaction, and cross-organizational projects impacting service to LCA customers. Also responsible for all communications activities including media relations, public notification and crisis communications, youth and community education, publications, special events and website development. Leads a variety of cross-organizational programs and teams including source-water protection and knowledge management.

Key Skills & Knowledge Areas:

Strategic Communications Planning
Stakeholder Analysis
Customer Satisfaction

Media Relations
Team-Building
Workforce Planning

Examples of Professional Experience:

Workforce Planning & Knowledge Management – Led LCA efforts to develop workforce plan to address future retirement of key staff members, including current efforts to implement knowledge management strategies to ensure critical institutional knowledge is retained as retirement transitions occur.

Wastewater Capacity Planning Stakeholder Involvement Program – Engaged stakeholders from a broad spectrum of organizations in a dialog about regional wastewater capacity planning issues in order to assist with a triple-bottom-line analysis of the available options, which range in cost from \$60 to \$100 million.

HydroMania – Developed, and annually organizes, a one-day water education festival to teach Lehigh Valley students about the importance of protecting our water supplies from pollution and depletion. Since its inception in 2001, more than 13,000 students have attended this program, run by a team of more than 75 volunteers.

Highlights of Educational, Certification & Professional Credentials:

Master's in Public Administration, Kutztown University of Pennsylvania
Bachelor of Arts, Journalism & Public Relations, Indiana University of Pennsylvania
American Water Works Association, Workforce Strategies Committee (2011-present)
American Water Works Association, Pennsylvania Section, Chair-Elect (2012)
Lehigh Valley Water Suppliers, Inc., HydroMania Coordinator & Secretary (2000-present)
Water for People, Pennsylvania Section Committee (2010-present)

Patricia Mandes, Wastewater Services Director

Manages the most significant wastewater operating and capital activities including oversight of the LCA Wastewater Treatment Plant, management of the Wastewater Capacity Development Plan, and management of the Authority's infiltration and inflow (I&I) program including leadership of the Western Lehigh Sewerage Partnership. Also responsible for calculating the wastewater rates and wastewater billing for use of the Western Lehigh Interceptor System, preparing Chapter 94 Reports and NPDES permit applications for LCA's six wastewater systems, manages wastewater allocation and provides oversight of the Boston Beer wastewater agreement.

Key Skills & Knowledge Areas:

Wastewater Operations Management	Infiltration and Inflow Programs
Wastewater Permitting	Regulatory Reporting & Compliance
Beneficial Use of Biosolids	Industrial Wastewater Pretreatment
Environmental Management Systems	Sewer Flow Metering

Examples of Professional Experience:

Western Lehigh Sewerage Partnership – Led LCA efforts to develop, implement and manage an on-going I&I Program for the LCA Signatory communities to reduce wet weather wastewater flows into Allentown's Kline's Island Wastewater Treatment Plant.

LCA Operations Center Expansion & Renovation – Project Manager for the expansion and renovation of the Operations Center. The project included the construction of a new 19,500 sq. ft. administration and operations center/garage and the renovation of the existing LCA building. Organized relocation of LCA personnel to off-site locations during the one-year construction project. Project completed under budget and ahead of schedule, minimizing impact to LCA operations and customer service.

Fine Bubble Diffuser Retrofit – Project Manager for the replacement of coarse bubble diffusers with fine bubble diffusers to improve oxygen transfer efficiency and reduce power costs at a Sequencing Batch Reactor Wastewater Plant. Coordinated and managed emptying and transfer of MLSS in aeration tanks to facilitate project.

Highlights of Educational, Certification & Professional Credentials:

Bachelor of Science in Environmental Science, University of Pittsburgh
Biosolids Environmental Management System Training
Wastewater Treatment Plant Operator Certification Class A-E, 1-4
Department of Environmental Protection, Land Application Training Certification
Eastern Pennsylvania Water Pollution Control Operators Association, Past President
Eastern Pennsylvania Water Pollution Control Operators Association, Board Member
Pennsylvania Water Environment Association, Past Director
Nazareth Borough Municipal Authority, Board Member

Bradford Landon, Solicitor

Advises LCA on legal considerations and issues, and pursues protection and enforcement of the organization's legal rights. The primary attorney-client relationship is with LCA and its Board of Directors, ahead of any professional relationship with individual Board or staff members. Participates in management discussions and decision-making as well as in team-based initiatives with other employees.

Key Skills & Knowledge Areas:

Municipal Law, Pennsylvania Code
Policy Preparation
Employee Team-Building
Legislative Review

Pennsylvania Municipality Authorities Act
Contract & Agreement Preparation
Employment Law
Property Owners' Rights

Examples of Professional Experience:

Municipal Financings – Over the course of 30 years of employment with LCA, contributed a high level of involvement with numerous municipal financings of various types from beginning to end, including negotiations of terms and documents.

Agreements for System Acquisitions, Municipal Services & Industrial Service Contracts – Played an integral role in preparing, negotiating and revising agreements and contracts between LCA and numerous other parties. Such agreements and contracts have been required to address such issues as water and sewer system acquisitions, establishment of municipal service areas, establishment of user agreements with industrial wastewater dischargers and water users, and more.

Highlights of Educational, Certification & Professional Credentials:

Juris Doctor, T.C. Williams School of Law of the University of Richmond
Bachelor of Arts, Dickinson College, Carlisle, PA
Pennsylvania Bar Association, Member
Lehigh Bar Association, Member

Edward Bielarski, Chief Financial Officer

The newest member of LCA's management team, joining us in September 2012 to assume all financial management responsibilities including accounting, finance, budgeting, audits, investment strategy and debt management. Will play a key role during the transition period in exploring and securing financing alternatives for the concession.

Key Skills & Knowledge Areas:

Organizational Management
Financial Management
Risk Management
Strategic Planning

Contract Negotiations
Bank/Bondholder/Rating Agency Relations
Debt Management
Team-Building

Examples of Professional Experience:

Organizational Change Management and Development – In previous employment, merged three companies into one organizational culture, reducing barriers of communication and redundancy. Promoted a culture of accountability, requiring “bottom up” and zero-based budgeting as a means to allocate resources efficiently.

Financial/Debt Management – Led a successful \$165 million investment-grade tax-exempt bond issuance within a complex sale/leaseback structure for an 80 megawatt waste-coal fired power generation facility. Utilized creative interest rate hedging vehicles, such as a fixed to floating rate SWAP with caps.

Contracts/Negotiations – Negotiated and executed multi-year, multi-million dollar contracts for fuel supplies and power plant O&M services. Worked to build long-term relationships with suppliers and other stakeholders. Developed, negotiated and executed a long-term refractory maintenance agreement with Foster Wheeler that required them to inspect, maintain and repair all boiler refractory over 6 years at a fixed dollar and be on-call for any failures, and respond on-site within 24 hours with a full crew.

Highlights of Educational, Certification & Professional Credentials:

Master's in Business Administration, Saint Joseph's University of Philadelphia
Bachelor of Arts, Accounting, Loyola University of Baltimore
Certified Public Accountant, State of Maryland

APPENDIX 2 – Overview of LCA Service Areas

Overview of LCA Service Areas

Lehigh County Authority owns and/or operates 13 water systems and 10 wastewater systems. These systems are located in all or portions of 15 different municipalities in Lehigh County and one municipality in Northampton County. LCA also owns and operates a 5.75 million gallon per day (mgd) wastewater treatment plant in Upper Macungie Township, Lehigh County, that provides pre-treatment for certain industrial users north of the plant. The attached maps show the locations of these systems and their proximity to the City of Allentown.

Water Systems

The infrastructure for our water systems includes 48 wells, 33 well stations, 6 water pressure pumping stations, 8 above ground large water storage reservoirs and approximately 312 miles of water mains ranging from 2 to 42 inches in diameter. LCA currently maintains interconnections with five other municipal water suppliers: Slatington Borough, Northampton Borough Municipal Authority, South Whitehall Authority, Salisbury Township and Emmaus Borough. An additional interconnection with the City of Allentown will be completed later this year. All of these water systems provide direct service to almost 19,000 direct customers, or a population of about 52,000 people.

1. Central Lehigh Division (CLD) - located principally in Upper and Lower Macungie townships and small portions of Lowhill, Weisenberg, South Whitehall, Salisbury and Upper Milford townships and Macungie Borough. The infrastructure includes four above ground storage reservoirs ranging from 1 MG to 5 MG, approximately 1,395,000 linear-feet of water main (264 miles) ranging from 2 to 42 inches in diameter, 19 wells with supply capacities ranging from 300 gallons per minute (gpm) to 1,300 gpm, 4 water pressure booster stations, 2 water transfer stations, 2 emergency interconnections with adjoining water suppliers and one 10.5 mgd water pumping station. A permanent water supply interconnection with the City of Allentown is under construction. The system currently serves 16,374 residential, commercial and industrial customers.
2. North Whitehall Division (NWD) - located primarily in the Schnecksville-Neffs area of North Whitehall Township. The infrastructure consists of one above ground 200,000 gallon steel storage reservoir, approximately 111,000 linear-feet of water main (21 miles) ranging from 2 to 12 inches in diameter, 10 wells and a permanent water supply interconnection with the Northampton Borough Municipal Authority for the LCA purchase of water from the NBMA. The system currently serves 901 residential and commercial customers.
3. Washington Township Division (WTD) - located primarily in the Slatedale-Emerald area of Washington Township. The infrastructure consists of approximately 32,500 linear-feet of water main (6 miles) ranging from 2 to 12 inches in diameter and a permanent water supply interconnection with the Borough of Slatington. The system currently serves 359 customers.
4. Heidelberg Heights Division (HHD) - serves the Heidelberg Heights subdivision in Heidelberg Township. The infrastructure consists of one above ground 250,000 gallon

steel storage reservoir, approximately 12,000 linear-feet of water main ranging from 6 to 8 inches in diameter and 5 wells. The system currently serves 183 residential customers.

5. Pine Lakes Division (PLD) - serves the Pine Lakes of Lynn subdivision in Lynn Township. The infrastructure consists of approximately 7,000 linear-feet of water main ranging from 4 to 8 inches in diameter and 2 wells. The system currently serves 60 residential customers
6. Mill Creek Division (MCD) - serves the Mill Creek subdivision in Washington Township. The infrastructure consists of approximately 1 mile of water main ranging from 2 to 8 inches in diameter and 2 wells. The system currently serves 35 residential customers.
7. Arcadia West Division (AWD) - serves the Arcadia West Industrial Park in Weisenberg Township. The infrastructure consists of one above ground 280,000 gallon steel storage reservoir, approximately 8,500 linear-feet of water main ranging from 6 to 12 inches in diameter, two wells and one well station. The system currently serves 13 commercial and industrial customers.
8. Beverly Hills Division (BHD) - serves the Beverly Hills subdivision in Lower Milford Township. The infrastructure consists of approximately 4,900 linear-feet of water main ranging from 3 to 6 inches in diameter, and one well station. The system currently serves 44 residential customers.
9. Clearview Farm Estates Division (CFD) - serves Clearview Farm Estates in Moore Township in Northampton County. The infrastructure consists of approximately 11,400 linear-feet of water main ranging from 3 to 6 inches in diameter, two wells and one well station. The system currently serves 67 residential customers.
10. Upper Milford Division (UMD) - serves the Far View Farms and Mink Estates subdivisions in Upper Milford Townships. The infrastructure consists of approximately 7,300 linear-feet of 8-inch water main, two wells and one well station. The system currently serves 71 residential customers.
11. Upper Milford Central Division (UMCD) - serves the Buss Acres subdivision in Upper Milford Township. The infrastructure consists of approximately 14,000 linear-feet of water main ranging from 2 to 8 inches in diameter, two wells and two well stations. The system currently serves 100 residential and commercial customers.
12. Emmaus Consecutive Division (ECD) - serves customers in three townships, Lower Macungie, Salisbury, and Upper Milford, that border the Borough of Emmaus. The infrastructure consists of approximately 35,000 linear-feet of water main ranging from 2 to 12 inches in diameter and 23 permanent water supply interconnections with the Borough of Emmaus. The system currently serves 415 residential and commercial customers.
13. Madison Park North Division (MND) - serves the Madison Park subdivision in Lynn Township. The infrastructure consists of one above ground 75,000-gallon concrete storage reservoir, approximately 3,000 linear-feet of water main ranging from 3 to 8

inches in diameter, one well and one well station. The system currently serves 116 residential customers.

Wastewater Systems

The infrastructure for these systems includes 6 wastewater treatment plants, 8 pump stations, 8 meter stations and approximately 80 miles of gravity and force mains ranging from 2 to 48 inches in diameter. These systems provide direct service to more than 2,100 LCA sewer customers as well as thousands more municipal sewer customers.

1. Wastewater Treatment Plant – LCA owns and operates the Wastewater Treatment Plant (WTP) in Upper Macungie Township. This WTP is one of the most technologically advanced wastewater treatment facilities in the nation. It is connected to the LCA Western Lehigh Interceptor system & the treated wastewater receives final treatment at Allentown’s Kline’s Island Wastewater Treatment Plant. This pure oxygen, activated sludge facility handles high-strength industrial waste from local industrial users, including the Sam Adams Brewery, and domestic waste from local communities & concentrated wastes delivered directly to the plant by waste haulers.

Each year, more than 1 billion gallons of waste flows through the WTP. Over 10 million pounds of BOD (biochemical oxygen demand) and 9 million pounds of influent TSS (total suspended solids) are removed annually. The average concentrations of these parameters when they arrive at the WTP and their final concentrations when departing the plant are:

BOD: 4,500-5,700 mg/l treated to 12 mg/l
TSS: 8,500-10,000 mg/l treated to 18 mg/l

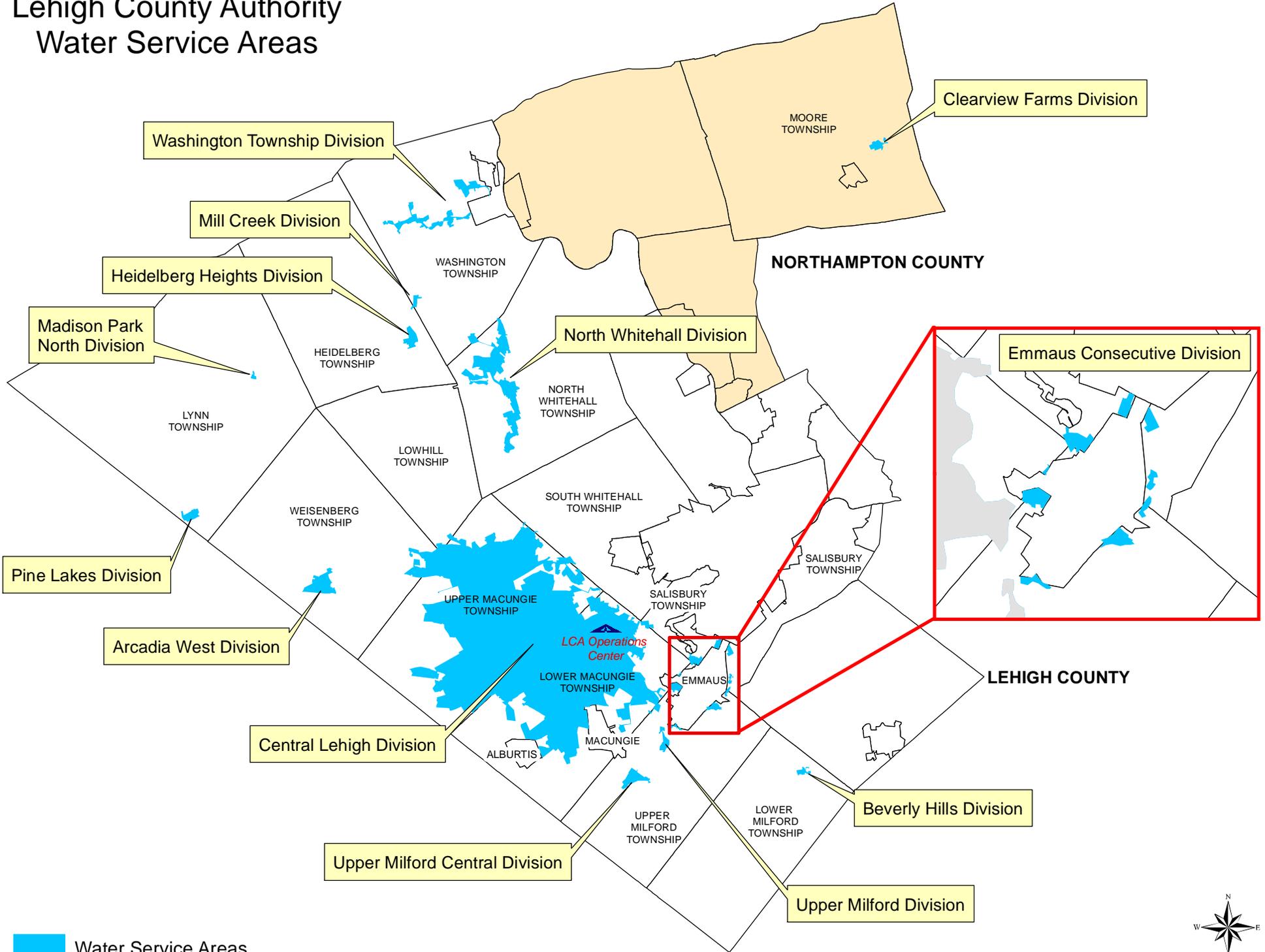
Biosolids generated at the WTP are processed in anaerobic digesters, dewatered & beneficially used on farms as a fertilizer. The biosolids management program is carefully monitored for compliance with state & federal regulations. Careful management has resulted in zero landfill disposal of biosolids since LCA assumed operational responsibility for the WTP.

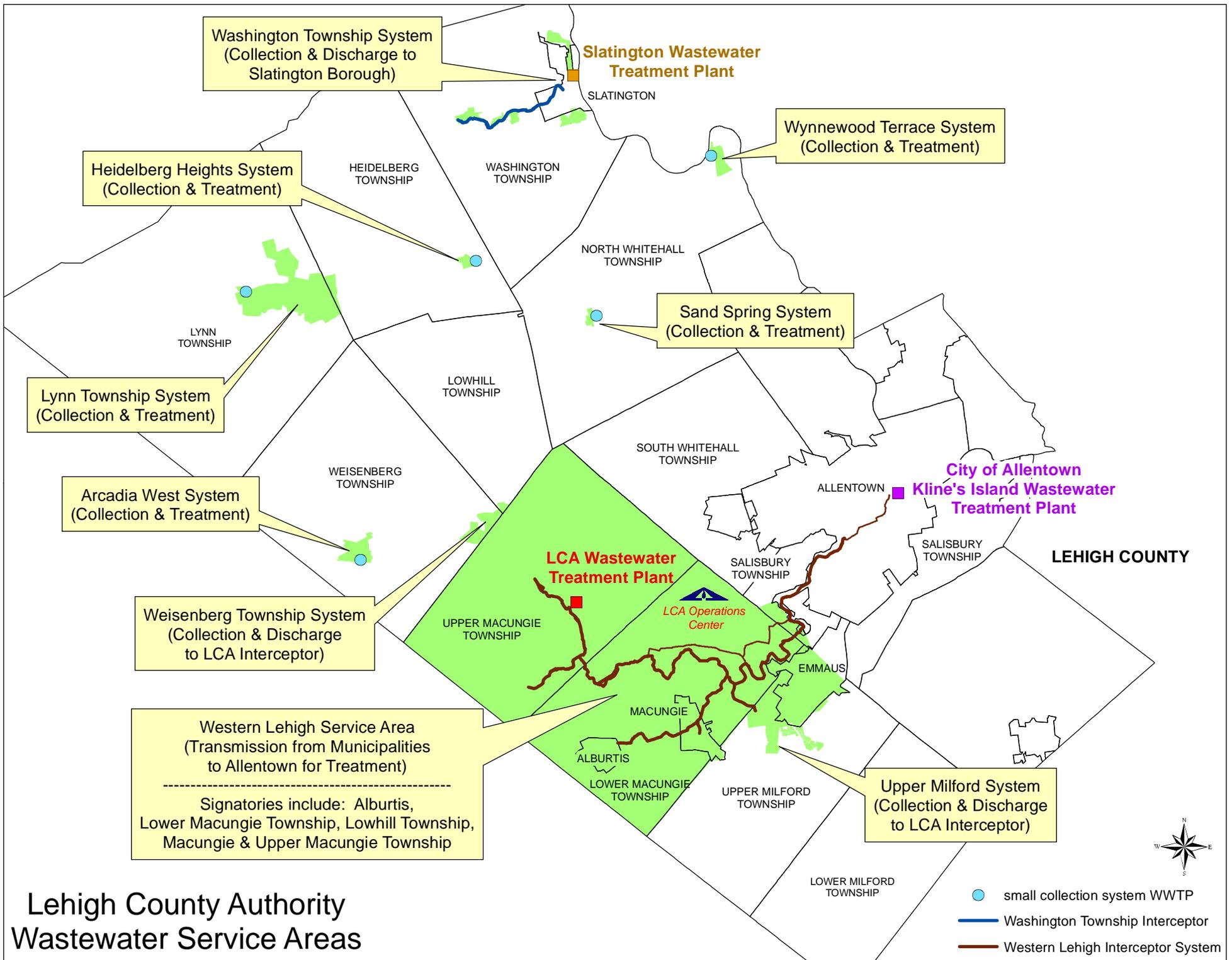
2. Western Lehigh Interceptor (WLI) System - provides wastewater treatment and transportation services to eight municipalities in western Lehigh County. The WLI consists of 22 miles of gravity sewer pipe ranging in size from 8-inch to 36-inch, five metering stations, a 7 mgd Spring Creek Pump Station, a 4.8 mile force main and a 3-million gallon flow equalization tank located at the LCA Wastewater Pretreatment Plant.
3. Little Lehigh Relief Interceptor (LLRI) System - provides service to nine municipalities, plus a portion of the City of Allentown. The LLRI, which was constructed in two phases, consists of 20,100 feet of gravity main ranging in size from 20-inch to 48-inch, 9,800 feet of force main ranging in size from 24-inch to 36-inch, and the 24-mgd Park Pump Station that pumps peak flows from gravity interceptors into the force main for transmission to the Allentown Kline’s Island Wastewater Treatment Plant.
4. Upper Milford Sewer System - located in Upper Milford Township, serves 628 residential, commercial, and industrial customers. Wastewater from the Upper Milford System flows through the WLI and the LLRI for ultimate disposal and treatment at the Allentown Kline’s

Island Wastewater Treatment Plant. The system includes approximately 11.5 miles of collector sewer mains ranging in size from 2-inch to 12-inch and one meter station.

5. Weisenberg Sewer System - serving the Pointe West development in Weisenberg Township, serves 146 residential and 3 commercial customers. Wastewater from the system flows through the WLI and the LLRI for the ultimate disposal and treatment at the Allentown Kline's Island Wastewater Treatment Plant. The collector system includes approximately 19,700 feet of 2-inch and 8-inch pipe.
6. Heidelberg Heights Sewer System - located in the Heidelberg Heights development in Heidelberg Township. This system serves 138 residential customers and includes a 60,000 gpd sequencing batch reactor wastewater treatment plant and a gravity collection system of 6,455 feet of vitrified clay and ductile iron pipe.
7. Arcadia West Sewer System - serves the Arcadia West Industrial Park in Weisenberg Township. This system includes a 40,000 gpd wastewater treatment plant and a collection system of 7,300 feet of 4-inch and 8-inch pipe. The system serves 10 commercial and industrial customers.
8. Wynnewood Terrace Sewer System - serves 217 residential and 2 commercial customers in the Wynnewood Terrace subdivision in North Whitehall Township. The system includes a 60,000 gpd extended aeration treatment plant, three wastewater pump stations and 22,500 feet of collector sewers of PVC and cast iron pipe.
9. Sand Spring Sewer System - serves 26 apartment buildings and 9 commercial customers in the Sand Spring development and surrounding area in North Whitehall Township. The system includes a 35,000 gpd extended aeration treatment plant and 8,000 linear-feet of PVC sewer mains.
10. Lynn Township Sewer System - serves 377 residential and commercial customers in eastern Lynn Township, Lehigh County. The system includes an 80,000 gpd wastewater treatment plant and approximately 41,000 linear-feet of PVC sewer mains.
11. Washington Township Sewer System - serves areas of Washington Township surrounding the Borough of Slatington, including the Slatedale and Emerald sections of the township. All sewage flows through Slatington's collector system to Slatington's Wastewater Treatment Plant for treatment. This system includes 74,000 linear-feet of sewer mains and serves 580 residential and commercial customers, and is currently owned by the township and operated by LCA under a long-term lease agreement.

Lehigh County Authority Water Service Areas





APPENDIX 3 – Other Available Information

Other Available Information

Throughout this document, references are made to supplemental information about Lehigh County Authority (LCA) that may be useful for assessing our qualifications. All referenced documents are available on our website at the locations listed below.

Current LCA Board Member Information:

www.lehighcountyauthority.org/files/LCA-BoardMembers-2012.pdf

LCA Strategic Plan:

www.lehighcountyauthority.org/files/LCA-StrategicPlan-2012.pdf

LCA Rules & Regulations for Water Service:

www.lehighcountyauthority.org/files/WaterRulesRegulations8252008.pdf

LCA Rules & Regulations for Sewerage Service:

www.lehighcountyauthority.org/files/LCA-SewerRulesRegs.pdf

LCA Water Rate Schedule:

www.lehighcountyauthority.org/files/LCA-WaterRateSchedule.pdf

LCA Sewer Rate Schedule:

www.lehighcountyauthority.org/files/LCA-WastewaterRateSchedule.pdf

LCA 2012-2021 Capital Plan:

www.lehighcountyauthority.org/files/LCA-CapitalPlan.pdf

AWWA Journal, March 2004 issue: Article on LCA vulnerability assessment approach

www.lehighcountyauthority.org/files/AWWA-Journal-March2004.pdf

Buried No Longer: Confronting America's Water Infrastructure Challenge

www.lehighcountyauthority.org/files/Buried-No-Longer.pdf

LCA Comprehensive Annual Financial Report – 2011:

www.lehighcountyauthority.org/files/LCA-CAFR-2011.pdf

LCA Financial Statements & Independent Auditors' Report – 2010:

www.lehighcountyauthority.org/files/2010FinancialStatementAuditorsReport-LCA.pdf

LCA Financial Statements & Independent Auditors' Report – 2009:

www.lehighcountyauthority.org/files/2009FinancialStatementAuditorsReport-LCA.pdf



*Every drop matters.
Every customer counts.*



Lehigh County Authority

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