



LEHIGH COUNTY AUTHORITY

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Agendas & Minutes Posted:
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BOARD MEETING AGENDA – October 11, 2021 – 12:00 p.m.

In-Person or Virtual Meeting Attendance Options Available: Meetings of the LCA Board of Directors will be held at LCA's Main Office as well as online using the Zoom Meetings application, which includes a telephone option. Public participation is welcomed both in-person or virtually. Instructions for joining the meeting online or by phone are posted on the LCA website in the morning on the day of the meeting, prior to the start of each meeting. You may also issue comment to LCA via email to LCABoard@lehighcountyauthority.org in advance of any meeting or view the meeting at a later time by visiting the LCA website. Please visit <https://www.lehighcountyauthority.org/about/lca-board-meeting-videos/> for specific instructions to join the meeting if you are attending virtually. If attending in-person at LCA's Main Office, please follow all safety and sanitation protocols posted.

1. Call to Order

- **NOTICE OF MEETING RECORDINGS**

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

- *Public Participation Sign-In Request*

2. Review of Agenda / Executive Sessions

- Additions to Agenda (vote required if action will be taken)

3. Approval of Minutes

- *September 27, 2021 Board meeting minutes*

4. Public Comments

5. Action / Discussion Items:

FINANCE AND ADMINISTRATION

- *Preliminary 2022 Budget Review (Discussion) (digital Board packet, pages 8-66)*
- *WLI User Charge Report (Approval) (yellow) (digital Board packet, pages 67-99)*

WATER

WASTEWATER

6. Monthly Project Updates / Information Items (1st Board meeting per month) – **October report attached** (*digital Board packet, pages 100-112*)
7. Monthly Financial Review (2nd Board meeting per month)
8. Monthly System Operations Overview (2nd Board meeting per month)
9. Staff Comments
10. Solicitor's Comments
11. Public Comments / Other Comments

12. Executive Sessions

13. Adjournment

UPCOMING BOARD MEETINGS		
October 25, 2021	November 8, 2021	November 22, 2021

PUBLIC PARTICIPATION POLICY

In accordance with Authority policy, members of the public shall record their name, address, and discussion item on the sign-in sheet at the start of each meeting; this information shall also be stated when addressing the meeting. During the Public Comment portions of the meeting, members of the public will be allowed 5 minutes to make comments/ask questions regarding non-agenda items, but time may be extended at the discretion of the Chair; comments/questions regarding agenda items may be addressed after the presentation of the agenda item. Members of the public may not request that specific items or language be included in the meeting minutes.

REGULAR MEETING MINUTES

September 27, 2021

The Regular Meeting of the Lehigh County Authority Board of Directors was called to order at 12:01 p.m. on Monday, September 27, 2021, Chairman Brian Nagle presiding. The meeting was hybrid via in-person and video and audio advanced communication technology ("ACT"), using the Zoom internet application, including telephone option. Each Board member and other attendees of the meeting were able to hear each other attendee and be heard by each other attendee. The public could also participate in the meeting in-person or via ACT, using the Zoom internet application, including telephone option. A Roll Call of Board members present was taken. Chairman Brian Nagle, Scott Bieber, Richard Bohner, Norma Cusick, Ted Lyons, Linda Rosenfeld, Jeff Morgan, and Amir Famili were present for the duration of the meeting. Kevin Baker joined the meeting after it began and was present for the duration of the meeting.

Solicitor Michael Gaul of KingSpry was present along with Authority Staff, Liesel Gross, Ed Klein, John Parsons, Chris Moughan, Chuck Volk, Susan Sampson, Andrew Moore, Phil DePoe, Lisa Miller, Todd Marion, and Jason Peters.

Chairman Nagle stated that the Board received their electronic and hard copy of the Board packet in advance and asked if anyone did not receive their copy of the packet. A copy of the packet is also available online.

REVIEW OF AGENDA

There are no changes to the agenda but there will be an item for Staff comments.

APPROVAL OF MINUTES

September 13, 2021 Meeting Minutes

Richard Bohner noted a correction to the minutes regarding the approval of the August 23, 2021 meeting minutes. The September 13, 2021 meeting minutes should be corrected to state that the August 23, 2021 meeting minutes were approved by a vote of 6-0, not 7-0. On a motion by Richard Bohner, seconded by Linda Rosenfeld, the Board approved the minutes of the September 13, 2021 Board meeting as corrected (8-0).

PUBLIC COMMENTS

None.

ACTION AND DISCUSSION ITEMS

Preliminary 2022 Budget Review

Liesel Gross noted that the preliminary 2022 Budget book has been distributed at today's meeting emailed to all Board members, posted on the Authority website, and will be mailed to Board members attending today's meeting virtually. She noted the deadline for budget adoption is the end of October.

A presentation was shared with the Board to review the 2022 Budget assumptions, including a review of fund financials, and next steps.

Ms. Gross highlighted budget assumptions that had been reviewed previously, including the COVID-19 impact and the draft Strategic Plan goals. She reviewed the proposed staffing changes, including three new positions to support the strategic plan goals: 1) an Employee Development Coordinator to assist with employee training, development and engagement activities; 2) a Process Improvement Coordinator to assist with process improvement goals; and 3) an Asset Management Coordinator to support the development of an asset management program for the Authority. Amir Famili commented that, if costs are being added for process improvement, the Authority should have cost savings to justify the addition of the position. Chairman Nagle commented that some improvements will provide intangible benefits, but the Board would like to have an explanation of how these staff additions will affect efficiency and improve organizational performance. Ms. Gross said this will be developed for discussion at the next meeting. Jeff Morgan asked if the process improvement and asset management work could be completed by a consultant, rather than hiring new employees permanently. Ms. Gross said that these are proposed as long-term internal staff positions to develop and implement the programs. A consultant may be helpful to assess the Authority's needs and provide structure to process improvement or asset management, but staffing is required to implement and manage the programs over time. She noted that on the process improvement side, a staff assessment has been completed and a listing of more than 100 process improvement opportunities has been generated. Amir Famili asked if anyone in the organization has six sigma training and certification. Ms. Gross said that Chris Moughan does, and there are other individuals in the organization as well. Mr. Moughan explained his background and commented that there are other internal employees who could support process improvement.

Ted Lyons stated that it would be helpful to have an example of what activities these positions will be responsible for completing. Ms. Gross explained that the Employee Development Coordinator would work on employee relations with the union and develop training programs for supervisors, including supervisor "onboarding", training on policies, and working on developing the technical training requirements for specific positions. The Process Improvement Coordinator would work with Chris Moughan on the list of opportunities already identified for process improvement and work with teams across the organization on projects to improve efficiencies and eliminate manual processes. The Asset Management Coordinator would work across the organization as well, connecting technology groups with capital works, planning, and operations to develop a standardized asset management approach for the organization.

Ed Klein then reviewed the key factors that will impact the Authority's 2022 Budget by fund. In the Internal Services area, there is an increase due to rising insurance costs, upgrades to the computer software, and some miscellaneous costs. There was some discussion about how personnel costs, including benefits, are captured within the Internal Services budget versus other operating budgets. Chairman Nagle asked if the increase in property and liability insurance costs was due to the main breaks experienced by the Authority. Mr. Klein said these increases are affecting the entire industry and are not specific to the Authority's performance.

Mr. Klein reviewed the Suburban Water fund, including the increase in water usage and rates related to the purchase of water from the Allentown system. Chuck Volk highlighted the large capital improvements included in the preliminary 2022 Budget for Suburban Water. Mr. Klein explained that a 24 percent increase in revenue is required to cover the expenses. Liesel Goss reviewed the five-year growth history showing 1 to 3 percent growth is expected, which will offset the rate increase somewhat. She explained that the revenue projection includes an additional \$2.4 million in pay-as-you-go capital improvements, and the Board should discuss its preferred strategy regarding funding for capital improvements. She noted a more detailed rate proposal would be presented at the next Board meeting.

Amir Famili said he is concerned with how the Authority is managing these costs because a rate increase of more than 20 percent is a lot of money for some people. Amir Famili asked if there would be an increase to large industrial customers, or if some large customers have contracts that limit the rate increases they will pay. Ms. Gross explained that all water customers pay the same rate according to the rate schedule, and no customers have special contracts related to water rates. Ted Lyons commented that it would be helpful to have a simple way of explaining why the increase is necessary and what benefits customers will receive as a result of paying more. Amir Famili said it would be helpful to see the projections of rates for the Suburban Water fund so the Board can see when rate increases will stabilize.

Mr. Klein then reviewed the Suburban Wastewater fund and key factors expected to impact the 2022 Budget. Ted Lyons commented that depreciation could be included in the rate calculation to help the Authority pay for capital improvements on an ongoing basis. Ms. Gross said the Suburban Wastewater revenues are almost exclusively derived from municipal signatory rates, which are controlled by intermunicipal contracts that do not allow depreciation to be included. Jeff Morgan noted the healthy project reserves in the Suburban Wastewater fund and asked if the Authority could lend money from the Suburban Wastewater fund to the Suburban Water fund to lower the borrowing cost for capital improvements. Mr. Klein explained the restrictions within the various bond indentures that prohibit this type of inter-fund borrowing. Chuck Volk highlighted the large capital improvement projects included in the preliminary 2022 Budget for the Suburban Wastewater fund. Amir Famili asked if there are current capital improvements that could be completed at the pretreatment plant now to reduce future costs associated with long-term capacity plans. Mr. Volk said that the cryogenic plant is aging and there are options being discussed to replace the system, which will reduce future costs. Jeff Morgan asked if the hauled waste offsets some the costs and where this is shown in the budget. Ms. Gross stated page 20 in the budget document breaks out the revenue sources. The pretreatment plant budget includes \$2.8 million in revenue derived from waste haulers.

For the City Division fund, Mr. Klein reviewed key factors affecting the preliminary 2022 Budget, including the additional revenues associated with the Lease Agreement amendment that was approved last year. He explained the cash flow outlook is positive for the City Division and all bond covenant requirements will be met. The City Division fund will receive additional revenue from the Suburban Water fund as a result of the increased water purchase and rates discussed previously. He also explained some major maintenance expenses that were previously classified as capital expenses that are now required to be shown as operating expenses. Mr. Volk reviewed the highlights of the capital projects included in the preliminary 2022 Budget for the City Division.

Liesel Gross explained that at the next Board meeting, staff will present any major changes or refinements to the 2022 Budget proposal, and there will be a detailed review of the Suburban Water rate proposal. Jennifer Montero will be in attendance to present the Western Lehigh User Charge Report that goes to the signatories and is incorporated into the budget figures. Board approval of the 2022 Budget will be requested at the October 25, 2021 Board meeting.

LCA Pension Plan – Mandatory Municipal Obligation

Ed Klein presented the 2022 Minimum Municipal Obligation (MMO) memorandum and worksheet for the Authority's pension plan, which is required to be provided to the Board annually. He noted the Authority's pension plan is 97 percent funded. No action is required.

Suburban Division – Heidelberg Heights 2021 and 2022 Sanitary Sewer Replacement Project – Construction Phase Authorization

Chuck Volk introduced the project which is an annual sanitary sewer rehabilitation project required by DEP as part of the Heidelberg Heights Sanitary Sewer System Consent Order and Agreement to replace old leaking pipes. Phase 4 of the project was bid with an expansion in scope to include Phase 5 in an attempt to gain economy of scale. Phase 4 consists of approximately 700 feet of 8-inch vitrified clay pipe (VCP) sewer main and 20 residential sewer laterals. Phase 5 of the project consists of replacement of approximately 820 feet of 8-inch VCP sewer main and 12 residential sewer laterals. Existing manhole structures are to be re-used with new frames, covers and watertight manhole chimney wrap. The replacement of all VCP in the system will be approximately 85% complete after Phase 5.

Ted Lyons commented about the bid cost differences that were received. Chuck Volk said he feels the wide disparity in bid pricing is an indication that the contractors are uncertain about materials, pricing, inflation, and delivery times. Scott Bieber asked if the Authority has checked the references for the lowest bidder, Barrasso Excavation, Inc. Mr. Volk said references were checked and found to be satisfactory. Amir Famili asked if there is a provision in the contract to account for the increasing cost of materials. Mr. Volk said this is not included in the contract.

Mr. Volk explained that there is one additional phase left in the sewer pipeline replacement project. He noted that the wastewater treatment plant is operating well but bypasses continue because of the high flows during wet weather or high groundwater conditions. As most of the Authority's portion of the system has been replaced or will soon be replaced, the remaining issues will have to be addressed on the private side including correcting broken sewer laterals and eliminating unauthorized connections like sump pumps. Chairman Nagle asked if the Authority has performed any smoke testing. Mr. Volk said smoke testing and other private-side inspection work will begin next year.

On a motion by Scott Bieber, seconded by Richard Bohner, the Board approved the Capital Project Authorization for the Construction Phase in the amount of \$558,630.00 which includes the Construction Contract Award for General Construction to Barrasso Excavation, Inc. in the amount of \$498,630.00 and the Professional Services Authorization for the Construction Inspection to Keystone Consulting Engineers in the amount of \$27,500.00 (9-0).

MONTHLY FINANCIAL REVIEW

Ed Klein reviewed the August 2021 financial statement presentation, highlighting the variances between actual expenses and budgeted or forecasted expenses.

Scott Bieber left the meeting at 1:47 p.m.

Kevin Baker noted that capital expenses seem to be running lower than the forecast. He asked if this means projects are running behind schedule or are project costs coming in lower than expected. Chuck Volk said the variance is due primarily to timing issues and the long lead time for materials, equipment and supplies. The delivery times have increased over the past year due to supply chain issues.

MONTHLY SYSTEMS OPERATIONS OVERVIEW

John Parsons reviewed the August 2021 Monthly Systems Overview report, highlighting items of interest on the report. He reviewed the Notice of Violation (NOV) that was issued by DEP for the Wynnewood Terrace Wastewater Treatment Plant due to permit violations that had occurred over

the prior several years. He explained the violations were historical and have been addressed with the replacement of the plant. The new plant went online in October 2020.

Mr. Parsons reviewed the condition assessment report for a section of 36-inch and 30-inch ductile iron pipe located within the City of Allentown. The report was prepared by Pure Technologies and presented six recommendations for moving forward with additional assessments of the pipe condition. He noted that 328 segments of pipe were analyzed and seven pipe segments were noted to have changed in pipe wall thickness that warrants additional investigation. Many of these affected pipe segments are located in close proximity to one another. Pure Technologies provided a set of recommendations for further investigation, which Mr. Parsons reviewed.

Amir Famili asked about the corrosion that was discovered and if there is information regarding why this corrosion has occurred in the specific locations noted in the report. Chairman Nagle asked if this kind of condition assessment should be conducted in other sections of the City water system. Mr. Parsons said that these questions can be answered following the Authority's additional investigation and following the recommendations provided in the report. Richard Bohner asked if new pipe is inspected after it is purchased and prior to being installed in the system. Chuck Volk said a full-time inspector is on site for all main replacement projects, and every pipe is pressure tested prior to being placed in service. The Board suggested having Pure Technologies or Gannet Fleming attend a Board meeting in the future if additional information on this topic is to be presented.

STAFF COMMENTS

Liesel Gross noted that the County of Lehigh has asked the Authority to host a ballot box in the lobby from October 18th through November 2nd.

SOLICITOR'S COMMENTS

None.

PUBLIC COMMENTS / OTHER COMMENTS

None.

EXECUTIVE SESSION

None.

ADJOURNMENT

There being no further business, the Chairman adjourned the meeting at 2:16 p.m.

Richard Bohner
Secretary



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MEMORANDUM

TO: LCA Board of Directors
FROM: Liesel Gross, Chief Executive Officer
DATE: October 4, 2021
RE: 2022 Proposed Budget & Suburban Water Rates

Attachment: LCA 2022 Proposed Budget

At the Lehigh County Authority (LCA) Board of Directors' meetings in September, staff have presented organizational goals and expense drivers to be incorporated into the 2022 Budget. Attached to this memo is a revised 2022 Proposed Budget that incorporates corrections and modifications developed since the Board meeting on September 27, 2021. The remainder of this memo discusses new staffing recommended to address strategic goals of the organization, and the proposed budget's impact on Suburban Water Division customer rates.

LCA Staffing for Strategic Priorities

Over the past six months, LCA has embarked upon a strategic planning process to define goals and priorities for the next several years. The process has been iterative and collaborative as the Board, external stakeholders, LCA employees, and management have worked to define where the organization sees itself in the future and the path we will take to get there. The Strategic Plan will be presented later this year for additional Board discussion and approval. However, as we move forward into the implementation phase of the plan next year, it is important that the 2022 Budget include resources necessary to support the strategies that have been identified.

Three new staff positions have been identified as playing a critical role in LCA's future, and they are proposed within the 2022 Budget to support the strategic initiatives that have been identified thus far. They are described below in terms of general job scope and the broad benefits they will bring to LCA.

Employee Development

A new position will be created to support LCA's employee engagement, training, and development goals.

Interesting Note: The Society for Human Resource Management (SHRM) 2014 report "How Organizational Staff Size Influences HR Metrics" shows the average organization employs 2.57 human resources (HR) employees for every 100 employees. LCA currently employs two HR employees, a ratio of 1.19 HR employees for every 100 LCA employees, far below the average requirement to provide a full spectrum of support services to its employees.

Key Activities:

- Conduct job evaluations, develop training requirements and plans for all positions
- Evaluate training resources for cost-effectiveness, quality, and alignment with LCA goals
- Ensure the Authority's compliance with regulatory / other licensing requirements
- Develop system to track training needs, training received, and program effectiveness
- Develop in-house training resources; deliver training to employees (e.g. drug/alcohol awareness, supervisory policies, safety, train-the-trainer programs)
- Support development of SOPs and other knowledge capture tools

Key Benefits:

- Standardization of LCA's employee training program
- Increased accountability for training (quality, cost-effectiveness)
- Increased employee job satisfaction and retention (reduced turnover)
- Increased productivity & cross training (staffing resiliency)
- Increased opportunity for internal advancement (bench strength)

Process Improvement

A new position will be created to support LCA's goals related to increased automation, continuous improvement, efficiency, and technology adoption.

Key Activities:

- Evaluate and prioritize process improvement opportunities
- Work across all departments to design and implement process improvements
- Create organizational focus on eliminating complex, manual processes
- Evaluate LCA practices against industry best practices
- Solicit advice from industry experts to support process improvement
- Create process maps and other tools to help LCA teams identify and eliminate inefficiencies
- Quantify and report on cost-savings, quality improvements, and other benefits associated with process improvement

Examples of Process Improvements Identified by LCA Staff:

- Manual, complex time-recording system (currently approx. 4 FTEs)
- Manual, paper-based customer service dispatching system (customer responsiveness)
- Sewer signatory billing process (institutional knowledge held by a single employee)
- Duplicative and non-standardized regulatory and operational reporting
- Approximately 100 small and large process improvement opportunities identified!

Key Benefits:

- Efficiency improvements, which can be quantified by process improvement opportunity
- Faster, more accurate and consistent regulatory and operational reporting
- Reduced risk of institutional knowledge loss
- Opportunity to reduce (or repurpose) headcount as processes are improved and/or as retirements occur

- Increased customer satisfaction due to enhanced responsiveness
- Increased employee satisfaction as manual processes are replaced
- Increased return on investment in technology due to fewer “work around” processes

Asset Management

A new position will be created to support LCA’s need for a more comprehensive asset management program to ensure infrastructure reliability, guide capital investments, and support data-driven decision-making.

Key Activities:

- Develop a standardized asset management approach for all LCA systems
- Coordinate asset management activities across the organization, including deep collaboration among the finance, IT, operations, capital works and planning departments (all involved in asset management)
- Standardize data collection on asset condition and risk (risk and consequence of failure)
- Analyze data to develop preventive and predictive maintenance strategies
- Develop asset replacement strategies that optimize asset life cycle costs
- Coordinate the master planning process for all LCA assets
- Identify best management practices for utility asset management and incorporate best practices into LCA’s program

Key Benefits:

- Decrease in system failures (lower risk of running assets to point of failure)
- Reduced regulatory risk associated with system failures
- Lower cost for emergency response / faster response to emergencies
- Increased organizational capacity for data-driven decision-making
- Optimized asset life cycle costs
- Improved service to customers (enhanced system reliability)
- Increased accuracy of long-range capital planning and operational expense forecasting

The positions described above are not finalized in terms of job scope, salary, or educational qualifications. Complete job descriptions and a job evaluation will be developed prior to filling these positions, in accordance with normal LCA protocols.

Suburban Water Division – Drivers for Revenue / Rate Increase Requirements

Incorporated in the attached 2022 Budget proposal are modifications to the Suburban Water Division financial statements designed to achieve key financial targets related to expense coverage, debt service coverage, and capital cost coverage.

There are two primary drivers creating pressure on the Suburban Water budget in 2022, which were also described during the presentation to LCA’s Board of Directors on September 27, 2021:

1. Cost of Water Purchase:

In 2020, LCA and the City of Allentown agreed to amend the Water Purchase Agreement between the two entities to provide the following regional benefits:

- a. **Long-Term Commitment** – The agreement was extended an additional 30 years to 2063, to match the term of the Allentown Water & Sewer Lease. This is a major benefit to LCA in securing a high-quality, reliable source of water for its customers for the foreseeable future.
- b. **Watershed-Based Resource Management** – Considering LCA’s role as the operator of the Allentown water system in addition to owning and operating the Suburban Water system, the extension of the agreement will allow LCA to manage water resources on a more regional, watershed basis. This provides the opportunity for long-term environmental benefits in addition to future efficiencies.
- c. **Equitable Cost Sharing** – The amended agreement allows LCA to purchase at least 7 million gallons of water per day from the Allentown system and pay only the proportionate share of the true cost of production and treatment of water. This represents an equitable distribution of costs to all users within LCA’s service area.

The anticipated cost increase in 2022 for the water purchased from the Allentown system is \$754,000. This increase is driven by two main factors. First, ongoing capital improvements at the Allentown water filtration plant have increased as improved financial performance of the system has allowed for more appropriate levels of funding to maintain this critical facility. Secondly, as LCA’s Suburban Division customer base has grown, additional water is being purchased from the Allentown system to meet this demand.

The cost to purchase water supply from the Allentown system is expected to increase by more modest levels over the next five years as capital funding levels are expected to be maintained at the water filtration plant. The table below shows the estimated cost to the Suburban Water Division for water purchase costs over the next five years based on current capital improvements planned at the water plant and normal inflationary factors for operating expenses. Note that the 2024 increase of 12.2 percent is expected due to the incorporation of Major Capital Improvements at the facility outlined in the capital plan.

	Budget	Estimated				
	2022	2023	2024	2025	2026	2027
Suburban Water Purchase Amount (GPD)	7,750,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000
Water Purchase Cost	\$ 3,117,305	\$ 3,220,830	\$ 3,613,078	\$ 3,706,142	\$ 3,801,998	\$ 3,900,730
Cost Increase		3.3%	12.2%	2.6%	2.6%	2.6%

2. Capital Improvements Funding:

Since the 1960s, LCA has enjoyed the benefits of operating a relatively “young” system that required less maintenance and repairs than some older urban water systems in our region. This has allowed us to keep water rates low and minimize operational staffing additions over time. However, much of our Suburban Water system is now reaching that critical 50-year milestone and preventive maintenance programs must be increased to ensure the safety and reliability of our service to this community with a growing economic base. Regulatory requirements have also increased substantially during this same time period, along with increased demand for water by industrial customers.

Over the past few years, LCA has minimized capital investment in water main replacements and other system rehabilitation so that additional focus could be placed on operational projects and staffing to support necessary preventive maintenance strategies. In 2022, LCA expects to resume necessary annual water main replacements, with an expected cost of \$2.4 million. As this work is expected to be continued annually and is not supported by new customer growth, the expense is most suited to be covered by operating revenues.

Note: An alternative way of looking at how much asset repair and replacement should be included in the calculation of user revenues is to look at Depreciation of the system assets. In 2022, the Suburban Water Division budget shows Depreciation is approximately \$2.9 million, which generally aligns with the level of capital improvements funding included for recovery in the proposed 2022 revenues.

To address these increasing costs, which are essential to providing service to our customers, rate increases will be necessary. LCA’s previous forecasts have called for annual rate increases between 6 and 7 percent over the next five years to provide additional funding for capital improvements. However, those forecasts did not include the expense increases described above. The rate proposal described in the section below is provided to illustrate the impact of these increases on LCA’s customers.

2022 Rate Proposal – Suburban Water Division

To achieve the debt service coverage, operating expense coverage, and capital cost coverage described in this memo, a total revenue increase of 24 percent is required, which equates to a revenue increase of \$2.96 million. LCA expects approximately 2.0 percent in additional revenue from new customers expected to connect to the water system in 2022. Therefore, a rate increase of 22 percent will be required to generate the remainder of the additional revenue required.

Rate Design Considerations:

- Since most of the cost increases described in this memo are annual costs that will be repeated in future years, regardless of volume growth in the system, LCA’s fixed charges should be increased to capture some portion of that cost in 2022.
- However, since growth within LCA’s industrial user base has created additional pressure to expand the capacity of the system, increase maintenance schedules, and increase our variable

costs, the remainder of the rate increase should be incorporated into the volume rates paid by those larger users.

The following rate structure was developed to capture these considerations:

Current Fixed Charges		PROPOSED
Meter Size	Fixed Charge	Fixed Charge
<u>Quarterly</u>		
5/8" & 3/4" *	\$20.05	\$31.30
1"	\$35.54	\$55.48
<u>Monthly</u>		
1-1/2"	\$26.93	\$42.04
2"	\$37.27	\$58.18
3"	\$67.29	\$105.05
4"	\$98.64	\$154.00
6"	\$184.83	\$288.54
8"	\$287.15	\$448.27
10"	\$404.23	\$631.04

*Typical residential customer uses a 5/8" meter.

Current Volume Charges			2022 PROPOSED
Quarterly Usage (gal.)	Monthly Usage (gal.)	Rate per 1,000 Gal.	Rate per 1,000 Gal.
First 120,000	First 0 - 40,000	\$2.76	\$3.26
Next 2,880,000	Next 960,000	\$2.68	\$3.17
Next 24,000,000	Next 8,000,000	\$2.33	\$2.75
Next 147,000,000	Next 49,000,000	\$2.01	\$2.38
Over 174,000,000	Over 58,000,000	\$1.82	\$2.15

Customer Impacts:

For a typical residential customer, the impact will be \$6.25 per month, or \$75 per year.

For larger customers, the rate impact will be variable depending on how much water is used.

Example 1 – For a large industrial customer with an 8-inch water meter using 17 million gallons per month (568,000 gallons per day), the impact would be \$7,042 per month, or \$84,504 per year.

Example 2 – For a medium-sized commercial customer with a 2-inch meter using 800,000 gallons per month (27,000 gallons per day), the impact would be \$413 per month, or \$4,960 per year.

Note: Due to the impacts noted above, industrial customers will receive a detailed rate analysis from LCA to illustrate how their budgets will be impacted by this rate change.

For all customers, the expected rate impact is between 18 percent and 30 percent, depending on customer class and usage.

Discussion & Future Rate Impacts

Based on the proposed rate structure described above, and using estimated water sales and volume growth in 2022, these rate increases are anticipated to generate the required revenues to the Suburban Water Division outlined in the enclosed 2022 Budget proposal.

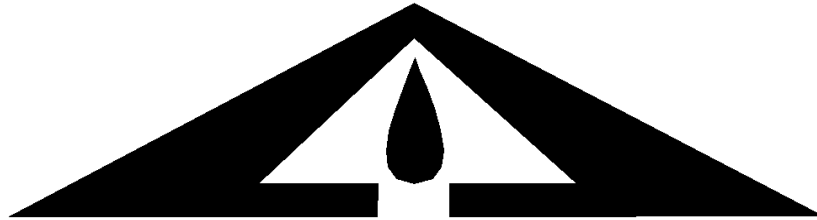
Moving forward, it is important for LCA to consider how future rate increases will be managed. While the rates described above will continue to be low in comparison to regional and national water rates, continued increases of this nature are not desired or expected. More data on comparative water rates will be presented to the Board on October 11, 2021.

Based on the estimate of future costs for water purchases (shown above), and the incorporation of capital funding into the 2022 rates, future rate control to the 5 to 6 percent level is expected in the next five years, followed by leveling out of rates thereafter. A preliminary 10-year Suburban Water Division financial forecast is shown below:

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
User Charges	16,275,841	17,333,771	18,460,466	19,660,396	20,938,322	21,147,705	21,359,182	21,572,774	21,788,502	22,006,387
Other Operating Revenues	38,724	38,724	38,724	38,724	38,724	38,724	38,724	38,724	38,724	38,724
Non-Operating Revenues	1,016,680	1,016,680	1,016,680	1,016,680	1,016,680	806,129	806,129	806,129	806,129	806,129
Operating expenses	(10,376,860)	(10,983,788)	(11,297,972)	(11,621,582)	(11,954,902)	(12,410,407)	(12,879,578)	(13,362,825)	(13,860,568)	(14,373,245)
Debt Service - Current Debt	(3,125,490)	(3,125,490)	(3,125,490)	(3,125,490)	(3,125,490)	(3,125,490)	(3,125,490)	(3,125,490)	(3,125,490)	(3,125,490)
Debt Service - NEW Debt	(137,299)	(274,597)	(274,597)	(274,597)	(274,597)	(274,597)	(274,597)	(274,597)	(274,597)	(274,597)
Investments Converting to Cash	-	-	-	-	-	-	-	-	-	-
Proceeds From NEW Debt	3,782,000	-	-	-	-	-	-	-	-	-
Capex - Total	(6,782,000)	(5,006,500)	(4,362,500)	(6,054,500)	(3,737,500)	(5,100,000)	(5,100,000)	(5,100,000)	(5,100,000)	(5,100,000)
NET FUND FLOWS	691,596	(1,001,200)	455,311	(360,369)	2,901,237	1,082,064	824,370	554,715	272,700	(22,092)
User Charge Rate Increase %	5.50%	5.50%	5.50%	5.50%	5.50%	0.00%	0.00%	0.00%	0.00%	0.00%
Operating Cash Balance	5,117,356	5,416,663	5,571,603	5,731,191	5,895,568	6,120,201	6,351,573	6,589,886	6,835,349	7,088,175
Days on Hand	180	180	180	180	180	180	180	180	180	180
Project Reserve Balance	1,894,218	593,711	894,081	374,124	3,110,984	3,968,414	4,561,412	4,877,813	4,905,051	4,630,133
Debt Service Coverage	2.13	2.18	2.42	2.67	2.95	2.82	2.74	2.66	2.58	2.49

Based on this analysis, a 5.50 percent rate increase is expected each year through 2027, followed by a period with no increases. This rate projection includes full coverage of all planned capital improvements that are currently known today with no additional borrowing after 2023. ***However, rate increases may be spread out or modified if LCA determines that some additional borrowing for capital improvements is beneficial in the future, or if larger capital projects come into view following completion of future water supply studies that will be conducted beginning in 2022.***

This information is provided for discussion purposes at the October 11, 2021 LCA Board meeting. While the expenses shown in the 2022 Budget proposal are unlikely to change significantly between now and final budget presentation at the end of October, questions about rate structure and customer impact can be explored further if desired.



LEHIGH COUNTY AUTHORITY

2022 BUDGET

DRAFT: October 05, 2021

Executive Summary

Operating Activities

Lehigh County Authority

2022 Budget (as of 10-05-21)

Operating Budgets Overview

The funds of the Authority are grouped in the financial statements as –Enterprise funds, which are used to account for business-like activities provided to the general public. These activities are financed primarily by user charges, and the measurement of financial activity focuses on net income measurement like the private sector, in addition to cash flows used more traditionally by the public utility sector. The following enterprise funds are reported as major funds:

- A. Suburban Water Division** – Used to account for the operations of the Suburban Water system’s supply, storage, pumping and treatment facilities and distribution system. The Suburban Water system is a public utility service, which is intended to be maintained on a self-supporting basis.
- B. Suburban Wastewater Division** – Used to account for the operations of the Suburban Wastewater system’s interceptors, collector systems, pump stations, and treatment facilities. The suburban wastewater system is a public utility service, which intends to be maintained on a self-supporting basis.
- C. City Division** – Used to account for the operations of the City of Allentown water and sewer system. The City Division fund is a public utility service, which intends to be maintained on a self-supporting basis. This fund was added in 2013 because of the Authority entering into a 50-year Concession Lease Agreement with the City.

A. Suburban Water Division:

The Authority currently owns and operates water systems in three areas of Lehigh County - the Western Lehigh (WLSA), the Northern Lehigh (NLSA) and the Southern Lehigh (SLSA) Service Areas. In addition, the Authority owns and operates one system in Northampton County. Within each service area, separate systems are further designated as divisions. The Authority is funding all expenses in most of the divisions through a common rate. By municipal agreement, there are 35 customers within the Washington Township Division that are not part of the common rate structure.

Responsibilities for water service include monitoring water quality, operating and maintaining the various supply sources, reservoirs, transmission and distribution pipe networks and customer metering, billing, and response to other related customer service needs.

Each division is affected to varying degrees by the Federal and Pennsylvania Safe Drinking Water Act requirements. Depending on the source (groundwater or purchased surface water), differing analyses are required for water quality monitoring.

Major Budget activities continue to place an emphasis on providing customers with outstanding service. Maintenance programs intended to prolong the useful life of existing facilities, including preventive maintenance, leakage monitoring and repairs, exercising of system valves and fire hydrants, and station improvements and repairs, are on-going.

B. Suburban Wastewater Division:

The Authority is responsible for providing a variety of wastewater services. Current operation and maintenance responsibilities include: the Western Lehigh Interceptor (WLI), Little Lehigh Relief Interceptor (LLRI), the LCA Pre-Treatment Plant (formerly the County of Lehigh Pre-Treatment Plant), collection and treatment in Heidelberg Township, North Whitehall Township, Weisenberg Township and Lynn Township and collector systems within Lowhill Township, Upper Milford Township, Weisenberg Township and Washington Township.

Lehigh County Authority 2022 Budget (as of 10-05-21) Operating Budgets Overview

Western Lehigh Interceptor system:

This budget addresses transportation and City treatment services provided to various municipalities and assumes an average daily flow of 8 million gallons per day (MGD) from the communities served including the Boroughs of Alburtis and Macungie, and the Townships of Lower Macungie, Upper Macungie, Upper Milford, Weisenberg, Lowhill and the LCA Pre-Treatment Plant (the "Municipalities"). The Municipalities are billed based upon wastewater strength, flow, and reserved capacity. The budget (including the LLRI, described below) includes an estimated 4 percent rate increase for the typical residential customer. In addition, the Borough of Emmaus discharges a portion of its flow through the WLI and is billed in accordance with a service agreement.

Personnel time is included for the operation and maintenance of the gravity interceptors and the Spring Creek Pump Station (SCPS) and force main. The budget anticipates that the SCPS will operate daily to meet the demand of volume as well as in response to wet weather events according to current wet weather operating protocols.

As part of a comprehensive Infiltration and Inflow (I/I) removal program, flow monitoring of the Authority and Signatory collector system connections has been completed on an ongoing basis over many years, beginning in 2007. The results of the flow monitoring are used to plan I/I removal programs conducted by all Municipalities to lower wet-weather flows and ensure future capacity is available for new system users. In 2020, the Authority and Municipalities developed an Interim Act 537 Plan to address the capacity requirements for the period of 2021 to 2025. The 2022 Budget includes implementation of planning activities outlined in this regional Interim Act 537 Plan.

Sampling and analysis for billing purposes of the LCA Pre-Treatment Plant and Municipality industrial/commercial users, and flow entering the City system and that from Emmaus are included.

Little Lehigh Relief Interceptor (LLRI) system

Phase 1

This system phase, including the Park Pump Station (PPS) and Force Main, serves the Municipalities and the Townships of Salisbury and South Whitehall. The PPS, which has been in service since 1983, provides 20 MGD of relief pumping capacity to bypass a critical portion of the City of Allentown's interceptor system. In 2020, the Authority completed a major upgrade to the PPS including replacement of aged pumps and equipment, and installation of updated variable frequency drives and control systems, which will serve to optimize the facility and increase efficiency.

Phase 2

This system phase includes the gravity relief line from Keck's Bridge to the PPS and serves the Municipalities. The 2022 Budget anticipates the continuation of increased maintenance costs for cleaning the inverted siphons on this system. This will be an annual expense based upon the blockage experienced in recent years.

Common Rate Collector System:

Upper Milford system

As the wastewater service agency for Upper Milford Township (UMiT), Lehigh County Authority (LCA) provides all wastewater-related services for the 1005 residential and 48 commercial customers in the township as of September 23, 2021. Except for significant matters requiring inter-municipal negotiations or consultations, LCA provides general representation for UMiT on wastewater issues.

Lehigh County Authority

2022 Budget (as of 10-05-21)

Operating Budgets Overview

Weisenberg system

In 2002, LCA finalized an agreement with Weisenberg Township, which designates LCA as the provider of public wastewater service within specific areas of the township. Currently LCA provides collection system service to 146 residential and 3 commercial customers in the Pointe West subdivision, to the former Penn State campus and Glasbern Inn.

Heidelberg Heights system

This system, serving 145 customers in Heidelberg Township was purchased by LCA in September 1998. The system includes approximately 6,500 linear feet of collector sewers and a 60,000 GPD Sequencing Batch Reactor (SBR) Activated Sludge Wastewater Treatment Plant, which was placed in operation in 2000. The budget includes maintenance activities related to the collection system, emphasizing identification and removal of extraneous flow into the system. The Authority operates the system using LCA personnel and outside operators.

Wynnewood Terrace system

The budget includes the operation and maintenance of the Wynnewood Terrace wastewater system in North Whitehall Township. The Authority took over ownership and operational responsibilities in July of 2003. The system includes a new 60,000 GPD SBR(s) treatment plant constructed in 2020, three pump stations and collection system currently serving 217 residential and 2 commercial customers. The budget includes maintenance activities related to the collection system, emphasizing identification and removal of extraneous flow into the system. The Authority operates the system using LCA personnel and outside operators.

Sand Spring system

The budget includes the operation and maintenance of the Sand Spring wastewater system in North Whitehall Township, which was acquired at the end of 2004. The system includes a new 35,000 GPD SBR(s) treatment plant constructed in 2021 and collection system currently serving 248 residential apartment units and 9 commercial customers. The Authority operates the system using LCA personnel and outside operators.

Lowhill Township system

LCA acquired the Lowhill Township sewer collection system effective April 1, 2016. The system serves 43 residential customers and is comprised of approximately 3,500 feet of 8" PVC sewer.

Western Weisenberg system

The Authority owns and operates a 40,000 GPD wastewater treatment plant at the Arcadia West Industrial Park (AWIP). The new plant serves the AWIP and other properties in the New Smithville area of Weisenberg Township. Currently there are 16 commercial customers and 1 institutional customer in this system.

Lynn Township system

The budget includes the operation and maintenance of the Lynn Township wastewater system in Lynn Township. The system includes an 80,000 GPD cast in place extended air plant and collection system currently serving approximately 364 residential properties, 20 commercial customers and the Northwestern Lehigh School District Complex.

Lehigh County Authority 2022 Budget (as of 10-05-21) Operating Budgets Overview

Washington Township system

LCA provides operating services for this system that serves approximately 592 residential and commercial customers in the Slatedale and Emerald areas of Washington Township. Approximately 130,000 GPD of wastewater is conveyed to and treated at the Borough of Slatington's wastewater treatment plant. Ownership of the system remains with Washington Township.

LCA Pre-Treatment Plant (PTP)

LCA took over the operation in May 2006 and ownership in October 2009 of this 5.75 MGD facility built by the County of Lehigh in 1990. Currently the facility provides pre-treatment of high strength waste, predominantly generated by food and beverage industrial customers, along with domestic-strength waste generated by upstream commercial and residential properties located in Lowhill, Weisenberg and Upper Macungie Townships. The PTP also treats hauled waste, which is a significant revenue source for this plant. The plant is operated through a professional services contract with Jacobs. A 10-year operations contract was negotiated in 2017 with Jacobs (formerly CH2M) to provide significant savings in the operational costs, which will be reinvested in plant capital that is reaching the end of its useful life.

Boston Beer Company (BBC) started brewing operations at the former Pabst Brewery in April 2008. The brewery waste has become a very significant source of both waste and income for the PTP. BBC is the plant's largest customer and continues to increase production annually.

Over the past decade, significant capital investment has been made in the PTP to rehabilitate aging, inefficient and inoperable equipment in anticipation of an increase in industrial wastewater flows and strength, which in turn places added demands on plant equipment. Over the past five years, energy conservation measures have been implemented to reduce electrical demands and improve equipment and operational efficiencies. The projects included the addition of a truck receiving station and the completion of the digester mixer replacements, which increased biogas production and reduced electrical needs. Recently completed projects include the rebuild of two belt filter presses, new grease receiving station, access drive reconstruction, and yard process piping replacements.

C. City Division

Water System

The Authority operates the water system for the City of Allentown under a long-term lease/concession agreement. The water system consists of a 30 MGD water treatment plant, (2) water intake structures, (10) storage tanks and reservoirs and (5) pump stations. There are two Water System budgets – Treatment Plant budget and Distribution budget. Separate budgets are presented for each division to track and maintain expenses.

Responsibilities for services include monitoring water quality, operating and maintaining the supply sources for the treatment facility, reservoirs, tanks, transmission and distribution pipe networks, customer metering, billing, and response to customer service needs.

The consumer base is located throughout the City of Allentown. Water is also provided to surrounding municipalities using system interconnections. Sources of supply include two groundwater sources, namely Schantz Spring and Crystal Spring. In addition, two surface water sources include the Little Lehigh Creek and the Lehigh River. Customer growth in the Allentown Division is expected to be minimal.

Major budget activities place an emphasis on providing consumers with outstanding quality water and service. A Preventive Maintenance Program continues to prolong the useful life of existing facilities and equipment. Programs for valve exercising, leak detection, fire hydrant repair/replacement will continue.

Lehigh County Authority 2022 Budget (as of 10-05-21) Operating Budgets Overview

Maintenance programs for the treatment plant processes such as filter evaluations, plant equipment repair/replacement will continue to meet the stringent regulations mandated by EPA and DEP. Continued membership with the Partnership for Safe Water Program for the Treatment Plant and Distribution System will provide a means and method for improvement to the overall performance of the system and water quality. Significant activities include:

- Cost effective use of all 4 water sources
- Optimization of the Treatment Process through the Partnership for Safe Water
- Preventative maintenance programs, utilizing the CMMS
- Aggressive leak detection program
- Use/Upgrade of the SCADA system to allow for more cost-effective operations
- Long term service contract for reservoir/tank maintenance program
- Enhanced CMMS to maintain cost control
- Fleet management to control/maintain vehicle expenses
- Upgrade/replace aging/ineffective equipment that is beyond its useful life

Wastewater System:

LCA's operation and maintenance responsibilities include the operation of the Kline's Island Wastewater Treatment Plant and the portion of the collection system that resides in the geographic boundaries of the City of Allentown. There are two Wastewater System budgets – the Treatment Plant budget and Collection System budget. Separate budgets are presented to track and maintain expenses for improved cost control as well as to implement cost-sharing rates with the 14 municipalities that utilize the system outside the City of Allentown. Rate setting for the municipalities is established via service contracts that specify how operating, maintenance and capital costs are distributed.

The 2022 Budget was developed to provide compliance with applicable regulatory requirements utilizing recognized operational, maintenance and industrial pretreatment procedures to effectively convey and process the wastewater generated in the service area of the treatment facility. Compliance with the Standards of Practice established as part of the concession and lease agreement with the City of Allentown will be an on-going and essential focus for the wastewater staff of the city division.

Consolidated Statements

**LEHIGH COUNTY AUTHORITY
2022 BUDGET
SUMMARY**

Budget Overview	Sub. Water	Sub. Wastewater	City Division	Total
Operating, Non-Operating & Other Revenue	16,337,883	21,247,517	51,120,578	88,705,977
Operating Expenses (net of depreciation)	10,064,906	13,288,362	22,297,092	45,650,360
Net Revenues Available for Debt Service	6,272,977	7,959,155	28,823,486	43,055,618
Debt Service	3,125,490	735,802	15,460,362	19,321,654
Debt Service Coverage Ratio (indenture based)	2.01	10.82	1.86	2.23

Capital Budget Overview	Sub. Water	Sub. Wastewater	City Division	Total
Capital Expenses	5,487,500	2,870,000	11,265,000	19,622,500
Funding from 2022 Revenue & Operating Reserves	2,412,500	2,870,000	5,858,800	11,141,300
Funding from Existing Project Reserves	-	-	4,206,200	4,206,200
Funding from New Borrowing	3,075,000	-	1,200,000	4,275,000
Year-End Project Reserve Balance	2,042,457	7,672,019	169,980	9,884,456

Total Cash Flow	Sub. Water	Sub. Wastewater	City Division	Total
Beginning Operations Cash Balance (2021 forecast)	3,875,228	3,794,475	8,950,187	16,619,890
2022 Surplus	2,814,792	7,223,353	11,298,352	21,336,497
Provided From (To) Capital	(2,412,500)	(2,870,000)	(5,858,800)	(11,141,300)
Ending Operations Cash Balance	4,277,520	8,147,828	14,389,739	26,815,087
Operating Days Cash on Hand	155	224	208	202
Project Reserve Balance	2,042,457	7,672,019	169,980	9,884,456
Other Reserves & Investments (includes restricted)	8,811,994	6,725,950	55,392,868	70,930,812
Ending Total Fund Balance - 2022 Budget	15,131,971	22,545,797	69,952,587	107,630,355

Ending Total Fund Balance - 2021 Forecast	14,729,679	18,192,445	64,513,035	97,435,159
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LEHIGH COUNTY AUTHORITY
KEY METRICS
2022 Budget (as of 10-05-21)

	Suburban Water				Suburban Wastewater				City Division				Total LCA			
	Budget 2022	Forecast 2021	Budget 2021	Actual 2020	Budget 2022	Forecast 2021	Budget 2021	Actual 2020	Budget 2022	Forecast 2021	Budget 2021	Actual 2020	Budget 2022	Forecast 2021	Budget 2021	Actual 2020
Condensed Cash Flows																
Operating Revenues	16,287,758	13,325,173	12,742,424	11,832,779	21,159,552	20,911,781	20,032,585	19,764,968	50,944,159	46,205,139	46,003,744	40,803,338	88,391,469	80,442,094	78,778,753	72,401,085
Operating Expenses (ex. D&A)	(10,397,601)	(7,937,710)	(8,637,758)	(7,032,717)	(13,288,362)	(12,516,970)	(13,248,399)	(10,482,579)	(18,925,064)	(18,223,889)	(19,179,140)	(18,515,006)	(42,611,026)	(38,678,568)	(41,065,297)	(36,030,303)
Non-Operating Revenues (Expenses)	50,125	49,142	94,328	84,958	87,965	86,240	190,471	193,926	176,419	172,960	172,960	162,075	314,509	308,343	457,759	440,959
Net Available for Debt Service	5,940,282	5,436,606	4,198,993	4,885,020	7,959,156	8,481,051	6,974,657	9,476,315	32,195,514	28,154,211	26,997,564	22,450,407	46,094,952	42,071,868	38,171,214	36,811,742
Debt Service	(3,125,490)	(3,134,360)	(3,499,146)	(3,537,234)	(735,802)	(731,365)	(731,029)	(741,773)	(15,460,362)	(15,565,444)	(14,225,917)	(15,722,166)	(19,321,654)	(19,431,169)	(18,456,092)	(20,001,173)
Non-Cash Working Capital Changes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Available for Capex	2,814,792	2,302,246	699,847	1,347,786	7,223,353	7,749,686	6,243,627	8,734,542	16,735,152	12,588,767	12,771,647	6,728,241	26,773,298	22,640,699	19,715,122	16,810,569
Investing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Payments	-	-	-	-	-	-	-	-	(1,230,600)	(1,230,600)	(1,230,600)	(533,258)	(1,230,600)	(1,230,600)	(1,230,600)	(533,258)
Borrowing	3,075,000	-	-	-	-	-	-	-	1,200,000	-	2,000,000	-	4,275,000	-	2,000,000	-
Capex	(5,487,500)	(3,628,033)	(4,190,000)	(5,063,707)	(2,870,000)	(3,738,195)	(3,921,800)	(8,336,452)	(11,265,000)	(8,340,673)	(8,877,500)	(4,158,796)	(19,622,500)	(15,706,901)	(16,989,300)	(17,558,956)
Net Cash Flows	402,292	(1,325,787)	(3,490,153)	(3,715,921)	4,353,353	4,011,491	2,321,827	398,090	5,439,552	3,017,494	4,663,547	2,036,187	10,195,198	5,703,198	3,495,222	(1,281,645)
Debt Service Ratio (Indenture Based)																
Total Operating Revenues	15,321,204	12,363,189	11,799,441	10,866,675	20,282,051	20,042,968	19,166,369	16,168,927	46,388,630	42,074,272	41,996,515	37,983,675	81,991,885	74,480,429	72,962,324	65,019,277
Total Operating Expenses (Cash Based)	(10,064,907)	(8,061,749)	(8,637,776)	(7,266,081)	(13,288,362)	(12,516,970)	(13,248,399)	(11,105,204)	(21,066,491)	(18,247,096)	(21,339,140)	(17,674,098)	(44,419,760)	(38,825,815)	(43,225,315)	(36,045,383)
Interest Income	50,125	49,142	94,328	84,958	87,965	86,240	190,471	193,926	176,419	172,960	172,960	162,075	314,509	308,343	457,759	440,959
Annual Lease Payment (City)	-	-	-	-	-	-	-	-	(1,230,600)	(1,230,600)	(1,230,600)	(524,861)	(1,230,600)	(1,230,600)	(1,230,600)	(524,861)
Total Non-Operating Revenues (Expenses)	966,554	961,984	942,983	966,104	877,501	868,813	866,216	3,596,041	4,555,529	4,130,868	4,007,229	2,819,663	6,399,584	5,961,665	5,816,428	7,381,808
Cash Available For Debt Service	6,272,976	5,312,567	4,198,975	4,651,656	7,959,156	8,481,051	6,974,657	8,853,690	28,823,486	26,900,403	23,606,964	22,766,454	43,055,618	40,694,021	34,780,596	36,271,800
Interest and Fees Paid	1,200,301	1,221,912	1,406,328	1,442,776	173,721	181,995	181,995	199,707	13,565,362	12,995,444	11,565,086	13,682,166	14,939,384	14,399,351	13,153,409	15,324,649
Principal Paid	1,925,189	1,912,448	2,092,818	2,094,458	562,081	549,370	549,034	542,066	1,895,000	2,570,000	2,660,831	2,040,000	4,382,270	5,031,818	5,302,683	4,676,524
Total Debt Service	3,125,490	3,134,360	3,499,146	3,537,234	735,802	731,365	731,029	741,773	15,460,362	15,565,444	14,225,917	15,722,166	19,321,654	19,431,169	18,456,092	20,001,173
Debt Service Ratio	2.01	1.69	1.20	1.32	10.82	11.60	9.54	11.94	1.86	1.73	1.66	1.45	2.23	2.09	1.88	1.81
Capital Coverage Ratio																
Net Cash Available After Debt Service	2,180,932	1,216,223	(243,154)	148,318	6,345,852	6,880,873	5,377,411	4,515,876	8,807,595	7,204,092	5,373,818	4,224,625	17,334,380	15,301,188	10,508,076	8,888,819
Total Non-Operating Revenues	966,554	961,984	942,983	966,104	877,501	868,813	866,216	3,596,041	4,555,529	4,130,868	4,007,229	2,819,663	6,399,584	5,961,665	5,816,428	7,381,808
Net Cash Available For Capital	3,147,486	2,178,207	699,829	1,114,422	7,223,353	7,749,686	6,243,627	8,111,917	13,363,124	11,334,959	9,381,047	7,044,288	23,733,964	21,262,853	16,324,504	16,270,627
Net Capital Spending	5,487,500	3,625,940	4,186,600	5,063,707	2,870,000	2,738,195	2,921,800	8,336,452	7,058,800	4,134,473	6,210,604	(47,404)	15,416,300	10,498,608	13,319,004	13,352,756
Expensed Capex	-	2,093	3,400	-	-	1,000,000	1,000,000	-	4,206,200	4,206,200	2,666,896	4,206,200	4,206,200	5,208,293	3,670,296	4,206,200
Total Capital Spending	5,487,500	3,628,033	4,190,000	5,063,707	2,870,000	3,738,195	3,921,800	8,336,452	11,265,000	8,340,673	8,877,500	4,158,796	19,622,500	15,706,901	16,989,300	17,558,956
Capital Coverage Ratio	0.57	0.60	0.17	0.22	2.52	2.07	1.59	0.97	1.19	1.36	1.06	1.69	1.21	1.35	0.96	0.93

LEHIGH COUNTY AUTHORITY
STATEMENTS OF NET POSITION
2022 Budget (as of 10-05-21)

	Suburban Water				Suburban Wastewater				City Division				Total LCA			
	Budget 2022	Forecast 2021	Budget 2021	Actual 2020	Budget 2022	Forecast 2021	Budget 2021	Actual 2020	Budget 2022	Forecast 2021	Budget 2021	Actual 2020	Budget 2022	Forecast 2021	Budget 2021	Actual 2020
Current Assets:																
Cash and Cash Equivalents	6,319,977	5,917,685	3,210,679	7,243,472	15,819,848	11,466,495	11,987,747	7,455,003	14,559,719	9,120,167	19,808,346	1,548,256	36,699,544	26,504,347	35,006,772	16,246,731
Certificates of Deposit	2,497,825	2,497,825	3,136,930	2,497,825	6,387,746	6,387,746	7,757,276	6,387,746	-	-	-	-	8,885,571	8,885,571	10,894,206	8,885,571
Accounts Receivable:																
Customers (Net of Allowance)	2,129,490	2,129,490	1,760,403	2,129,490	3,286,041	3,286,041	3,188,238	3,286,041	8,081,987	8,831,987	6,542,331	8,081,987	13,497,518	14,247,518	11,490,972	13,497,518
Financing Contracts	-	-	-	-	194,495	194,495	323,767	194,495	-	-	-	-	194,495	194,495	323,767	194,495
Others	391,974	391,974	280,007	391,974	646,233	646,233	675,091	646,233	3,301,267	3,301,267	2,941,090	3,301,267	4,339,474	4,339,474	3,896,188	4,339,474
Due from (to) Other Funds	1,619,206	1,619,206	1,599,692	1,619,206	(1,582,995)	(1,582,995)	(1,570,176)	(1,582,995)	(36,211)	(36,211)	(29,516)	(36,211)	-	-	-	-
Inventory	24,597	24,597	36,074	24,597	-	-	-	-	-	-	-	-	24,597	24,597	36,074	24,597
Accrued Interest Receivable	1,614	1,614	6,411	1,614	22,588	22,588	39,898	22,588	491	491	56,425	491	24,693	24,693	102,734	24,693
Prepaid Expenses	195,918	195,918	185,993	195,918	128,082	128,082	131,300	128,082	408,858	408,858	414,562	408,858	732,858	732,858	731,855	732,858
Total Current Assets	13,180,601	12,778,309	10,216,189	14,104,096	24,902,038	20,548,685	22,533,141	16,537,193	26,316,111	21,626,559	29,733,238	13,304,648	64,398,750	54,953,553	62,482,568	43,945,937
Noncurrent Assets:																
Restricted:																
Restricted Cash and Cash Equivalents	-	-	2,532,181	-	338,204	338,204	337,932	338,204	26,416,191	26,416,191	9,114,754	31,492,616	26,754,395	26,754,395	11,984,867	31,830,820
Restricted for Debt Service	1,858,493	1,858,493	1,043,094	1,858,493	-	-	-	-	28,976,677	28,976,677	37,684,197	28,454,669	30,835,170	30,835,170	38,727,291	30,313,162
Restricted Certificates of Deposit	-	-	25,527	-	-	-	-	-	-	-	-	-	-	-	25,527	-
Investment U.S. Treasury Obligations	244,924	244,924	-	244,924	-	-	-	-	-	-	-	-	244,924	244,924	-	244,924
Developer Escrow Deposit	4,210,752	4,210,752	4,210,752	4,210,752	-	-	-	-	-	-	-	-	4,210,752	4,210,752	4,210,752	4,210,752
Total Restricted Assets	6,314,169	6,314,169	7,811,554	6,314,169	338,204	338,204	337,932	338,204	55,392,868	55,392,868	46,798,951	59,947,285	62,045,241	62,045,241	54,948,437	66,599,658
Capital Assets																
Non-depreciable Assets:																
Land	2,232,552	2,232,552	2,114,884	2,232,552	1,896,050	1,896,050	1,888,430	1,896,050	-	-	-	-	4,128,602	4,128,602	4,003,314	4,128,602
Construction in Progress	16,258,754	10,771,254	21,015,645	7,143,221	15,273,365	12,403,365	27,366,955	8,665,170	19,605,673	8,340,673	11,871,364	-	51,137,792	31,515,292	60,253,964	15,808,391
Total Capital Assets Not Being Depreciated	18,491,306	13,003,806	23,130,529	9,375,773	17,169,415	14,299,415	29,255,385	10,561,220	19,605,673	8,340,673	11,871,364	-	55,266,394	35,643,894	64,257,278	19,936,993
Depreciable Assets:																
Wells & Reservoirs	9,891,800	9,891,800	9,709,252	9,891,800	3,494,643	3,494,643	3,494,643	3,494,643	-	-	-	-	13,386,443	13,386,443	13,203,895	13,386,443
Transmission & Distribution Mains	85,446,377	85,446,377	80,498,411	85,446,377	-	-	-	-	-	-	-	-	85,446,377	85,446,377	80,498,411	85,446,377
Services & Hydrants	17,672,546	17,672,546	17,571,410	17,672,546	-	-	-	-	-	-	-	-	17,672,546	17,672,546	17,571,410	17,672,546
Interceptor & Collector Systems	-	-	-	-	38,265,579	38,265,579	38,259,619	38,265,579	-	-	-	-	38,265,579	38,265,579	38,259,619	38,265,579
Building Structure & Appurtenances	27,139,327	27,139,327	23,797,378	27,139,327	61,301,596	61,301,596	55,828,047	61,301,596	13,630	13,630	-	13,630	88,454,553	88,454,553	79,625,425	88,454,553
Metering System	10,800,051	10,800,051	10,672,043	10,800,051	429,778	429,778	429,778	429,778	-	-	-	-	11,229,829	11,229,829	11,101,821	11,229,829
Equipment and Furnishings	8,689,068	8,689,068	7,769,506	8,689,068	23,605,871	23,605,871	23,175,902	23,605,871	3,244,249	3,244,249	3,268,879	3,244,249	35,539,188	35,539,188	34,214,287	35,539,188
Capacity	1,207,901	1,207,901	1,207,901	1,207,901	877,877	877,877	953,831	877,877	-	-	-	-	2,085,778	2,085,778	2,161,732	2,085,778
Total Capital Assets Being Depreciated	160,847,070	160,847,070	151,225,901	160,847,070	127,975,344	127,975,344	122,141,820	127,975,344	3,257,879	3,257,879	3,268,879	3,257,879	292,080,293	292,080,293	276,636,600	292,080,293
Less accumulated depreciation																
Wells & Reservoirs	(3,546,683)	(3,546,683)	(3,365,888)	(3,546,683)	(666,759)	(666,759)	(603,220)	(666,759)	-	-	-	-	(4,213,443)	(4,213,443)	(3,969,108)	(4,213,443)
Transmission & Distribution Mains	(14,550,885)	(14,550,885)	(13,722,746)	(14,550,885)	-	-	-	-	-	-	-	-	(14,550,885)	(14,550,885)	(13,722,746)	(14,550,885)
Services & Hydrants	(4,867,937)	(4,867,937)	(4,580,883)	(4,867,937)	-	-	-	-	-	-	-	-	(4,867,937)	(4,867,937)	(4,580,883)	(4,867,937)
Interceptor & Collector Systems	-	-	-	-	(11,579,414)	(11,579,414)	(11,136,593)	(11,579,414)	-	-	-	-	(11,579,414)	(11,579,414)	(11,136,593)	(11,579,414)
Building Structure & Appurtenances	(9,962,560)	(9,962,560)	(9,294,442)	(9,962,560)	(22,012,512)	(22,012,512)	(20,126,163)	(22,012,512)	(10,709)	(10,709)	(8,762)	(10,709)	(31,985,781)	(31,985,781)	(29,429,367)	(31,985,781)
Metering System	(5,799,078)	(5,799,078)	(5,332,817)	(5,799,078)	(275,702)	(275,702)	(264,381)	(275,702)	-	-	-	-	(6,074,781)	(6,074,781)	(5,597,198)	(6,074,781)
Equipment and Furnishings	(12,309,466)	(9,331,013)	(11,257,659)	(6,382,050)	(32,561,482)	(26,564,927)	(29,360,103)	(20,627,744)	3,467,776	463,884	(3,065,282)	(2,601,182)	(41,403,172)	(35,432,057)	(43,683,043)	(29,610,977)
Capacity	(782,877)	(782,877)	(751,043)	(782,877)	-	-	-	-	-	-	-	-	(782,877)	(782,877)	(751,043)	(782,877)
Total Accumulated Depreciation	(51,819,488)	(48,841,035)	(48,305,478)	(45,892,072)	(67,095,869)	(61,099,314)	(61,490,460)	(55,162,131)	3,457,067	453,175	(3,074,044)	(2,611,891)	(115,458,290)	(109,487,175)	(112,869,982)	(103,666,095)
Total Capital Assets	127,518,888	125,009,841	126,050,953	124,330,771	78,048,890	81,175,444	89,906,745	83,374,433	26,320,619	12,051,727	12,066,198	645,988	231,888,396	218,237,012	228,023,896	208,351,191
Other Assets:																
Long-Term Portion of Receivables - Financing Contracts	-	-	-	-	1,330,142	1,330,142	1,532,516	1,330,142	-	-	-	-	1,330,142	1,330,142	1,532,516	1,330,142
Intangible Service Concession Arrangement	-	-	-	-	-	-	-	-	242,744,200	251,926,662	235,559,576	251,926,662	242,744,200	251,926,662	235,559,576	251,926,662
Less Accumulated Amortization	-	-	-	-	-	-	-	-	(9,182,462)	(9,182,462)	(5,566,500)	-	(9,182,462)	(9,182,462)	(5,566,500)	-
OPEB Asset	1,389,099	1,389,099	1,244,053	1,389,099	-	-	-	-	-	-	-	-	1,389,099	1,389,099	1,244,053	1,389,099
Other Assets	-	-	-	-	-	-	-	-	3,174,440	3,174,440	3,216,983	3,174,440	3,174,440	3,174,440	3,216,983	3,174,440
Facilities Planning Costs (Net of Accumulated Amortization)	59,838	59,838	24,442	59,838	9,862,447	9,862,447	58,589	9,862,447	-	-	-	-	9,922,285	9,922,285	83,031	9,922,285
Total Other Assets	1,448,937	1,448,937	1,268,495	1,448,937	11,192,589	11,192,589	1,591,105	11,192,589	236,736,178	245,918,640	233,210,059	255,101,102	249,377,704	258,560,166	236,069,659	267,742,628
Total Noncurrent Assets	135,281,994	132,772,947	135,131,002	132,093,877	89,579,683	92,706,237	91,835,782	94,905,226	318,449,664	313,363,234	292,075,208	315,694,374	543,311,341	538,842,419	519,041,992	542,693,477
Total Assets	148,462,595	145,551,256	145,347,190	146,197,973	114,481,720	113,254,922	114,368,923	111,442,419	344,765,776	334,989,794	321,808,447	328,999,022	607,710,092	593,795,971	581,524,560	586,639,414
Deferred Outflows of Resources																
Pensions	533,395	533,395	679,620	533,395	268,506	268,506	342,115	268,506	1,980,544	1,980,544	2,523,498	1,980,544	2,782,445	2,782,445	3,545,233	2,782,445
OPEB	22,175	22,175	56,117	22,175	-	-	-	-	989,255	989,255	662,093	989,255	1,011,430	1,011,430	718,210	1,011,430
Refunding Loss on Bonds	-	-	24,954	-	-	-	-	-	27,452,737	27,452,737	24,117,855	27,452,737	27,452,737	27,452,737	24,142,809	27,452,737
Total Deferred Outflows	555,570	555,570	760,691	555,570	268,506	268,506	342,115	268,506	30,422,536	30,422,536	27,303,446	30,422,536	31,246,612	31,246,612	28,406,252	31,246,612
Total Assets and Deferred Outflows of Resources	149,018,165	146,106,826	146,107,881	146,753,543	114,750,226	113,523,428	114,711,038	111,710,925	375,188,312	365,412,330	349,111,893	359,421,558	638,956,704	625,042,583	609,930,812	617,886,026

LEHIGH COUNTY AUTHORITY
STATEMENTS OF NET POSITION
2022 Budget (as of 10-05-21)

	Suburban Water				Suburban Wastewater				City Division				Total LCA			
	Budget	Forecast	Budget	Actual	Budget	Forecast	Budget	Actual	Budget	Forecast	Budget	Actual	Budget	Forecast	Budget	Actual
	2022	2021	2021	2020	2022	2021	2021	2020	2022	2021	2021	2020	2022	2021	2021	2020
Current Liabilities:																
Accounts Payable - Trade	1,261,059	1,261,059	1,381,509	1,258,966	2,840,344	2,840,344	4,819,043	1,840,344	5,713,725	1,507,525	2,828,820	1,507,525	9,815,128	5,608,928	9,029,372	4,606,835
Accounts Payable - Capital	269,149	269,149	246,336	269,149	301,306	301,306	312,403	301,306	60,850	60,850	2,010,714	60,850	631,305	631,305	2,569,453	631,305
Accrued Interest Payable	228,440	228,440	233,600	228,440	3,346	3,346	3,346	3,346	962,090	962,090	1,105,780	962,090	1,193,876	1,193,876	1,342,726	1,193,876
Notes Payable	3,150,541	74,410	257,775	253,032	453,375	443,723	443,723	434,775	1,200,000	-	-	-	4,803,916	518,133	701,498	687,807
Revenue Bonds Payable	1,935,000	1,850,779	1,889,764	1,848,653	122,605	118,358	118,358	114,595	2,097,077	1,735,649	1,661,079	2,514,642	4,154,682	3,704,786	3,669,201	4,477,890
Developer Deposits and Other	455,865	455,865	554,977	455,865	18,204	18,204	2,950	18,204	24,877	24,877	19,805	24,877	498,946	498,946	577,732	498,946
Accrued Payroll & Other	170,102	170,102	226,234	170,102	91,593	91,593	132,867	91,593	224,245	224,245	494,941	224,245	485,940	485,940	854,042	485,940
Total Current Liabilities	7,470,156	4,309,804	4,790,195	4,484,207	3,830,773	3,816,874	5,832,690	2,804,163	10,282,864	4,515,236	8,121,139	5,294,229	21,583,793	12,641,914	18,744,024	12,582,599
Noncurrent Liabilities:																
Developer Deposits and Other	4,210,752	4,210,752	4,210,752	4,210,752	3,810	3,810	19,064	3,810	-	-	10,000	-	4,214,562	4,214,562	4,239,816	4,214,562
Service Concession Arrangement Payable	-	-	-	-	-	-	-	-	64,261,077	64,261,077	49,168,997	64,261,077	64,261,077	64,261,077	49,168,997	64,261,077
Notes Payable	711,953	787,494	1,727,302	1,985,076	4,270,583	4,723,958	4,723,957	5,167,681	-	-	-	-	4,982,536	5,511,452	6,451,259	7,152,757
OPEB Liability	-	-	-	-	-	-	-	-	3,825,143	3,825,143	2,944,923	3,825,143	3,825,143	3,825,143	2,944,923	3,825,143
Net Pension Liability	187,303	187,303	956,221	187,303	94,286	94,286	481,353	94,286	695,473	695,473	3,550,538	695,473	977,062	977,062	4,988,112	977,062
Revenue Bonds Payable (Net of Premium/Discount)	30,982,826	33,250,520	31,797,039	33,664,851	1,011,534	1,134,139	1,134,475	1,252,497	350,517,541	348,703,506	344,325,374	342,996,898	382,511,901	383,088,164	377,256,888	377,914,246
Total Noncurrent Liabilities	36,092,834	38,436,069	38,691,314	40,047,982	5,380,213	5,956,193	6,358,849	6,518,274	419,299,234	417,485,199	399,999,832	411,778,591	460,772,281	461,877,460	445,049,995	458,344,847
Total Liabilities	43,562,990	42,745,873	43,481,509	44,532,189	9,210,986	9,773,067	12,191,539	9,322,437	429,582,098	422,000,435	408,120,971	417,072,820	482,356,073	474,519,375	463,794,019	470,927,446
Deferred Inflows of Resources																
Pensions	545,758	545,758	-	545,758	274,730	274,730	-	274,730	2,026,453	2,026,453	-	2,026,453	2,846,941	2,846,941	-	2,846,941
OPEB	108,123	108,123	119,297	108,123	-	-	-	-	-	-	-	-	108,123	108,123	119,297	108,123
Total Deferred Inflows	653,881	653,881	119,297	653,881	274,730	274,730	-	274,730	2,026,453	2,026,453	-	2,026,453	2,955,064	2,955,064	119,297	2,955,064
Net Position:																
Net Investment in Capital Assets	90,738,569	89,046,638	90,379,073	86,673,528	72,190,793	74,755,266	83,486,232	76,404,885	25,120,619	12,051,727	12,066,198	645,988	188,049,980	175,853,631	185,931,503	163,724,400
Restricted for Debt Service	1,407,066	1,407,066	1,407,066	1,407,066	-	-	-	-	-	-	-	-	1,407,066	1,407,066	1,407,066	1,407,066
Unrestricted	12,655,660	12,253,368	10,720,936	13,486,879	33,073,718	28,720,364	19,033,267	25,708,873	(81,540,857)	(70,666,285)	(71,075,276)	(60,323,702)	(35,811,480)	(29,692,552)	(41,321,073)	(21,127,950)
Total Net Position	104,801,295	102,707,072	102,507,076	101,567,473	105,264,510	103,475,631	102,519,499	102,113,758	(56,420,239)	(58,614,558)	(59,009,078)	(59,677,714)	153,645,567	147,568,145	146,017,497	144,003,517
Total Liabilities, Deferred Inflows of Resources and Net Position	149,018,165	146,106,826	146,107,882	146,753,543	114,750,226	113,523,428	114,711,038	111,710,925	375,188,312	365,412,330	349,111,893	359,421,558	638,956,704	625,042,583	609,930,812	617,886,026

LEHIGH COUNTY AUTHORITY
CASH & INVESTMENT SUMMARY
2022 Budget (as of 10-05-21)

	Suburban Water				Suburban Wastewater				City Division				Total LCA			
	Budget 2022	Forecast 2021	Budget 2021	Actual 2020	Budget 2022	Forecast 2021	Budget 2021	Actual 2020	Budget 2022	Forecast 2021	Budget 2021	Actual 2020	Budget 2022	Forecast 2021	Budget 2021	Actual 2020
Cash																
Operating																
Unrestricted	4,277,520	3,875,228	1,173,430	5,206,224	8,147,829	3,794,475	4,315,728	(217,016)	14,389,739	8,950,187	19,638,366	1,378,276	26,815,088	16,619,891	25,127,525	6,367,484
Restricted	-	-	2,532,181	-	272	272	0	272	18,916,191	18,916,191	1,614,754	23,992,616	-	-	-	-
Total Operating	4,277,520	3,875,228	3,705,611	5,206,224	8,148,101	3,794,747	4,315,728	(216,744)	33,305,930	27,866,378	21,253,120	25,370,892	26,815,088	16,619,891	25,127,525	6,367,484
Capital																
Unrestricted	2,042,457	2,042,457	2,037,248	2,037,248	7,672,019	7,672,019	7,672,019	7,672,019	169,980	169,980	169,980	169,980	9,884,456	9,884,456	9,879,247	9,879,247
Restricted	-	-	-	-	337,932	337,932	337,932	337,932	7,500,000	7,500,000	7,500,000	7,500,000	7,837,932	7,837,932	7,837,932	7,837,932
Total Capital	2,042,457	2,042,457	2,037,248	2,037,248	8,009,951	8,009,951	8,009,951	8,009,951	7,669,980	7,669,980	7,669,980	7,669,980	17,722,388	17,722,388	17,717,179	17,717,179
Other Restricted																
Debt Reserves	1,858,493	1,858,493	1,043,094	1,858,493	-	-	-	-	28,976,677	28,976,677	37,684,197	28,454,669	30,835,170	30,835,170	38,727,291	30,313,162
Escrow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Other Restricted	1,858,493	1,858,493	1,043,094	1,858,493	-	-	-	-	28,976,677	28,976,677	37,684,197	28,454,669	30,835,170	30,835,170	38,727,291	30,313,162
Total Cash	8,178,470	7,776,178	6,785,954	9,101,965	16,158,052	11,804,699	12,325,679	7,793,207	69,952,587	64,513,035	66,607,297	61,495,541	75,372,646	65,177,449	81,571,995	54,397,825
Investments																
Operating																
Unrestricted	1,497,825	1,497,825	2,136,930	1,497,825	5,387,746	5,387,746	6,757,276	5,387,746	-	-	-	-	6,885,571	6,885,571	8,894,206	6,885,571
Restricted	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Operating	1,497,825	1,497,825	2,136,930	1,497,825	5,387,746	5,387,746	6,757,276	5,387,746	-	-	-	-	6,885,571	6,885,571	8,894,206	6,885,571
Capital																
Unrestricted	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	-	-	-	-	2,000,000	2,000,000	2,000,000	2,000,000
Restricted	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Capital	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	-	-	-	-	2,000,000	2,000,000	2,000,000	2,000,000
Other Restricted																
Debt Reserves	244,924	244,924	-	244,924	-	-	-	-	-	-	-	-	244,924	244,924	-	244,924
Escrow	4,210,752	4,210,752	4,236,279	4,210,752	-	-	-	-	-	-	-	-	4,210,752	4,210,752	4,236,279	4,210,752
Total Other Restricted	4,455,676	4,455,676	4,236,279	4,455,676	-	-	-	-	-	-	-	-	4,455,676	4,455,676	4,236,279	4,455,676
Total Investments	6,953,501	6,953,501	7,373,209	6,953,501	6,387,746	6,387,746	7,757,276	6,387,746	-	-	-	-	13,341,247	13,341,247	15,130,485	13,341,247
Total Cash and Investments	15,131,971	14,729,679	14,159,163	16,055,466	22,545,798	18,192,445	20,082,955	14,180,953	69,952,587	64,513,035	66,607,297	61,495,541	88,713,893	78,518,696	96,702,480	67,739,072
Summary																
Cash																
Unrestricted	6,319,977	5,917,685	3,210,679	7,243,472	15,819,848	11,466,495	11,987,747	7,455,003	14,559,719	9,120,167	19,808,346	1,548,256	36,699,544	26,504,347	35,006,772	16,246,731
Restricted	1,858,493	1,858,493	3,575,275	1,858,493	338,204	338,204	337,932	338,204	55,392,868	55,392,868	46,798,951	59,947,285	57,589,565	57,589,565	50,712,158	62,143,982
Total Cash	8,178,470	7,776,178	6,785,954	9,101,965	16,158,052	11,804,699	12,325,679	7,793,207	69,952,587	64,513,035	66,607,297	61,495,541	94,289,109	84,093,912	85,718,930	78,390,713
Investments																
Unrestricted	2,497,825	2,497,825	3,136,930	2,497,825	6,387,746	6,387,746	7,757,276	6,387,746	-	-	-	-	8,885,571	8,885,571	10,894,206	8,885,571
Restricted	4,455,676	4,455,676	4,236,279	4,455,676	-	-	-	-	-	-	-	-	4,455,676	4,455,676	4,236,279	4,455,676
Total Investments	6,953,501	6,953,501	7,373,209	6,953,501	6,387,746	6,387,746	7,757,276	6,387,746	-	-	-	-	13,341,247	13,341,247	15,130,485	13,341,247
Total Cash and Investments	15,131,971	14,729,679	14,159,163	16,055,466	22,545,798	18,192,445	20,082,955	14,180,953	69,952,587	64,513,035	66,607,297	61,495,541	107,630,356	97,435,159	100,849,415	91,731,960

LEHIGH COUNTY AUTHORITY
STATEMENTS OF CASH FLOWS - SUMMARY
2022 Budget (as of 10-05-21)

	Suburban Water				Suburban Wastewater				City Division				Total LCA			
	Budget 2022	Forecast 2021	Budget 2021	Actual 2020	Budget 2022	Forecast 2021	Budget 2021	Actual 2020	Budget 2022	Forecast 2021	Budget 2021	Actual 2020	Budget 2022	Forecast 2021	Budget 2021	Actual 2020
Cash Flows From Operating Activities																
Cash Received From Customers	15,282,480	12,324,580	11,770,317	10,353,081	20,112,389	19,874,986	19,122,546	16,243,302	46,922,193	41,102,870	42,247,349	35,848,993	82,317,062	73,302,436	73,140,212	62,445,376
Cash Payments To Suppliers For Goods And Services	(6,151,285)	(4,493,742)	(4,606,174)	(4,458,210)	(11,501,251)	(9,858,122)	(10,285,608)	(10,654,386)	(2,364,209)	(5,051,723)	(5,371,334)	(4,663,570)	(20,016,744)	(19,403,588)	(20,263,116)	(19,776,166)
Cash Payments To Employees For Services	(3,913,622)	(3,511,913)	(3,953,337)	(3,132,622)	(1,787,111)	(1,622,848)	(1,916,369)	(1,463,603)	(14,496,083)	(13,195,373)	(13,300,911)	(12,498,567)	(20,196,816)	(18,330,134)	(19,170,616)	(17,094,793)
Other Operating Cash Receipts	38,724	38,609	29,124	32,540	169,662	167,982	43,823	188,326	216,437	221,401	349,165	234,849	424,823	427,992	422,112	455,715
Net Cash Provided By Operating Activities	5,256,297	4,357,533	3,239,929	2,794,789	6,993,689	8,561,998	6,964,393	4,313,639	30,278,338	23,077,175	23,924,270	18,921,705	42,528,325	35,996,707	34,128,592	26,030,133
Cash Flows From Noncapital Financing Activities																
Interest Paid on Revenue Bonds and Notes	-	-	-	-	-	-	-	-	(14,068,934)	(10,586,036)	(14,135,086)	1,450,094	(14,068,934)	(10,586,036)	(14,135,086)	1,450,094
Facility Improvement Payments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Payments to the City of Allentown	-	-	-	-	-	-	-	-	(1,230,600)	(1,230,600)	(1,230,600)	(533,258)	(1,230,600)	(1,230,600)	(1,230,600)	(533,258)
Transfers To/From Other Funds	-	-	-	(19,514)	-	-	-	12,819	-	-	-	6,695	-	-	-	-
Net Cash Provided By (Used in) Noncapital Financing Activities	-	-	-	(19,514)	-	-	-	12,819	(15,299,534)	(11,816,636)	(15,365,686)	923,531	(15,299,534)	(11,816,636)	(15,365,686)	916,836
Cash Flows From Capital And Related Financing Activities																
Receipts/(Release) of Developer Deposits	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Payments of Developer Deposits	-	-	-	(99,112)	-	-	-	1,486,630	-	-	-	(4,928)	-	-	-	(104,040)
Payments of Facilities Planning Costs	-	-	-	(35,396)	-	-	-	(9,803,858)	-	-	-	-	-	-	-	(9,839,254)
Acquisition and Construction of Property and Equipment	(5,487,500)	(3,628,033)	(4,190,000)	(4,489,858)	(2,870,000)	(3,738,195)	(3,921,800)	1,486,630	(11,265,000)	(8,340,673)	(8,877,500)	(16,728,273)	(19,622,500)	(15,706,901)	(16,989,300)	(19,731,501)
Cash Received from Tapping and Capital Recovery Fees	469,295	464,648	443,721	464,648	843,449	835,098	835,098	3,575,692	2,000,187	2,000,187	1,773,409	1,901,863	3,312,931	3,299,934	3,052,228	5,942,203
Cash Received from Meter Sales	87,439	86,573	100,744	77,685	-	-	-	-	24,595	24,595	23,387	24,595	112,034	111,168	124,131	102,280
Cash Received from Inspection, Plan Reviews, & Proj. Reimbursements	376,743	378,013	367,574	318,263	31,805	31,490	30,489	8,655	2,463,271	2,039,278	2,151,185	841,585	2,871,819	2,448,781	2,549,248	1,168,503
Other Capital Cash Receipts	33,078	32,750	30,944	315,301	2,247	2,225	628	19,314	67,475	66,807	59,249	51,620	102,800	101,782	90,821	386,235
Other Capital Cash Payments	-	(56,093)	(78,264)	(21,972)	-	(1,036,000)	(1,046,422)	(53,795)	(4,206,200)	(4,206,200)	(2,377,545)	(4,113,521)	(4,206,200)	(5,298,293)	(3,502,231)	(4,189,288)
Revenue Bond and Note Issuance Proceeds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Principal Paid On Revenue Bonds	(2,183,473)	(412,205)	(1,839,768)	(1,846,079)	(118,358)	(114,595)	(114,259)	(114,905)	-	-	-	-	(2,301,831)	(526,800)	(1,954,027)	(1,960,984)
Notes Payable	3,000,590	(1,376,204)	(253,032)	(248,379)	(443,723)	(434,775)	(434,775)	(427,161)	1,200,000	-	2,000,000	-	3,756,867	(1,810,979)	1,312,193	(675,540)
Interest Paid on Revenue Bonds and Notes	(1,200,301)	(1,221,912)	(1,406,328)	(1,422,982)	(173,721)	(181,995)	(181,995)	(199,707)	-	-	-	-	(1,374,022)	(1,403,907)	(1,588,323)	(1,622,689)
Net Cash Provided by (Used in) Capital & Related Financing Activities	(4,904,130)	(5,732,463)	(6,824,410)	(6,987,881)	(2,728,301)	(4,636,747)	(4,833,035)	(5,509,135)	(9,715,671)	(8,416,005)	(5,247,815)	(18,027,059)	(17,348,102)	(18,785,215)	(16,905,260)	(30,524,075)
Cash Flows From investing Activities																
Maturities of Certificates Of Deposit	-	-	-	664,632	-	-	-	1,369,530	-	-	-	-	-	-	-	2,034,162
Purchase of Certificates Of Deposit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Purchase of U.S. Treasury Obligations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maturities of U.S. Treasury Obligations	-	-	-	(244,924)	-	-	-	-	-	-	1,179,819	-	-	-	1,179,819	(244,924)
Interest Received On Investments	50,125	49,142	94,327	76,977	87,965	86,240	190,471	211,236	176,419	172,960	172,960	218,009	314,509	308,343	457,758	506,222
Net Cash Provided by (Used in) Investing Activities	50,125	49,142	94,327	496,685	87,965	86,240	190,471	1,580,766	176,419	172,960	1,352,779	218,009	314,509	308,343	1,637,577	2,295,460
Net Increase (Decrease) in Cash	402,292	(1,325,787)	(3,490,153)	(3,715,921)	4,353,353	4,011,491	2,321,828	398,090	5,439,552	3,017,494	4,663,547	2,036,187	10,195,198	5,703,198	3,495,222	(1,281,645)
Cash:																
Beginning	7,776,178	9,101,965	10,276,107	12,817,886	11,804,698	7,793,207	10,003,852	7,395,118	64,513,035	61,495,541	61,943,750	59,459,354	84,093,912	78,390,713	82,223,708	79,672,358
Ending	8,178,470	7,776,178	6,785,954	9,101,965	16,158,052	11,804,698	12,325,679	7,793,207	69,952,587	64,513,035	66,607,297	61,495,541	94,289,109	84,093,912	85,718,930	78,390,713
Cash Consisted of the Following:																
Cash and Cash Equivalents	6,319,977	5,917,685	3,210,679	7,243,472	15,819,848	11,466,495	11,987,747	7,455,003	14,559,719	9,120,167	19,808,346	1,548,256	36,699,544	26,504,347	35,006,772	16,246,731
Restricted Cash and Cash Equivalents	1,858,493	1,858,493	3,575,275	1,858,493	338,204	338,204	337,932	338,204	55,392,868	55,392,868	46,798,951	59,947,285	57,589,565	57,589,565	50,712,158	62,143,982
Total Cash and Cash Equivalents	8,178,470	7,776,178	6,785,954	9,101,965	16,158,052	11,804,699	12,325,679	7,793,207	69,952,587	64,513,035	66,607,297	61,495,541	94,289,109	84,093,912	85,718,930	78,390,713

LEHIGH COUNTY AUTHORITY
STATEMENTS OF ACTIVITIES AND CHANGES IN NET POSITION
2022 Budget (as of 10-05-21)

	Suburban Water				Suburban Wastewater				City Division				Total LCA			
	Budget 2022	Forecast 2021	Budget 2021	Actual 2020	Budget 2022	Forecast 2021	Budget 2021	Actual 2020	Budget 2022	Forecast 2021	Budget 2021	Actual 2020	Budget 2022	Forecast 2021	Budget 2021	Actual 2020
Operating Revenues:																
User Charges																
Charges for Services	15,282,480	12,324,580	11,770,317	10,834,135	20,112,389	19,874,986	19,122,546	15,980,601	46,172,193	41,852,870	41,647,350	37,748,826	81,567,062	74,052,436	72,540,212	64,563,562
Other Income	38,724	38,609	29,124	32,540	169,662	167,982	43,823	188,326	216,437	221,401	349,165	234,849	424,823	427,992	422,112	455,715
Total Charges for Services	15,321,204	12,363,189	11,799,441	10,866,675	20,282,051	20,042,968	19,166,369	16,168,927	46,388,630	42,074,272	41,996,515	37,983,675	81,991,885	74,480,429	72,962,324	65,019,277
Connection & System Charges																
Tapping and Capital Recovery Fees	351,688	348,206	382,712	348,206	-	-	-	-	-	-	-	-	351,688	348,206	382,712	348,206
Capital Cost Recovery	-	-	-	-	363,108	359,513	359,513	1,591,189	1,462,605	1,462,605	1,150,235	1,462,605	1,825,713	1,822,118	1,509,748	3,053,794
Distribution Tapping Fees	117,607	116,442	61,009	116,442	480,341	475,585	475,585	1,984,503	537,582	537,582	623,174	439,258	1,135,530	1,129,609	1,159,768	2,540,203
Meter Sales	87,439	86,573	100,744	77,685	-	-	-	-	24,595	24,595	23,387	24,595	112,034	111,168	124,131	102,280
Inspection and Plan Reviews	166,192	169,547	77,000	109,797	31,805	31,490	30,490	500	43,271	43,271	31,569	41,771	241,269	244,308	139,059	152,068
Project Reimbursements	210,551	208,466	290,574	208,466	-	-	-	8,155	2,420,000	1,996,007	2,119,616	799,814	2,630,551	2,204,473	2,410,190	1,016,435
Total Connection & System Charges	933,476	929,234	912,039	860,596	875,254	866,588	865,588	3,584,347	4,488,054	4,064,061	3,947,981	2,768,043	6,296,784	5,859,883	5,725,608	7,212,986
Other Income	33,078	32,750	30,944	105,508	2,247	2,225	628	11,694	67,475	66,807	59,249	51,620	102,800	101,782	90,821	168,822
Total Operating Revenues	16,287,758	13,325,173	12,742,424	11,832,779	21,159,552	20,911,781	20,032,585	19,764,968	50,944,159	46,205,139	46,003,744	40,803,338	88,391,469	80,442,094	78,778,753	72,401,085
Operating Expenses:																
Personnel	3,135,717	2,863,952	3,289,603	2,576,812	1,557,088	1,431,249	1,760,954	1,292,100	12,623,714	11,609,699	11,561,494	11,012,534	17,316,519	15,904,900	16,612,051	14,881,446
General & Administrative	777,905	647,961	663,734	300,465	230,022	191,599	155,415	91,502	1,872,369	1,585,674	1,699,928	1,482,737	2,880,296	2,425,234	2,519,076	1,874,704
Utilities	520,914	437,393	543,917	419,493	355,937	295,244	449,484	296,419	2,037,742	1,855,844	2,156,619	1,815,047	2,914,594	2,588,481	3,150,021	2,530,959
Materials and Supplies	816,837	338,588	501,582	279,430	496,550	230,668	501,188	232,039	2,334,092	1,445,412	1,823,705	1,393,271	3,647,479	2,014,667	2,826,475	1,904,740
Miscellaneous Services	4,813,534	3,719,855	3,564,076	3,645,096	6,804,359	6,620,131	6,357,397	6,243,489	2,184,774	1,738,302	1,961,422	1,958,582	13,802,667	12,078,289	11,882,895	11,847,167
Treatment and Transportation	-	-	-	-	3,844,405	3,712,079	3,977,539	2,906,958	13,800	12,165	12,000	11,926	3,858,205	3,724,244	3,989,539	2,918,884
Depreciation and Amortization	2,978,453	2,948,963	2,605,699	2,948,963	5,996,555	5,937,183	4,616,783	5,937,183	6,178,570	6,117,396	5,893,862	6,117,396	15,153,577	15,003,542	13,116,343	15,003,542
Major Maintenance Expenses	-	2,093	3,400	-	-	1,000,000	1,000,000	-	4,206,200	4,206,200	2,666,896	4,206,200	4,206,200	5,208,293	3,670,296	4,206,200
Other Miscellaneous	-	54,000	74,864	44,785	-	36,000	46,422	42,698	-	-	-	-	-	90,000	121,286	87,483
Total Operating Expenses	13,043,359	11,012,805	11,246,875	10,215,044	19,284,917	19,454,153	18,865,182	17,042,387	31,451,261	28,570,692	27,775,926	27,997,694	63,779,537	59,037,650	57,887,983	55,255,125
Net Operating Profit	3,244,399	2,312,369	1,495,549	1,617,735	1,874,636	1,457,628	1,167,403	2,722,581	19,492,897	17,634,447	18,227,818	12,805,645	24,611,931	21,404,444	20,890,770	17,145,960
Non-Operating Income (Expense)																
Interest Income	50,125	49,164	94,328	84,940	87,965	86,219	190,471	193,874	176,419	172,960	172,960	162,075	314,509	308,343	457,759	440,890
Interest (Expense)	(1,200,301)	(1,221,912)	(1,406,328)	(1,442,776)	(173,721)	(181,995)	(181,995)	(199,707)	(17,474,997)	(16,744,251)	(17,535,086)	(17,257,071)	(18,849,019)	(18,148,158)	(19,123,409)	(18,899,554)
Unrealized Gain on Investment	-	(22)	-	(52)	-	22	-	52	-	-	-	-	-	0	-	(0)
Unrealized (Loss) on Investment	-	-	-	70	-	-	-	-	-	-	-	-	-	-	-	70
Capital Contributed	-	-	-	209,793	-	-	-	7,620	-	-	-	-	-	-	-	217,413
Other Miscellaneous	-	-	-	(12,778)	-	-	-	-	-	-	-	-	-	-	-	(12,778)
Net Non-Operating Income (Expense)	(1,150,176)	(1,172,770)	(1,312,000)	(1,160,803)	(85,756)	(95,755)	8,475	1,839	(17,298,578)	(16,571,291)	(17,362,126)	(17,094,996)	(18,534,510)	(17,839,816)	(18,665,650)	(18,253,959)
Net Income (Loss)	2,094,223	1,139,599	183,549	456,932	1,788,879	1,361,873	1,175,879	2,724,420	2,194,319	1,063,156	865,692	(4,289,351)	6,077,421	3,564,628	2,225,119	(1,107,999)
Net Position at Beginning of Year (As Restated)	102,707,072	101,567,473	102,323,527	101,110,541	103,475,631	102,113,758	101,343,620	99,389,338	(58,614,558)	(59,677,714)	(59,874,770)	(55,388,363)	147,568,145	144,003,517	143,792,377	145,111,516
Cumulative Effect of Change in Accounting principle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Position at Beginning of Year	102,707,072	101,567,473	102,323,527	101,110,541	103,475,631	102,113,758	101,343,620	99,389,338	(58,614,558)	(59,677,714)	(59,874,770)	(55,388,363)	147,568,145	144,003,517	143,792,377	145,111,516
Net Position at End of Year	104,801,295	102,707,072	102,507,076	101,567,473	105,264,510	103,475,631	102,519,499	102,113,758	(56,420,239)	(58,614,558)	(59,009,078)	(59,677,714)	153,645,567	147,568,145	146,017,497	144,003,517
CAPITAL RESERVE FUNDS																
Capital Water Reserve Funds	5,487,500	3,628,033	4,190,000	5,063,707	-	-	-	-	5,785,000	4,441,573	4,692,500	1,890,493	11,272,500	8,069,606	8,882,500	6,954,200
Capital WasteWater Reserve Funds	-	-	-	-	2,870,000	3,738,195	3,921,800	8,336,452	5,480,000	3,899,100	4,185,000	2,268,304	8,350,000	7,637,295	8,106,800	10,604,756
	5,487,500	3,628,033	4,190,000	5,063,707	2,870,000	3,738,195	3,921,800	8,336,452	11,265,000	8,340,673	8,877,500	4,158,796	19,622,500	15,706,901	16,989,300	17,558,956

LEHIGH COUNTY AUTHORITY
STATEMENTS OF ACTIVITIES AND CHANGES IN NET POSITION - AUDIT FORMAT
2022 Budget (as of 10-05-21)

	Suburban Water				Suburban Wastewater				City Division				Total LCA			
	Budget 2022	Forecast 2021	Budget 2021	Actual 2020	Budget 2022	Forecast 2021	Budget 2021	Actual 2020	Budget 2022	Forecast 2021	Budget 2021	Actual 2020	Budget 2022	Forecast 2021	Budget 2021	Actual 2020
Operating Revenues:																
User Charges																
Charges for Services	15,282,480	12,324,580	11,770,317	10,834,135	20,112,389	19,874,986	19,122,546	15,980,601	46,172,193	41,852,870	41,647,350	37,748,826	81,567,062	74,052,436	72,540,212	64,563,562
Other Income	38,724	38,609	29,124	32,540	169,662	167,982	43,823	188,326	216,437	221,401	349,165	234,849	424,823	427,992	422,112	455,715
Total Charges for Services	15,321,204	12,363,189	11,799,441	10,866,675	20,282,051	20,042,968	19,166,369	16,168,927	46,388,630	42,074,272	41,996,515	37,983,675	81,991,885	74,480,429	72,962,324	65,019,277
Operating Expenses:																
Personnel	3,135,717	2,863,952	3,289,603	2,576,812	1,557,088	1,431,249	1,760,954	1,292,100	12,623,714	11,609,699	11,561,494	11,012,534	17,316,519	15,904,900	16,612,051	14,881,446
General & Administrative	777,905	647,961	663,734	300,465	230,022	191,599	155,415	91,502	1,872,369	1,585,674	1,699,928	1,482,737	2,880,296	2,425,234	2,519,076	1,874,704
Utilities	520,914	437,393	543,917	419,493	355,937	295,244	449,484	296,419	2,037,742	1,855,844	2,156,619	1,815,047	2,914,594	2,588,481	3,150,021	2,530,959
Materials and Supplies	816,837	338,588	501,582	279,430	496,550	230,668	501,188	232,039	2,334,092	1,445,412	1,823,705	1,393,271	3,647,479	2,014,667	2,826,475	1,904,740
Miscellaneous Services	4,813,534	3,719,855	3,564,076	3,645,096	6,804,359	6,620,131	6,357,397	6,243,489	2,184,774	1,738,302	1,961,422	1,958,582	13,802,667	12,078,289	11,882,895	11,847,167
Treatment and Transportation	-	-	-	-	3,844,405	3,712,079	3,977,539	2,906,958	13,800	12,165	12,000	11,926	3,858,205	3,724,244	3,989,539	2,918,884
Depreciation and Amortization	2,978,453	2,948,963	2,605,699	2,948,963	5,996,555	5,937,183	4,616,783	5,937,183	6,178,570	6,117,396	5,893,862	6,117,396	15,153,577	15,003,542	13,116,343	15,003,542
Total Operating Expenses	13,043,359	10,956,712	11,168,610	10,170,259	19,284,917	18,418,153	17,818,760	16,999,689	27,245,061	24,364,492	25,109,031	23,791,494	59,573,337	53,739,357	54,096,401	50,961,442
Total Operating Income (Loss)	2,277,845	1,406,478	630,830	696,416	997,134	1,624,815	1,347,609	(830,762)	19,143,568	17,709,779	16,887,484	14,192,181	22,418,547	20,741,072	18,865,924	14,057,835
NonOperating Revenues (Expenses):																
Tapping and Capital Recovery Fees	469,295	464,648	443,721	464,648	843,449	835,098	835,098	3,575,692	2,000,187	2,000,187	1,773,409	1,901,863	3,312,931	3,299,934	3,052,228	5,942,203
Meter Sales	87,439	86,573	100,744	77,685	-	-	-	-	24,595	24,595	23,387	24,595	112,034	111,168	124,131	102,280
Inspection, Plan Reviews, and Project Reimbursements	376,743	378,013	367,574	318,263	31,805	31,490	30,490	8,655	2,463,271	2,039,278	2,151,185	841,585	2,871,819	2,448,781	2,549,249	1,168,503
Investment Earnings	50,125	49,142	94,328	84,958	87,965	86,240	190,471	193,926	176,419	172,960	172,960	162,075	314,509	308,343	457,759	440,959
Interest Expense	(1,200,301)	(1,221,912)	(1,406,328)	(1,442,776)	(173,721)	(181,995)	(181,995)	(199,707)	(17,474,997)	(16,744,251)	(17,535,086)	(17,257,071)	(18,849,019)	(18,148,158)	(19,123,409)	(18,899,554)
Other Expense	-	(56,093)	(78,264)	(57,563)	-	(1,036,000)	(1,046,422)	(42,698)	(4,206,200)	(4,206,200)	(2,666,896)	(4,206,200)	(4,206,200)	(5,298,293)	(3,791,582)	(4,306,461)
Other Income	33,078	32,750	30,944	105,508	2,247	2,225	628	11,694	67,475	66,807	59,249	51,620	102,800	101,782	90,821	168,822
Total Nonoperating Revenues/(Expenses)	(183,622)	(266,878)	(447,282)	(449,277)	791,745	(262,942)	(171,730)	3,547,562	(16,949,249)	(16,646,623)	(16,021,792)	(18,481,532)	(16,341,126)	(17,176,443)	(16,640,804)	(15,383,247)
Increase (Decrease) in net position before capital contributions	2,094,223	1,139,599	183,549	247,139	1,788,879	1,361,873	1,175,879	2,716,800	2,194,319	1,063,156	865,692	(4,289,351)	6,077,421	3,564,628	2,225,119	(1,325,412)
Capital Contributions:																
Capital Grant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Capital Assets Provided by Developers and Others	-	-	-	209,793	-	-	-	7,620	-	-	-	-	-	-	-	217,413
Total Capital Contributions	-	-	-	209,793	-	-	-	7,620	-	-	-	-	-	-	-	217,413
Increase (Decrease) in net position	2,094,223	1,139,599	183,549	456,932	1,788,879	1,361,873	1,175,879	2,724,420	2,194,319	1,063,156	865,692	(4,289,351)	6,077,421	3,564,628	2,225,119	(1,107,999)
Net Position at Beginning of Year	102,707,072	101,567,473	102,323,527	101,110,541	103,475,631	102,113,758	101,343,620	99,389,338	(58,614,558)	(59,677,714)	(59,874,770)	(55,388,363)	147,568,145	144,003,517	143,792,377	145,111,516
Net Position at End of Year	104,801,295	102,707,072	102,507,076	101,567,473	105,264,510	103,475,631	102,519,499	102,113,758	(56,420,239)	(58,614,558)	(59,009,078)	(59,677,714)	153,645,567	147,568,145	146,017,497	144,003,517

System Statements

LEHIGH COUNTY AUTHORITY
STATEMENTS OF ACTIVITIES - SUBURBAN - WATER FUND
2022 Budget (as of 10-05-21)

Operating Revenues:	Suburban - Water Systems														Total			
	Int Serv 100	Undesignated 200	Western Lehigh Service Area			S. Lehigh Beverly Hills 207	Northern Lehigh Service Area					Northampton CFE 208	Buss Acres 210	Budget 2022	Forecast 2021	Budget 2021	Actual 2020	
			Central Lehigh 201	Arcadia West 211	Emmaus 209		North Whitehall 202	Washington 203	Mill Creek 204	Heidelberg 205	PL of Lynn 206							Madison North 221
User Charges																		
Large Industrial	-	-	2,052,309	-	-	-	-	-	-	-	-	-	-	-	2,052,309	1,655,088	1,357,824	1,359,681
Other Industrial/Commercial	-	-	5,392,012	27,743	4,271	-	55,017	4,285	-	-	-	-	240	5,483,569	4,422,233	4,393,350	3,812,617	
Residential	-	-	5,277,031	-	126,199	10,127	263,877	89,186	8,933	46,150	14,864	28,098	16,444	5,907,203	4,763,874	4,596,692	4,353,510	
Penalties	-	-	94,711	5,108	977	75	2,377	2,471	53	871	361	703	310	108,071	87,154	25,627	19,709	
Private Fire Service	-	-	846,094	238,510	-	-	6,448	1,844	-	-	-	-	-	1,092,895	881,367	940,447	871,241	
Public Fire Service	-	-	513,805	-	-	-	23,959	11,111	-	-	-	-	-	548,875	442,641	448,588	412,199	
User Charges - Municipal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
User Charges - Residential & Commercial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
User Charges - Hauler	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Hauler Fees	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Industrial Charges	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Industrial Pretreatment Revenues	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Municipal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Leachate Program Revenues	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Other Income	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Other Water Sales	-	-	89,558	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Provision for Doubtful Debts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total Charges for Services	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Miscellaneous	-	-	14,265,520	271,361	131,447	10,202	351,678	108,898	8,986	47,021	15,225	28,801	16,754	15,282,480	12,324,580	11,770,317	10,834,135	
Total User Charges	-	-	33,921	-	707	-	47	300	-	1,438	47	2,263	-	38,724	38,609	29,124	32,540	
Connection & System Charges	-	-	14,299,441	271,361	132,154	10,202	351,725	109,198	8,986	48,459	15,272	31,064	16,754	15,321,204	12,363,189	11,799,441	10,866,675	
Supply/Tapping Fees	-	-	300,803	824	-	-	50,061	-	-	-	-	-	-	351,688	348,206	382,712	348,206	
Capital Cost Recovery	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Distribution Tapping Fees	-	-	69,821	366	-	-	47,420	-	-	-	-	-	-	117,607	116,442	61,009	116,442	
Meter Sales	-	-	81,907	2,123	-	-	3,225	185	-	-	-	-	-	87,439	86,573	100,744	77,685	
Inspection & Review Fees	-	-	129,866	4,545	-	-	31,782	-	-	-	-	-	-	166,192	169,547	77,000	109,797	
Developer Reimbursement	-	-	192,523	3,770	-	-	14,258	-	-	-	-	-	-	210,551	208,466	290,574	208,466	
Total Connection & System Charges	-	-	774,920	11,627	-	-	146,744	185	-	-	-	-	-	933,476	929,234	912,039	860,596	
Other Miscellaneous Revenues	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Other Income	-	-	26,252	-	-	-	5,896	930	-	-	-	-	-	33,078	32,750	30,944	105,508	
Total Other Miscellaneous Revenues	-	-	26,252	-	-	-	5,896	930	-	-	-	-	-	33,078	32,750	30,944	105,508	
Total Operating Revenues	-	-	15,100,613	282,989	132,154	10,202	504,365	110,312	8,986	48,459	15,272	31,064	16,754	16,287,758	13,325,173	12,742,424	11,832,779	
Operating Expenses:																		
Personnel																		
Salaries and Wages	587,361	-	1,142,819	14,592	9,978	7,289	71,844	27,249	12,280	31,812	13,728	10,883	12,649	1,980,766	1,787,674	1,819,377	1,568,737	
Overtime	1,874	-	66,943	1,499	5,190	1,004	8,056	3,558	1,265	4,242	3,575	1,467	1,104	105,364	111,984	145,031	129,180	
Taxes	84,391	-	68,982	942	893	479	4,639	1,788	796	2,110	1,000	726	792	170,114	155,071	156,038	134,078	
Fringe Benefits	-	-	663,849	12,162	11,511	6,173	59,734	22,967	10,218	27,223	13,029	9,408	10,363	879,474	809,223	1,169,157	744,817	
Other Personnel Related	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total Personnel	673,627	-	1,942,593	29,195	27,572	14,945	144,272	55,562	24,559	65,387	31,332	22,485	24,908	3,135,717	2,863,952	3,289,603	2,576,812	
Purchase of Services																		
Shared Services - General & Administrative	-	-	628,688	8,362	7,883	4,310	41,522	16,010	7,039	18,737	8,992	6,418	7,147	777,905	647,961	663,734	300,465	
Utilities	-	-	420,418	17,754	291	5,768	23,350	1,530	6,286	16,086	4,969	7,623	7,839	520,914	437,393	543,917	419,493	
Compliance	-	-	28,000	2,600	2,373	873	4,500	1,450	675	1,410	873	873	873	45,373	42,751	45,191	41,659	
Contract Operating Svcs	-	-	2,520	2,240	-	2,500	10,400	-	2,240	7,640	3,240	2,240	2,600	39,920	54,506	38,270	46,475	
Engineering	-	-	71,500	-	-	-	-	-	-	-	-	-	-	71,500	102,279	55,000	94,184	
Exceptional Strength Analysis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Extraordinary Expenditures	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fleet Management Services	-	-	46,000	-	-	-	-	-	-	-	-	-	-	46,000	61,052	28,000	57,001	
General Analyses	-	-	42,270	4,500	950	2,800	5,000	1,200	1,800	6,090	2,520	3,150	2,350	77,980	35,848	72,636	39,938	
Planning Expenses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	726,371	
Industrial Meter Testing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8,500	-	
Maintenance Services	-	-	424,750	37,850	18,500	4,300	72,100	8,200	25,150	21,900	15,100	25,050	4,500	677,800	378,208	414,853	340,337	
Miscellaneous Services	-	-	24,900	50	-	-	25	-	-	-	-	-	-	24,975	53,746	31,226	90,524	
Leased Equipment	-	-	85,000	-	-	-	-	-	-	-	-	-	-	85,000	-	46,000	-	
Rental	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Residuals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Water Purchases	-	-	3,117,305	-	19,884	-	520,000	87,797	-	-	-	-	-	3,744,986	2,991,465	2,824,400	2,208,607	
System Planning / Capital Management	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
LCA WWTP Treatment/Removals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Treatment and Transportation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total Purchase of Services	-	-	4,891,350	73,356	49,881	20,551	676,897	116,187	43,190	71,863	35,694	45,354	25,309	6,112,352	4,805,209	4,771,727	4,365,054	

LEHIGH COUNTY AUTHORITY
 STATEMENTS OF ACTIVITIES - SUBURBAN - WATER FUND
 2022 Budget (as of 10-05-21)

Suburban - Water Systems													
Int Serv 100	Undesignated 200	Western Lehigh Service Area			S. Lehigh	Northern Lehigh Service Area						Northampton	Buss Acres 210
		Central Lehigh 201	Arcadia West 211	Emmaus 209	Beverly Hills 207	North Whitehall 202	Washington 203	Mill Creek 204	Heidelberg 205	PL of Lynn 206	Madison North 221	CFE 208	
Materials & Supplies													
Purification Chemicals	-	-	48,500	4,000	-	200	900	-	300	800	200	200	4,400
Purification Supplies	-	-	29,000	2,200	-	1,800	2,100	3,800	4,350	2,500	3,700	3,950	4,100
Pump Supplies	-	-	25,500	9,050	-	1,400	8,500	300	4,600	6,300	5,650	11,000	2,950
Misc. Materials & Supplies	-	-	54,000	900	-	2,800	4,000	1,700	3,500	2,700	3,550	2,600	3,200
Fuel & Mileage	-	-	45,500	1,800	800	950	4,600	1,250	950	1,350	950	900	1,000
Fleet Management Supplies	-	-	3,000	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	81,807	12,900	11,000	7,500	27,700	11,550	7,050	11,800	7,200	7,150	12,600
Distribution & Transmission Supplies	-	-	152,100	15,160	5,600	4,000	24,800	16,700	3,800	23,800	2,220	11,850	12,950
Collection System Supplies	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Materials & Supplies	-	-	439,407	46,010	17,400	18,650	72,600	35,300	24,550	49,250	23,470	37,650	34,700
Depreciation and Amortization	-	-	2,978,453	-	-	-	-	-	-	-	-	-	-
Other Expenses													
Major Maintenance Expenses	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Miscellaneous	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Other Expenses	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Operating Expenses	673,627	-	10,251,803	148,562	94,853	54,146	893,769	207,049	92,299	186,500	90,496	105,489	84,917
Net Operating Profit	(673,627)	-	4,848,810	134,427	37,301	(43,944)	(389,404)	(96,736)	(83,313)	(138,041)	(75,224)	(74,425)	(68,163)
Non-Operating Income (Expense)													
Interest Income	-	38,281	11,844	-	-	-	-	-	-	-	-	-	-
Interest (Expense)	-	(12,501)	(1,187,114)	-	-	-	(686)	-	-	-	-	-	-
Unrealized Gain on Investment	-	-	-	-	-	-	-	-	-	-	-	-	-
Unrealized (Loss) on Investment	-	-	-	-	-	-	-	-	-	-	-	-	-
Capital Contributed	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Miscellaneous	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Non-Operating Income (Expense)	-	25,780	(1,175,270)	-	-	-	(686)	-	-	-	-	-	-
Net Income (Loss)	(673,627)	25,780	3,673,540	134,427	37,301	(43,944)	(389,404)	(97,422)	(83,313)	(138,041)	(75,224)	(74,425)	(68,163)

Total			
Budget 2022	Forecast 2021	Budget 2021	Actual 2020
59,700	43,264	58,400	41,537
59,300	23,748	56,047	19,330
76,900	41,173	46,000	27,473
80,950	43,839	52,930	38,028
61,150	35,844	61,150	27,545
3,000	5,795	3,800	4,590
198,407	44,743	117,815	26,278
277,430	100,182	105,440	94,649
-	-	-	-
816,837	338,588	501,582	279,430
2,978,453	2,948,963	2,605,699	2,948,963
-	-	-	-
-	2,093	3,400	-
-	54,000	74,864	44,785
-	56,093	78,264	44,785
13,043,359	11,012,805	11,246,875	10,215,044
3,244,399	2,312,369	1,495,549	1,617,735
50,125	49,164	94,328	84,940
(1,200,301)	(1,221,912)	(1,406,328)	(1,442,776)
-	(22)	-	(52)
-	-	-	70
-	-	-	209,793
-	-	-	(12,778)
(1,150,176)	(1,172,770)	(1,312,000)	(1,160,803)
2,094,223	1,139,599	183,549	456,932

LEHIGH COUNTY AUTHORITY
STATEMENTS OF ACTIVITIES - SUBURBAN - WASTEWATER FUND
2022 Budget (as of 10-05-21)

	Suburban - Wastewater Systems														Total			
	Interceptor Group			CRCS										W.Weisenberg	Budget 2022	Forecast 2021	Budget 2021	Actual 2020
	Int Serv 100	WLI 312	LLRI 1 313	LLRI 2 314	Heidelberg 305	Upper Milford 315	Wynnewood 316	Weisenberg 317	Sand Spring 319	Lowhill Twp. 323	NLSA 318	Washington 303	Lynn Twp. 322	WWTP 320	Arcadia West 311			
Operating Revenues:																		
User Charges																		
Large Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Industrial/Commercial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29,893	29,893	29,307	23,101
Residential	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Penalties	-	-	-	-	663	2,313	531	194	60	41	-	-	11,744	1,587,087	5,214	1,607,847	1,576,321	492,465
Private Fire Service	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Public Fire Service	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
User Charges - Municipal	-	9,222,467	671,353	31,726	-	-	-	-	-	-	-	-	-	-	-	-	9,925,546	8,915,179
User Charges - Residential & Commercial	-	-	-	-	84,527	464,112	156,345	65,979	104,429	14,515	-	0	403,289	4,017,099	343,647	5,653,942	6,515,786	6,426,031
User Charges - Hauler	-	-	-	-	-	-	-	-	-	-	-	-	-	2,784,269	-	2,784,269	2,729,676	2,875,137
Hauler Fees	-	-	-	-	-	-	-	-	-	-	-	-	-	16,575	-	16,575	16,250	39,700
Industrial Charges	-	-	-	-	-	-	-	-	-	-	-	-	-	94,316	-	94,316	92,467	97,417
Industrial Pretreatment Revenues	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Municipal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Leachate Program Revenues	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Income	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Water Sales	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Provision for Doubtful Debts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Charges for Services	-	9,222,467	671,353	31,726	85,190	466,425	156,876	66,173	104,489	14,556	-	0	415,033	8,499,346	378,754	20,112,389	19,874,986	15,980,601
Miscellaneous	-	55,463	193	-	-	17,034	-	189	-	-	-	44,159	80	52,544	-	169,662	167,982	188,326
Total User Charges	-	9,277,930	671,546	31,726	85,190	483,459	156,876	66,362	104,489	14,556	-	44,159	415,113	8,551,890	378,754	20,282,051	20,042,968	16,168,927
Connection & System Charges																		
Supply/Tapping Fees	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Capital Cost Recovery	-	282,357	-	80,751	-	-	-	-	-	-	-	-	-	-	-	363,108	359,513	1,591,189
Distribution Tapping Fees	-	458,552	-	-	-	13,571	-	-	8,218	-	-	-	-	-	-	480,341	475,585	1,984,503
Meter Sales	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inspection & Review Fees	-	31,805	-	-	-	-	-	-	-	-	-	-	-	-	-	31,805	31,490	500
Developer Reimbursement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8,155
Total Connection & System Charges	-	772,714	-	80,751	-	13,571	-	-	8,218	-	-	-	-	-	-	875,254	866,588	3,584,347
Other Miscellaneous Revenues																		
Other Income	-	1,566	-	-	-	-	-	-	-	-	-	682	-	-	-	2,247	2,225	11,694
Total Other Miscellaneous Revenues	-	1,566	-	-	-	-	-	-	-	-	-	682	-	-	-	2,247	2,225	11,694
Total Operating Revenues	-	10,052,209	671,546	112,477	85,190	497,030	156,876	66,362	112,707	14,556	-	44,841	415,113	8,551,890	378,754	21,159,552	20,911,781	19,764,968
Operating Expenses:																		
Personnel																		
Salaries and Wages	264,693	248,648	37,086	2,316	71,055	5,733	47,368	2,055	35,902	699	-	6,447	74,440	30,656	56,073	883,172	797,340	708,352
Overtime	1,045	30,365	3,971	766	11,657	207	10,132	55	5,925	-	-	297	14,607	-	7,624	86,651	93,351	92,322
Taxes	41,234	16,132	2,424	183	4,821	337	3,398	117	2,432	38	-	382	5,194	1,704	3,729	82,126	75,768	63,631
Fringe Benefits	-	170,650	32,728	2,603	64,239	4,861	45,088	1,814	32,467	525	-	5,199	71,161	23,498	50,306	505,139	464,790	427,795
Other Personnel Related	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Personnel	306,972	465,795	76,208	5,867	151,773	11,139	105,986	4,041	76,725	1,263	-	12,325	165,402	55,859	117,733	1,557,088	1,431,249	1,292,100
Purchase of Services																		
Shared Services - General & Administrative	-	91,153	13,413	1,007	27,022	1,941	18,785	689	13,665	228	-	2,203	29,091	10,015	20,810	230,022	191,599	91,502
Utilities	-	99,735	134,137	138	11,347	712	33,492	129	15,000	-	-	297	31,680	-	29,270	355,937	295,244	296,419
Compliance	-	-	125	-	8,000	-	1,800	-	2,800	-	-	65	2,000	116	815	15,721	11,034	30,532
Contract Operating Svcs	-	-	-	-	10,000	-	15,000	-	12,200	-	-	-	-	5,926,073	-	5,963,273	5,914,201	5,507,012
Engineering	-	25,000	5,000	-	-	-	-	-	-	-	-	-	-	130,000	2,000	162,000	36,395	113,297
Exceptional Strength Analysis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Extraordinary Expenditures	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fleet Management Services	-	18,000	-	-	-	-	-	-	-	-	-	-	-	-	-	18,000	28,960	17,993
General Analyses	-	-	-	-	20,000	-	7,000	-	5,700	-	-	-	7,000	500	8,000	48,200	45,055	46,799
Planning Expenses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6,183	6,062
Industrial Meter Testing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maintenance Services	-	149,600	81,800	8,000	56,350	9,000	35,325	-	13,420	5,000	-	19,000	67,200	1,000	20,500	466,195	278,559	247,885
Miscellaneous Services	-	4,300	300	-	1,850	-	1,300	-	300	-	-	1,300	315	18,000	305	27,970	93,306	80,824
Leased Equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	164,047	144,765
Rental	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Residuals	-	-	-	-	10,000	-	20,000	-	10,000	-	-	-	48,000	-	15,000	103,000	42,392	48,320
Water Purchases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
System Planning / Capital Management	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LCA WWTP Treatment/Removals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Treatment and Transportation	-	3,550,137	-	-	-	256,403	-	30,326	-	7,540	-	-	-	-	-	3,844,405	3,712,079	2,906,958
Total Purchase of Services	-	3,937,925	234,775	9,145	144,569	268,055	132,702	31,144	73,085	12,768	-	22,865	185,286	6,085,704	96,700	11,234,723	10,819,053	9,538,368

LEHIGH COUNTY AUTHORITY
 STATEMENTS OF ACTIVITIES - SUBURBAN - WASTEWATER FUND
 2022 Budget (as of 10-05-21)

	Suburban - Wastewater Systems														Total				
	Int Serv 100	Interceptor Group			CRCS										W.Weisenberg	Budget 2022	Forecast 2021	Budget 2021	Actual 2020
		WLI 312	LLRI 1 313	LLRI 2 314	Heidelberg 305	Upper Milford 315	Wynnewood 316	Weisenberg 317	Sand Spring 319	Lowhill Twp. 323	NLSA 318	Washington 303	Lynn Twp. 322	WWTP 320	Arcadia West 311				
Materials & Supplies																			
Purification Chemicals	-	-	-	-	7,950	-	11,200	-	16,600	-	-	-	40,500	-	14,000	90,250	55,143	86,900	56,025
Purification Supplies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pump Supplies	-	3,000	10,000	-	10,000	-	6,500	-	3,000	-	-	1,500	10,500	-	7,000	51,500	12,734	46,500	15,484
Misc. Materials & Supplies	-	51,500	9,700	1,500	32,900	2,300	12,750	2,200	12,750	2,000	-	2,900	27,600	5,000	23,300	186,400	89,467	129,903	96,782
Fuel & Mileage	-	10,000	3,000	350	1,500	650	3,700	350	2,600	150	-	600	3,600	-	1,000	27,500	16,043	70,150	12,377
Fleet Management Supplies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,703	1,000	771
Equipment	-	28,500	16,000	15,000	19,000	3,000	5,700	200	9,200	1,000	-	8,000	23,500	1,000	10,800	140,900	55,577	166,735	50,600
Distribution & Transmission Supplies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Collection System Supplies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Materials & Supplies	-	93,000	38,700	16,850	71,350	5,950	39,850	2,750	44,150	3,150	-	13,000	105,700	6,000	56,100	496,550	230,668	501,188	232,039
Depreciation and Amortization	-	3,023,518	135,019	54,788	363,548	90,117	55,528	10,188	3,418	-	-	-	255,065	1,868,668	136,697	5,996,555	5,937,183	4,616,783	5,937,183
Other Expenses																			
Major Maintenance Expenses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,000,000	1,000,000	-
Other Miscellaneous	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36,000	46,422	42,698
Total Other Expenses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,036,000	1,046,422	42,698
Total Operating Expenses	306,972	7,520,238	484,703	86,651	731,240	375,261	334,066	48,123	197,378	17,181	-	48,190	711,454	8,016,232	407,229	19,284,917	19,454,153	18,865,182	17,042,387
Net Operating Profit	(306,972)	2,531,971	186,843	25,827	(646,049)	121,769	(177,191)	18,239	(84,671)	(2,625)	-	(3,349)	(296,341)	535,659	(28,475)	1,874,636	1,457,628	1,167,403	2,722,581
Non-Operating Income (Expense)																			
Interest Income	-	59,305	1,191	27,293	-	-	-	-	-	-	-	-	-	-	176	87,965	86,219	190,471	193,874
Interest (Expense)	-	(65,434)	-	-	(6,246)	(35,568)	(22,210)	-	(1,552)	-	-	(15,216)	-	-	(27,496)	(173,721)	(181,995)	(181,995)	(199,707)
Unrealized Gain on Investment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	-	52
Unrealized Loss on Investment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Capital Contributed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7,620
Other Miscellaneous	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Non-Operating Income (Expense)	-	(6,129)	1,191	27,293	(6,246)	(35,568)	(22,210)	-	(1,552)	-	-	(15,216)	-	-	(27,320)	(85,756)	(95,755)	8,475	1,839
Net Income (Loss)	(306,972)	2,525,842	188,034	53,120	(652,295)	86,201	(199,401)	18,239	(86,223)	(2,625)	-	(18,565)	(296,341)	535,659	(55,795)	1,788,879	1,361,873	1,175,879	2,724,420

LEHIGH COUNTY AUTHORITY
STATEMENTS OF ACTIVITIES - CITY - DIVISION FUND
2022 Budget (as of 10-05-21)

	City Division - Systems							Total			
	Undesignated 400	Int Serv 490	WFP 491	DIST 492	WWTP 493	WWCOLL 494	LAB 495	Budget 2022	Forecast 2021	Budget 2021	Actual 2020
Operating Revenues:											
User Charges											
Large Industrial	-	-	-	-	-	-	-	-	-	-	-
Other Industrial/Commercial	-	-	-	4,616,561	-	-	-	4,616,561	3,998,734	3,941,434	3,675,275
Residential	-	-	-	16,133,297	-	-	-	16,133,297	14,366,030	12,346,261	13,003,926
Penalties	-	-	-	404,549	-	367,924	-	772,473	699,495	293,452	306,514
Private Fire Service	-	-	-	59,947	-	-	-	59,947	57,663	78,130	55,836
Public Fire Service	-	-	-	1,119	-	-	-	1,119	855	-	0
User Charges - Municipal	-	-	-	-	-	7,607,223	-	7,607,223	7,375,074	6,578,689	6,342,058
User Charges - Residential & Commercial	-	-	-	-	-	10,946,121	-	10,946,121	10,002,865	13,449,887	9,853,106
User Charges - Hauler	-	-	-	-	140,423	-	-	140,423	120,195	54,132	100,695
Hauler Fees	-	-	-	-	-	-	-	-	-	-	-
Industrial Charges	-	-	-	-	-	-	-	-	-	-	-
Industrial Pretreatment Revenues	-	-	-	-	196,995	-	-	196,995	145,651	82,014	127,222
Municipal	-	-	-	-	-	-	-	-	-	-	-
Leachate Program Revenues	-	-	-	-	484,446	-	-	484,446	474,947	582,828	588,367
Other Income	-	-	-	-	-	-	-	-	(500,000)	-	-
Other Water Sales	-	-	-	5,213,588	-	-	-	5,213,588	5,111,361	4,240,523	4,068,049
Provision for Doubtful Debts	-	-	-	-	-	-	-	-	-	-	(372,221)
Total Charges for Services	-	-	-	26,429,061	821,863	18,921,268	-	46,172,193	41,852,870	41,647,350	37,748,826
Miscellaneous	-	-	-	154,208	12,410	30,777	19,042	216,437	221,401	349,165	234,849
Total User Charges	-	-	-	26,583,270	834,273	18,952,045	19,042	46,388,630	42,074,272	41,996,515	37,983,675
Connection & System Charges											
Supply/Tapping Fees	-	-	-	-	-	-	-	-	-	-	-
Capital Cost Recovery	-	-	-	1,058,302	-	404,303	-	1,462,605	1,462,605	1,150,235	1,462,605
Distribution Tapping Fees	-	-	-	302,531	-	235,051	-	537,582	537,582	623,174	439,258
Meter Sales	-	-	-	24,595	-	-	-	24,595	24,595	23,387	24,595
Inspection & Review Fees	-	-	-	25,282	-	17,990	-	43,271	43,271	31,569	41,771
Developer Reimbursement	-	-	-	48,832	2,371,168	-	-	2,420,000	1,996,007	2,119,616	799,814
Total Connection & System Charges	-	-	-	1,459,542	2,371,168	657,344	-	4,488,054	4,064,061	3,947,981	2,768,043
Other Miscellaneous Revenues											
Other Income	-	-	-	42,178	8,625	-	16,672	67,475	66,807	59,249	51,620
Total Other Miscellaneous Revenues	-	-	-	42,178	8,625	-	16,672	67,475	66,807	59,249	51,620
Total Operating Revenues	-	-	-	28,084,989	3,214,067	19,609,388	35,715	50,944,159	46,205,139	46,003,744	40,803,338
Operating Expenses:											
Personnel											
Salaries and Wages	-	1,223,932	1,312,061	1,380,767	2,380,642	958,266	418,275	7,673,943	6,919,328	7,196,672	6,600,437
Overtime	-	5,196	248,714	132,048	385,943	45,205	18,585	835,691	908,185	876,060	898,275
Taxes	-	202,294	98,125	94,004	174,175	62,471	27,414	658,483	602,614	627,558	587,332
Fringe Benefits	-	315,746	675,256	651,297	1,195,244	430,627	187,426	3,455,596	3,179,572	2,861,204	2,926,490
Other Personnel Related	-	-	-	-	-	-	-	-	-	-	-
Total Personnel	-	1,747,168	2,334,156	2,258,117	4,136,004	1,496,569	651,700	12,623,714	11,609,699	11,561,494	11,012,534
Purchase of Services											
Shared Services - General & Administrative	-	-	401,394	389,059	711,498	258,068	112,350	1,872,369	1,585,674	1,699,928	1,482,737
Utilities	-	-	775,233	36,718	1,190,245	34,508	1,039	2,037,742	1,855,844	2,156,619	1,815,047
Compliance	-	-	-	-	-	-	-	-	-	34,523	-
Contract Operating Svcs	-	-	15,500	2,500	-	117,760	17,000	152,760	95,150	104,900	109,411
Engineering	-	-	-	-	16,000	-	-	16,000	16,779	31,500	47,831
Exceptional Strength Analysis	-	-	-	-	-	-	-	-	-	-	-
Extraordinary Expenditures	-	-	-	78,750	-	40,250	-	119,000	50,793	30,000	49,797
Fleet Management Services	-	-	5,000	50,000	71,400	57,500	-	183,900	163,564	150,000	188,995
General Analyses	-	-	-	-	18,000	-	17,000	35,000	12,000	35,000	18,773
Planning Expenses	-	-	-	-	-	-	-	-	-	-	-
Industrial Meter Testing	-	-	1,000	5,000	-	-	-	6,000	306	6,000	300
Maintenance Services	-	-	315,816	240,025	236,155	73,118	19,620	884,734	814,868	758,069	858,683
Miscellaneous Services	-	-	112,945	33,133	50,708	54,956	5,850	257,592	235,583	278,224	334,544
Leased Equipment	-	-	16,000	51,750	-	60,000	-	127,750	67,790	166,626	85,282
Rental	-	-	-	-	-	-	-	-	-	-	-
Residuals	-	-	22,000	-	379,038	-	-	401,038	281,064	366,580	264,525
Water Purchases	-	-	1,000	-	-	-	-	1,000	406	-	441
System Planning / Capital Management	-	-	-	-	-	-	-	-	-	-	-
LCA WWTP Treatment/Removals	-	-	-	-	-	-	-	-	-	-	-
Treatment and Transportation	-	-	-	-	-	13,800	-	13,800	12,165	12,000	11,926
Total Purchase of Services	-	-	1,665,887	886,935	2,673,044	709,960	172,859	6,108,686	5,191,985	5,829,969	5,268,293

LEHIGH COUNTY AUTHORITY
STATEMENTS OF ACTIVITIES - CITY - DIVISION FUND
2022 Budget (as of 10-05-21)

	City Division - Systems							Total			
	Undesignated 400	Int Serv 490	WFP 491	DIST 492	WWTP 493	WWCOLL 494	LAB 495	Budget 2022	Forecast 2021	Budget 2021	Actual 2020
Materials & Supplies											
Purification Chemicals	-	-	374,000	-	398,254	-	-	772,254	570,171	782,435	523,902
Purification Supplies	-	-	14,000	-	-	-	-	14,000	10,000	14,000	7,478
Pump Supplies	-	-	22,250	-	27,500	-	-	49,750	25,184	53,250	34,277
Misc. Materials & Supplies	-	-	83,500	17,107	277,225	116,117	61,000	554,949	464,417	544,380	478,094
Fuel & Mileage	-	-	7,000	33,350	51,150	33,350	75,000	199,850	75,067	111,500	62,800
Fleet Management Supplies	-	-	3,000	3,450	25,000	3,450	-	34,900	17,174	14,000	25,681
Equipment	-	-	99,700	24,864	62,300	20,470	4,700	212,034	198,726	207,140	175,284
Distribution & Transmission Supplies	-	-	-	484,050	-	-	-	484,050	78,819	87,227	80,004
Collection System Supplies	-	-	-	12,305	-	-	-	12,305	5,852	9,773	5,751
Total Materials & Supplies	-	-	603,450	575,126	841,429	173,387	140,700	2,334,092	1,445,412	1,823,705	1,393,271
Depreciation and Amortization	6,178,570	-	-	-	-	-	-	6,178,570	6,117,396	5,893,862	6,117,396
Other Expenses											
Major Maintenance Expenses	4,206,200	-	-	-	-	-	-	4,206,200	4,206,200	2,666,896	4,206,200
Other Miscellaneous	-	-	-	-	-	-	-	-	-	-	-
Total Other Expenses	4,206,200	-	-	-	-	-	-	4,206,200	4,206,200	2,666,896	4,206,200
Total Operating Expenses	10,384,770	1,747,168	4,603,493	3,720,178	7,650,477	2,379,917	965,259	31,451,261	28,570,692	27,775,926	27,997,694
Net Operating Profit	(10,384,770)	(1,747,168)	(4,603,493)	24,364,811	(4,436,410)	17,229,472	(929,544)	19,492,897	17,634,447	18,227,818	12,805,645
Non-Operating Income (Expense)											
Interest Income	176,419	-	-	-	-	-	-	176,419	172,960	172,960	162,075
Interest (Expense)	(17,474,997)	-	-	-	-	-	-	(17,474,997)	(16,744,251)	(17,535,086)	(17,257,071)
Unrealized Gain on Investment	-	-	-	-	-	-	-	-	-	-	-
Unrealized Loss on Investment	-	-	-	-	-	-	-	-	-	-	-
Capital Contributed	-	-	-	-	-	-	-	-	-	-	-
Other Miscellaneous	-	-	-	-	-	-	-	-	-	-	-
Net Non-Operating Income (Expense)	(17,298,578)	-	-	-	-	-	-	(17,298,578)	(16,571,291)	(17,362,126)	(17,094,996)
Net Income (Loss)	(27,683,348)	(1,747,168)	(4,603,493)	24,364,811	(4,436,410)	17,229,472	(929,544)	2,194,319	1,063,156	865,692	(4,289,351)

Internal Service

Lehigh County Authority

2022 Budget (as of 10-05-21)

Internal Service Budgets Overview

Lehigh County Authority's Internal Service budget serves as a pass-through mechanism to move shared expenses appropriately to the enterprise funds they support.

The Internal Services budget captures expenses in two different categories:

1. **Enterprise Fund Specific** – Internal Service expenses that are specific to the Suburban or City Divisions are shared with those specific enterprise funds based on the services provided to each fund.
2. **Global (Organizational)** – Internal Service expenses that are not specific to one of the Authority's enterprise funds, but which support the organization as a whole, are captured separately in the Global Internal Service budget and allocated to the funds based on a pro-rata share of salaries.

These Internal Service budgets capture expenses related to the following functions: Executive, Human Resources, Risk Management, Planning, Finance, Information Technology, Customer Care and Billing, Capital Works, and General and Administration. The Internal Service expenses outlined in this section of the Authority's 2022 Budget are also captured within the enterprise fund budgets detailed in previous sections of this publication, allocated to those funds based on the methodology described above.

LEHIGH COUNTY AUTHORITY
INTERNAL SERVICE BREAKDOWN (WITH ALLOCATIONS)
2022 Budget (as of 10-05-21)

	Suburban Internal Service 1	Suburban Water 2	Suburban Wastewater 3	City Internal Service 490	City Division 4	Lab Compliance 495	Global 9	YTD			
								Budget 2022	Forecast 2021	Budget 2021	Actual 2020
Operating Expenses:											
Personnel											
Salaries and Wages	405,956	1,393,405	618,479	183,036	6,031,737	418,275	1,486,995	10,537,881	9,504,342	9,909,686	8,877,526
Overtime	2,799	103,490	85,606	4,916	811,910	18,585	400	1,027,706	1,113,519	1,043,212	1,119,777
Taxes	94,410	85,723	40,892	129,458	428,775	27,414	104,052	910,723	833,453	855,601	785,041
Fringe Benefits	-	879,474	505,139	315,746	2,952,424	187,426	-	4,840,209	4,453,585	4,803,551	4,099,102
Allocation to Systems	(503,165)	673,627	306,972	(633,155)	1,633,866	113,301	(1,591,446)	(0)	-	-	-
Total Personnel	-	3,135,717	1,557,088	-	11,858,712	765,002	-	17,316,519	15,904,900	16,612,051	14,881,446
Purchase of Services											
General & Administrative:											
Temporary Contract Service	19,169	-	-	10,388	-	-	-	29,558	28,978	-	15,538
Compliance	-	-	-	-	-	-	16,142	16,142	15,825	-	-
Office Related	87,037	-	-	76,771	-	-	105,207	269,015	263,437	307,189	225,763
Computer Software / Hardware	33,560	-	-	12,500	-	-	421,600	467,660	436,059	429,155	341,750
Advertising	-	-	-	-	-	-	1,212	1,212	1,188	1,116	1,161
Audit	-	-	-	-	-	-	49,980	49,980	49,000	53,040	47,834
Bank and Credit Card Fees	77,541	-	-	132,594	-	-	6,985	217,119	212,862	188,723	209,104
Dues and Subscriptions	1,040	-	-	4,519	-	-	39,853	45,412	44,521	50,515	43,781
Travel and Entertainmnet	1,400	-	-	360	-	-	4,229	5,988	5,871	6,881	5,743
Education & Training	49,270	-	-	70,551	-	-	98,270	218,091	56,219	200,745	49,525
Insurance & Risk Management	281,660	-	-	448,377	-	-	358,918	1,088,955	890,059	875,714	829,718
Human Resources and Related	-	-	-	-	-	-	109,850	109,850	134,124	110,850	114,625
Professional Consulting & Legal	25,347	-	-	117,356	-	-	50,155	192,859	189,077	180,067	235,681
Public Relations	-	-	-	-	-	-	119,449	119,449	49,967	100,198	48,318
Contributions & Sponsorships	124	-	-	220	-	-	184	528	518	321	450
Employee Engagement	13,038	-	-	21,672	-	-	13,768	48,479	47,528	76,800	44,890
Allocation to Systems	(589,186)	685,495	322,432	(895,308)	1,760,020	112,350	(1,395,802)	-	-	(62,238)	(339,177)
Utilities	-	520,914	355,937	-	2,036,703	1,039	-	2,914,594	2,588,481	3,150,021	2,530,959
Compliance	-	45,373	15,721	-	-	-	-	61,094	53,785	90,664	72,191
Contract Operating Svcs	-	39,920	5,963,273	-	135,760	17,000	-	6,155,953	6,063,857	5,569,247	5,662,898
Engineering	-	71,500	162,000	-	16,000	-	-	249,500	155,453	153,500	255,312
Extraordinary Expenditures	-	-	-	-	-	-	-	-	-	-	-
Exceptional Strength Analysis	-	-	-	-	119,000	-	-	119,000	50,793	30,000	49,797
Fleet Management Services	-	46,000	18,000	-	183,900	-	-	247,900	253,576	194,000	263,989
General Analyses	-	77,980	48,200	-	18,000	17,000	-	161,180	92,903	203,436	105,510
Industrial Meter Testing	-	-	-	-	6,000	-	-	6,000	306	14,500	300
Maintenance Services	-	677,800	466,195	-	865,114	19,620	-	2,028,729	1,471,634	1,562,622	1,446,905
Miscellaneous Services	-	24,975	27,970	-	251,742	5,850	-	310,537	382,635	409,675	505,892
Leased Equipment	-	85,000	-	-	127,750	-	-	212,750	231,837	361,271	230,047
Rental	-	-	-	-	-	-	-	-	-	-	-
Residuals	-	-	103,000	-	401,038	-	-	504,038	323,456	469,580	312,845
Water Purchases	-	3,744,986	-	-	1,000	-	-	3,745,986	2,991,871	2,824,400	2,209,048
System Planning / Capital Management	-	-	-	-	-	-	-	-	-	-	-
LCA WWTP Treatment/Removals	-	-	-	-	-	-	-	-	-	-	-
Treatment and Transportation	-	-	3,844,405	-	13,800	-	-	3,858,205	3,724,244	3,989,539	2,918,884
Total Purchase of Services	-	6,019,943	11,327,133	-	5,935,827	172,859	-	23,455,762	20,810,064	21,541,531	18,439,282
Materials & Supplies											
Purification Chemicals	-	59,700	90,250	-	772,254	-	-	922,204	668,577	927,735	621,464
Purification Supplies	-	59,300	-	-	14,000	-	-	73,300	33,748	70,047	26,808
Pump Supplies	-	76,900	51,500	-	49,750	-	-	178,150	79,091	145,750	77,234
Misc. Materials & Supplies	-	80,950	186,400	-	493,949	61,000	-	822,299	597,723	727,213	612,904
Fuel & Mileage	-	61,150	27,500	-	124,850	75,000	-	288,500	126,954	242,800	102,721
Fleet Management Supplies	-	3,000	-	-	34,900	-	-	37,900	24,672	18,800	31,042
Equipment	-	198,407	140,900	-	207,334	4,700	-	551,341	299,047	491,690	252,162
Distribution & Transmission Supplies	-	277,430	-	-	484,050	-	-	761,480	179,002	192,667	174,653
Collection System Supplies	-	-	-	-	12,305	-	-	12,305	5,852	9,773	5,751
Total Materials & Supplies	-	816,837	496,550	-	2,193,392	140,700	-	3,647,479	2,014,667	2,826,475	1,904,740
Depreciation and Amortization	-	2,978,453	5,996,555	-	6,178,570	-	-	15,153,577	15,003,542	13,116,343	15,003,542
Other Expenses											
Major Maintenance Expenses	-	-	-	-	4,206,200	-	-	4,206,200	5,208,293	3,670,296	4,206,200
Other Miscellaneous	-	-	-	-	-	-	-	-	90,000	121,286	87,483
Total Other Expenses	-	-	-	-	4,206,200	-	-	4,206,200	5,298,293	3,791,582	4,293,683
Total Operating Expenses	-	12,950,950	19,377,326	-	30,372,701	1,078,560	-	63,779,537	59,031,466	57,887,983	54,522,692

Capital Spending

Lehigh County Authority
2022 Budget (as of 10-05-21)
Capital Budgets Overview

Suburban Water Division:

The Suburban Water Division Capital Budget includes projects that provide or lead to long-term improvements and reliability to the system. The following table provides information regarding significant water projects:

Project	2022 Budget	2022 Project Stage
Fixed Base Advanced Metering Infrastructure	\$100,000	Planning & Design
CLD Well Improvements & Capacity Study	100,000	Master Plan Study
Upper System Pump Station & Main Extension	200,000	Design & permitting; main extension
Addition Redundant Supply – Madison Park North Water System	50,000	Investigation & Permitting
Arcadia West Water Tank Replacement	815,000	Construction Completion

Annual Projects

These projects are part of recurring annual capital work that includes the following: 1) new water main installations; 2) distribution main development and service connections; 3) distribution mains upsizing; 4) reservoir rehabilitation and maintenance; 5) general water system improvements; 6) water company acquisitions; 7) main office improvements; 8) mobile equipment; 9) water facilities asset management improvements; 10) other equipment; 11) capital management; and 12) capital works miscellaneous expenses. Includes staff and consultant work. (2022 Cap Ex \$690,000)

Water Main Replacement Projects

This is an on-going project to replace aging water mains that have a history of high pipe break rates (# of breaks per mile) or exhibit a high risk of failure through condition assessment investigations. After a two-year pause, the 2022 budget reflects a resumption of the annual program. (2022 Cap Ex \$2,500,000)

Upper System Pump Station and Water Main Extension

The objective of this project is to supplement Central Lehigh Upper System supply and pressure to meet the water needs of a proposed large industrial development in the area west of Fogelsville and provide adequate capacity to serve future industrial and residential customers in the area. The new water main extension under I-78 and regional pump station will also enhance system resilience and redundancy, in the event of operational issues with the CLD Auxiliary Pump Station or with the Upper System wells. Based on planning module data, zoning mapping and growth projections provided by Upper Macungie Township, the proposed pump station will have a design capacity of 1,000 gpm (1.44 million gallons per day). The timeline for construction of the pump station will be dependent upon the construction schedule for the proposed large industrial development. The 2022 budget includes design, permitting, and water main extension costs. (2022 Cap Ex \$200,000)

Additional (Redundant) Water Supply - Small Satellite Systems (Madison Park North)

This project focuses on the development of an additional well for the Madison Park North (MPN) development to have a backup source of water supply. In 2020 a Pre-Drilling and Aquifer Test Plan was approved by DEP and wells were drilled and tested on two locations of a neighboring property to the development. Two well tests were conducted in 2021 and the results were inconclusive as to further

Lehigh County Authority **2022 Budget (as of 10-05-21)** **Capital Budgets Overview**

development of a permanent well. Additional investigation and testing are budgeted for 2022. (2022 Cap Ex \$50,000)

CLD Well Improvements and Capacity Study

There are several inactive wells in the Central Lehigh Division (CLD) that were taken off-line for various reasons over the years and reactivating these wells would require extensive improvements and/or permitting. There is concern that the current production capacity of the active wells in CLD does not provide 100% redundancy with the City of Allentown interconnection. A Suburban Division CLD Master Plan is proposed for commencement in 2022 to identify the following: 1) CLD system demand projections; 2) CLD system supply evaluation; 3) CLD distribution system capacity evaluation; 4) alternatives evaluation; and 5) prioritized capital improvement plan. (2022 Cap Ex \$100,000)

Arcadia West Water Storage Tank Replacement

The Arcadia West water storage tank has experienced several leaks in recent years and a condition assessment/feasibility study performed in 2019 concluded that the tank has reached the end of its useful life and should be replaced. This project is for the replacement of the bolted steel tank with a new concrete reservoir. Design phase and permitting were completed in 2020 and the project was bid in early 2021 and awarded in Spring 2021. Construction commenced in Fall 2021 and will finish in 2022. (2022Cap Ex \$400,000)

Fixed Base Advanced Metering Infrastructure

Development of a fixed base meter reading system for the Suburban Water Division has been an objective for several years as part of optimizing meter reading and monitoring. The new system will allow for more efficient meter reading, consistent billing, and faster dispute resolution. Communication studies were performed by Sensus in 2019 and 2020 to evaluate the number and location of antenna towers for Suburban area coverage. Five to seven towers are anticipated to provide adequate coverage of the Suburban system. An engineer was retained in 2021 to perform a feasibility study for locating and developing antenna sites. Design and permitting of the tower sites will be contingent upon the results of the study, and construction of the towers will extend into future years. (2022 Capex Ex. \$100,000)

Suburban Wastewater Division:

The major activities included in the Suburban Wastewater Division Capital Budget are a continuation of the on-going work associated with Western Lehigh Interceptor (WLI) Signatory Inflow & Infiltration (I/I) Investigation & Remediation program and the implementation of improvements required to address system bottlenecks and sanitary sewer overflows. Other projects include starting design on the Trexlertown Area Capacity Solution Alternative and starting construction on the Phase 2 Park Pump Station Improvements. The following table provides information regarding significant wastewater projects:

Project	2022 Budget	2022 Project Stage
Pretreatment Plant Improvements	\$700,000	Complete Construction
Central Lehigh County Wastewater Capacity Planning & Expansion	400,000	Planning
Signatory I/I Investigation & Remediation Program	300,000	Design & Construction
WLI- Trexlertown Area Capacity Solution Alternative	100,000	Design

Lehigh County Authority
2022 Budget (as of 10-05-21)
Capital Budgets Overview

Project	2022 Budget	2022 Project Stage
Arcadia West WWTP Mechanical Screen	50,000	Design
Heidelberg Heights I/I Remediation & Replacement	300,000	Construction
Park Pump Station Improvements	400,000	Start Construction
Park Pump Station Force Main Rehabilitation	50,000	Preliminary Design

Annual Projects

These projects are part of recurring annual capital work that includes the following: 1) mobile equipment; 2) sewer company acquisitions; 3) other equipment; 4) wastewater facility asset management mechanical upgrade work; 5) capital management; 6) sewer main connections; and 7) general sewer system improvements. (2022 Cap Ex. \$230,000)

Wastewater Pretreatment Plant - General Improvements

This is an on-going multi-year program to upgrade/replace equipment and optimize processes in accordance with asset management protocol to address the continued reliability and maintain a high level of service for LCA's industrial pretreatment plant. Near-term needs include replacement of headworks influent mechanical screens, HVAC improvement in the solids building, and major upgrade or complete replacement of the cryogenic facility. (2022 Cap Ex \$700,000)

Central Lehigh County Wastewater Capacity Planning & Expansion

This project is related to DEP mandated Act 537 sewer planning for the entire Kline's Island Sanitary Sewer System. In 2020 and 2021, the alternative to upgrade the Pretreatment Plant and extend a force main to the Lehigh River was closely studied again. In addition, the updated Western Lehigh sewer model was used to update the downstream conveyance needs through the Park Pump Station area. In 2022, further analysis will be performed on these topics to maintain the March 2025 Act 537 submission deadline. In addition, a Sewer System Evaluation Survey (SSES) will be performed to further identify what methods will be used in the future to reduce I/I. Also included in 2022 is preparation of a Master Plan for the Wastewater Pretreatment Plant – the first ever for this facility. (2022 Cap Ex. \$400,000)

Signatory I/I Investigation & Remediation Program

This multi-year on-going inflow and infiltration (I/I) reduction project was primarily composed of flow monitoring in LCA and Signatory sewage collection systems tributary to the Western Lehigh Interceptor (WLI). Level of Service Modeling, Flow Metering, recalibration of the 2014 KISS model, and many other tasks are required and in progress for determining and prioritizing the physical work necessary to facilitate the removal of excess wet weather flow in segments of systems that have been identified with unacceptable levels of I/I. As the Regional Act 537 Plan is now underway, the 2022 budget continues to include manhole rehabilitation and corrective work to eliminate I/I in the WLI. All planning related to the Regional Act 537 is included in the project listed above. (2022 Cap Ex \$300,000)

WLI – Trexlertown Area Capacity Solution Alternative

A conveyance capacity "bottleneck" has been identified in the Trexlertown area of the Western Lehigh Interceptor, and this area was assigned a high priority due to occurrence of sanitary sewer overflows and basement backups in the vicinity during wet weather events. A parallel interceptor was originally conceived to run approximately from Cetronia Road to Spring Creek Road. The concept was modified to focus on providing an interim solution to address local impacts of the system bottleneck, and the selected alternative will become part of the future long-term solution to alleviate regional conveyance capacity

Lehigh County Authority 2022 Budget (as of 10-05-21) Capital Budgets Overview

challenges. A pre-design feasibility study was completed in 2020 to evaluate various engineering alternatives, including an “in-line” parallel storage tank, conventional concrete tank (flow equalization basin), or other options in conjunction with expanded modeling work and reevaluation of downstream impacts. An interim pump station alternative to convey effluent from the LCA Pretreatment Plant to a downstream location that bypasses the Trexlertown “bottleneck” area is under investigation, and design phase is anticipated to commence in 2022. (2022 Cap Ex \$100,000)

Arcadia West WWTP Mechanical Screen

This project involves the installation of a mechanical screen in the headworks area of the Arcadia West Wastewater Treatment Plant. The facility treats wastewater generated primarily from industrial customers, which often contains rags and other bulky inorganic material that creates operational problems at the plant. The addition of a mechanical screen will remove rags and other inorganic debris from the influent waste stream, thereby eliminating pump clogging and equipment fouling from downstream debris accumulation. (2022 Cap Ex \$50,000)

Heidelberg Heights I/I Investigation and Remediation Program

This multi-year project is part of a DEP Consent Order and Agreement that requires the replacement of all original developer-installed vitrified clay sewer pipe (VCP) and sewer laterals in the sanitary sewer system. The original VCP pipe has degraded and allows for wet weather I/I, which creates hydraulic overload conditions at the system’s wastewater treatment plant. Work includes the replacement of all sections of old VCP sewer main pipe and VCP sewer laterals in accordance with the Corrective Action Plan submitted to DEP in 2019. The 2022 work will involve replacement of approximately 1,000 feet of sewer main and connecting laterals. (2022 Cap Ex \$300,000)

Heidelberg Heights WWTP Rehabilitation

This multi-year project will provide needed upgrades to the existing steel tank wastewater treatment plant. Future projects include installation of a mechanical screen at the headworks to remove problematic bulky material from the plant process flow, and a new catwalk grating system over the SBR tanks to improve maintenance access. The 2022 budget is for construction of the mechanical screen project. (2022 Cap Ex \$200,000)

Park Pump Station Rehabilitation & Improvements (Phase 2)

Phase 1 of this multi-year project included replacement of the existing pumps, pump speed controllers (replaced with variable frequency drives), motor control center (MCC) panel, SCADA system, HVAC system, level control system, discharge surge valve and related mechanical improvements to maintain the level of service, prolong station life and restore station to its design capacity. Construction work for Phase 1 was completed in 2020. Phase 2 consists of the replacement of the backup power system generator and associated equipment. Design work is to be completed in 2021 with construction scheduled to commence in 2022 and finish in 2023. (2022 Cap Ex \$400,000)

Park Pump Station Force Main Rehabilitation

This multi-year project will address the internal rehabilitation needs as determined from an internal condition assessment based on three representative internal pipe inspection areas of the existing Park Pump Station Force Main that was performed in 2021. The existing concrete pipe construction is susceptible to deterioration from corrosive sewer gases; therefore, a representative internal inspection of the force main was performed in 2021, and the results require some further investigation to quantify the scope of rehabilitation work, which will be designed in 2022 and 2023, and may consist of internal lining technology and/or dig-up repairs. (2022 Cap Ex \$50,000)

**Lehigh County Authority
2022 Budget (as of 10-05-21)
Capital Budgets Overview**

City Division - Water System:

Water projects in the 2022 budget focus on regulatory compliance, immediate and future needs at the Water Filtration Plant (WFP) and addressing the Lease operating standards. Annual projects remain in the 2022 budget as well. These include but are not limited to equipment purchases, general water system replacements, general WFP improvements, and indenture report upgrades.

The following table provides information regarding significant water projects:

Project	2022 Budget	2022 Project Stage
Annual Water Main Replacement – Cycle 6	\$2,400,000	Construction
WFP High Service VFD Replacement Project	1,100,000	Complete Construction
WFP Filter Upgrade Project	200,000	Design & Permitting
Large Diameter Valve Replacement Project	100,000	Study & Design

Annual Projects

The annual projects include general water system replacements, mobile equipment, new and replacement meter installations, other equipment, reservoir rehab/maintenance, mobile equipment, and WFP general improvements. Also included is a portion of the Administration Capital Expenses that directly benefit the Allentown Division. (2022 Cap Ex \$1,135,000)

Annual Water Main Replacement – Cycle 6

The annual replacement of one mile of water main is a Lease requirement per the amended Lease language, with the objective of replacing aging spun-cast and pit cast iron pipe in the system. The project scope is prioritized annually based on break and leak history. (2022 Cap Ex \$2,400,000)

WFP High Service VFD Replacement Project

This multi-year project is to replace variable frequency drives (VFDs) for the high service pumps in the water treatment plant. The high service pumps supply finished water to the City distribution system and are critical infrastructure. The high service pump station has a history of electrical failures from aging VFDs, and the upgrade work will extend the reliability and service life of the station. Design phase was completed in early 2021, construction phase commenced in 2021, and construction will be completed in 2022. This project was approved by the City as a Major Capital Improvement and will be funded by a low-interest loan from PENNVEST. (2022 Cap Ex \$1,100,000)

WFP Filter Upgrade Project

This multi-year project consists of rehabilitation of the existing eight dual-bay gravity filters, including underdrain replacements, media replacements, valve replacements, air scour system installation, and related electrical upgrades. The filtration system operation is critical to maintaining regulatory compliance, and the project is cited as a near term, high priority project in the WFP Master Plan (Arcadis; 2017), as the existing equipment has reached the end of its service life. (2022 Cap Ex \$200,000)

Large Diameter Valve Replacement Project

Lehigh County Authority **2022 Budget (as of 10-05-21)** **Capital Budgets Overview**

The objective of this multi-year project is to replace critical aging/inoperable large diameter valves in the distribution system. There are many critical large diameter valves that control supply throughout the system that are inoperable or do not seal properly. It is essential that these large diameter valves operate as designed to facilitate isolating key areas of the system during emergency events and maintenance operations. (2022 Cap Ex \$100,000)

City Division - Wastewater System:

Wastewater projects in 2022 will focus on regulatory compliance, immediate and future needs at the Kline's Island Wastewater Treatment Plant (WWTP) and addressing the Lease operating standards. Projects at the WWTP include Solids Process Boiler and HVAC Upgrade, Main and Auxiliary Pump Station Improvements, Intermediate Pump Station Upgrade, and work related to wet weather flow issues.

Project	2022 Budget	2022 Project Stage
WWTP Solids Process Boiler Replacement & HVAC Upgrade Project	\$800,000	Construction
WWTP Main & Auxiliary Pump Station Improvements	150,000	Design
WWTP Intermediate Pump Station Upgrade	100,000	Design
Regional Flow Management Strategy	1,500,000	Planning
Flow Characterization Study	920,000	Planning
Miscellaneous Act 537 Planning	250,000	Planning

Annual Projects

The annual projects include mobile equipment, other equipment, sanitary sewer main replacements and rehabilitation, and WWTP general improvements. Thickener Tank #3 Mechanical Upgrade project is included under the Annual Projects. Also included is a portion of the Administration Capital Expenses that directly benefit the Allentown Division. (2022 Cap Ex \$1,460,000)

Boiler Replacement and Solids Process HVAC Upgrade Project

This project consists of replacement of the three boilers used to heat the digesters, the digester building, and sludge dewatering areas. The project scope also includes replacement of related solids process HVAC equipment in the digester building and sludge dewatering areas. In 2021 the design phase of the Boiler Replacement and Solids Process HVAC Upgrade Project will be substantially completed. Construction will commence in 2022 and be completed in 2023. This project was approved by the City as a Major Capital Improvement. (2022 Cap Ex \$800,000)

WWTP Main & Auxiliary Pump Station Improvements Project

This multi-year project is the combination of two near-term projects from the WWTP Master Plan (Kleinfelder, 2019). The project consists of the mechanical upgrade of the Main Pump Station and Auxiliary Pump Station to increase the capacity of the combined station pumping system to 100 million gallons per day, in accordance with the DEP mandate to phase out activation of the high-flow plant bypass at Outfall No. 003. The four existing pumps in the Main Pump Station are to be replaced along with new variable frequency drives (VFDs) and associated valve replacements. Improvements to the

Lehigh County Authority 2022 Budget (as of 10-05-21) Capital Budgets Overview

Auxiliary Pump Station include replacement of the existing motors with upsized motors, replacement of pump impellers, replacement of VFDs, elimination of a force main bottleneck that creates excessive head loss, and replacement of associated valves. Design phase will begin in 2022. (2022 Cap Ex \$150,000)

WWTP Intermediate Pump Station Upgrade Project

This multi-year project consists of the mechanical and electrical upgrade of the Intermediate Pump Station primary effluent pump system. The primary effluent pumps have been identified in the WWTP report entitled, "Evaluation of Increase in Peak Flow Capacity" (Kleinfelder, 2020) as a capacity bottleneck for the conveyance and treatment of 100 million gallons per day peak flow, and the WWTP Master Plan recommends replacement of the primary effluent pumps. The project consists of the replacement of five primary effluent pumps, replacement and upsizing of existing motors, replacement of the VFDs, and electrical upgrades. Design phase will begin in 2022. (2022 Cap Ex \$100,000)

Regional Flow Management Strategy

This multi-year project involves a five-year "Inflow and Infiltration Source Reduction" effort to comply with a regional flow management strategy submitted to EPA in August of 2018. 2022 includes "Year 3" construction efforts. This work is completed by LCA but funded by the City of Allentown directly as part of its ongoing obligations to address sewer system issues under the terms of the Lease. (2022 Cap Ex \$1,500,000)

Flow Characterization Study

This project is related to DEP mandated Act 537 sewer planning for the entire Kline's Island Sanitary Sewer System. Extensive flow monitoring was completed in 2021, utilizing a mix of temporary and permanent meters. Data from these approximately 100 meters will be used to build a hydraulic model for the entire regional system. The model will be calibrated by June 2022 and a preliminary screening of alternatives will follow. As part of its ongoing obligations to address sewer system issues under the terms of the Lease, the City will fund \$800,000 of this project in 2022. LCA will fund the remaining \$120,000 in 2022. (2022 Cap Ex \$920,000)

Miscellaneous Act 537 Planning

This project is related to DEP mandated Act 537 sewer planning for the entire Kline's Island Sanitary Sewer System. Potential items in 2022 include additional WWTP analyses and a wet weather treatment pilot study. (2022 Cap Ex \$250,000)

LEHIGH COUNTY AUTHORITY
CAPITAL EXPENDITURES - SUBURBAN - WATER FUND
2022 Budget (as of 10-05-21)

Project	Primary Project Category	Estimated Project Cost	Estimated Costs Through 2021	2021 Budget (approved)	Cap Plan Costs 2022 - 2026	2022 Budget (draft)	Estimated Costs 2023-2027
Annual Projects							
Annual Projects	AM - Varies	\$ 9,996,330	\$ 1,395,330	\$ 1,747,500	\$ 6,853,500	\$ 662,500	\$ 4,062,500
Water Main Replacement Projects	AM - Varies	\$ 8,007,142	\$ 1,574,642	\$ 1,632,500	\$ 4,800,000	\$ -	\$ 12,000,000
Multi-Year Projects							
Water Main Replacement Projects			\$ 601	\$ -	\$ 7,300,000	\$ 2,400,000	\$ -
Additional (Redundant) Water Supply - Small Satellite Divisions	Sys Imp	\$ 991,287	\$ 121,287	\$ 100,000	\$ 770,000	\$ 50,000	\$ 50,000
Fixed Base Metering Reading System	Sys Imp	\$ 1,086,494	\$ 76,494	\$ 100,000	\$ 910,000	\$ 100,000	\$ 810,000
North Whitehall Division System Improvements - Study Phase	Sys Imp	\$ 796,385	\$ 46,385	\$ 50,000	\$ 700,000	\$ 25,000	\$ 725,000
Arcadia Water Tank Replacement	AM-High	\$ 1,342,156	\$ 342,156	\$ 500,000	\$ 500,000	\$ 400,000	\$ -
CLD Well Improvements and Capacity Study	Sys Imp	\$ 20,000	\$ 71,139	\$ 60,000	\$ 20,000	\$ 100,000	\$ 100,000
Water Meter Replacement Program	AM-Med	\$ 2,482,000	\$ -	\$ -	\$ 2,482,000	\$ 450,000	\$ 2,032,000
Upper System Pump Station and Water Main Extension <i>(new)</i>	Sys Imp	\$ 1,800,000	\$ -	\$ -	\$ -	\$ 200,000	\$ -
Total Suburban Division Water Capital Expenditures (Funded):			\$ 3,628,033	\$ 4,190,000	\$ 24,335,500	\$ 4,387,500	\$ 19,779,500

LEHIGH COUNTY AUTHORITY
CAPITAL EXPENDITURES - SUBURBAN - WASTEWATER FUND
2022 Budget (as of 10-05-21)

Project	Primary Project Category	Estimated Project Cost	Estimated Costs Through 2021	2021 Budget (approved)	Cap Plan Costs 2022 - 2026	2022 Budget (draft)	Estimated Costs 2023-2027
Annual Projects							
Annual Projects	AM - Varies	\$ 3,826,376	\$ 563,876	\$ 622,500	\$ 2,640,000	\$ 230,000	\$ 1,900,000
Subtotal			\$ 563,876	\$ 622,500	\$ 2,640,000	\$ 230,000	\$ 1,900,000
LCA Wastewater Treatment Plant							
Pretreatment Plant Improvements	AM - Varies	\$ 4,840,000	\$ 640,000	\$ 700,000	\$ 3,500,000	\$ 700,000	\$ 3,800,000
Subtotal			\$ 640,000	\$ 700,000	\$ 3,500,000	\$ 700,000	\$ 3,800,000
Western Lehigh Interceptor System:							
Central Lehigh County WW Capacity Planning & Expansion	New Cust	\$ 2,139,506	\$ 740,206	\$ 799,300	\$ 600,000	\$ 400,000	\$ 500,000
Signatory I&I Investigation and Remediation Program	Regulatory	\$ 270,000	\$ 240,620	\$ 270,000	\$ 1,500,000	\$ 300,000	\$ 300,000
Spring Creek Force Main A/V Valve Replacements	Sys Imp	\$ 135,000	\$ 15,000	\$ 40,000	\$ 80,000	\$ 40,000	\$ 80,000
Spring Creek Force Main Condition Assessment	AM-Med		\$ -	\$ -	\$ 350,000	\$ -	\$ 350,000
WLI - Trexlertown Area Capacity Solution Alternative	Regulatory	\$ 200,000	\$ 71,969	\$ 200,000	\$ 5,800,000	\$ 100,000	\$ 5,000,000
Subtotal			\$ 1,067,795	\$ 1,309,300	\$ 8,330,000	\$ 840,000	\$ 6,230,000
Satellite Systems							
Arcadia West WWTP Mechanical Screen	Efficiency	\$ 350,000	\$ -	\$ -	\$ 350,000	\$ 50,000	\$ 300,000
Heidelberg Heights I/I Investigation and Remediation Program	Regulatory	\$ 1,444,529	\$ 294,529	\$ 300,000	\$ 850,000	\$ 300,000	\$ 550,000
Heidelberg Heights WWTP Rehabilitation	AM - Med	\$ 526,206	\$ 21,206	\$ 40,000	\$ 465,000	\$ 200,000	\$ 425,000
Lynn Township I/I Investigation and Remediation Program	Regulatory	\$ 275,000	\$ -	\$ 50,000	\$ 225,000	\$ 25,000	\$ 225,000
Lynn Township WWTP Improvements & Expansion	Sys Imp	\$ 305,000	\$ -	\$ 50,000	\$ 255,000	\$ 25,000	\$ 280,000
Miscellaneous Other		\$ -	\$ 25,093	\$ -	\$ -	\$ -	\$ -
Sand Spring WWTP Remediation & Replacement	AM - High	\$ 4,100,000	\$ 559,452	\$ 500,000	\$ -	\$ -	\$ -
Small System I/I Removal - Test & Seal		\$ -	\$ 183,845	\$ -	\$ -	\$ -	\$ -
SSES (Weisenberg, UMiT, Lowhill)	Regulatory	\$ 375,000	\$ 75,000	\$ 75,000	\$ 225,000	\$ 25,000	\$ 200,000
Wastewater TP Improvements (OMI Capital)		\$ -	\$ 138,283	\$ -	\$ -	\$ -	\$ -
Wynnewood I/I Investigation and Remediation Program	Regulatory	\$ 130,000	\$ 10,000	\$ 25,000	\$ 95,000	\$ 25,000	\$ 95,000
Subtotal			\$ 1,307,409	\$ 1,040,000	\$ 2,465,000	\$ 650,000	\$ 2,075,000
Little Lehigh Relief Interceptor System:							
Park Pump Station Force Main Rehabilitation	AM - High	\$ 1,336,255	\$ 36,255	\$ 100,000	\$ 1,200,000	\$ 50,000	\$ -
Regional Park Pump Station	Sys Imp	\$ 170,000	\$ -	\$ 50,000	\$ -	\$ -	\$ -
Park Pump Station Rehabilitation/Improvements	AM - High	\$ 1,472,861	\$ 122,861	\$ 100,000	\$ 1,250,000	\$ 400,000	\$ 850,000
Subtotal			\$ 159,115	\$ 250,000	\$ 2,450,000	\$ 450,000	\$ 850,000
Total Suburban Wastewater Division Capital Expenditures:			\$ 3,738,195	\$ 3,921,800	\$ 19,385,000	\$ 2,870,000	\$ 14,855,000

LEHIGH COUNTY AUTHORITY
CAPITAL EXPENDITURES - CITY - WATER DIVISION FUND
2022 Budget (as of 10-05-21)

Project	Primary Project Category	Estimated Project Cost	Estimated Costs Through 2021	2021 Budget (approved)	Cap Plan Costs 2022 - 2026	2022 Budget (draft)	Estimated Costs 2023-2027
Annual Projects							
Annual Projects	AM - Varies	\$ 10,822,500	\$ 1,304,473	\$ 1,340,000	\$ 8,178,027	\$ 1,135,000	\$ 7,175,000
Subtotal		\$ 10,822,500	\$ 1,304,473	\$ 1,340,000	\$ 8,178,027	\$ 1,135,000	\$ 7,175,000
Non-CCRC Projects							
Indenture Improvements	AM - High	\$ 11,400,000	\$ 250,300	\$ 250,000	\$ 900,000	\$ 300,000	\$ 700,000
Tank and Reservoir Rehabilitation	AM - High		\$ -	\$ -	\$ 1,500,000	\$ 300,000	\$ 1,500,000
Large Diameter Valve Replacement Project	AM - High		\$ -	\$ -	\$ 1,500,000	\$ 100,000	\$ 1,400,000
Various Water System Related Studies	CA/OS	\$ 150,000	\$ -	\$ -	\$ 150,000	\$ 250,000	\$ 250,000
Subtotal		\$ 11,550,000	\$ 250,300	\$ 250,000	\$ 4,050,000	\$ 950,000	\$ 3,850,000
CCRC Projects							
Annual Water Main Replacements	CA/OS	\$ 11,400,000	\$ 2,106,400	\$ 1,900,000	\$ 10,000,000	\$ 2,400,000	\$ 13,000,000
Water Meter Replacement Program	AM - High		\$ 340,200	\$ -	\$ 2,270,000	\$ -	\$ 2,270,000
Fixed Base Meter Reading System	Efficiency				\$ 1,700,000	\$ -	\$ 1,700,000
Filter Upgrades	Master Plan		\$ -	\$ -	\$ 6,100,000	\$ 200,000	\$ 6,000,000
Intake Upgrades	Master Plan				\$ 1,900,000	\$ -	\$ 1,900,000
High Lift VFD Replacements	Master Plan		\$ 429,800	\$ 800,000	\$ 1,100,000	\$ 1,100,000	\$ -
Subtotal		\$ 11,400,000	\$ 2,876,400	\$ 2,700,000	\$ 23,070,000	\$ 3,700,000	\$ 24,870,000
City Funded Projects							
Ittron/AMR Meter Project ⁽¹⁾	CA/OS	\$ 85,000	\$ 10,400	\$ 85,000	\$ (10,400)	\$ -	\$ -
Subtotal		\$ 85,000	\$ 10,400	\$ 85,000	\$ (10,400)	\$ -	\$ -
Total Allentown Division Water Capital Expenditures:			\$ 4,441,573	\$ 4,375,000	\$ 35,287,627	\$ 5,785,000	\$ 35,895,000

(1) "Uncompleted Work" City Projects that were supposed to be complete by the time of settlement or executed by City personnel after settlement.
The City will fund these projects but has requested that LCA execute them.

LEHIGH COUNTY AUTHORITY
CAPITAL EXPENDITURES - CITY - WASTEWATER DIVISION FUND
2022 Budget (as of 10-05-21)

Project	Primary Project Category	Estimated Project Cost	Estimated Costs Through 2021	2021 Budget (approved)	Cap Plan Costs 2022 - 2026	2022 Budget (draft)	Estimated Costs 2023-2027
Annual Projects							
Annual Projects *	AM - High	\$ 9,460,000	\$ 1,338,600	\$ 1,460,000	\$ 6,661,400	\$ 1,460,000	\$ 8,800,000
Subtotal			\$ 1,338,600	\$ 1,460,000	\$ 6,661,400	\$ 1,460,000	\$ 8,800,000
Non-CCRC Projects							
Indenture Report Improvements	AM - Varies	\$ 1,400,000	\$ 500,900	\$ 500,000	\$ 1,700,000	\$ 300,000	\$ 1,400,000
Various Wastewater System Related Studies	CA/OS	\$ 150,000	\$ 26,200	\$ -	\$ 150,000	\$ -	\$ 150,000
WWTP Final Clarifier 1 - 4 Rehabilitation	AM-High				\$ 950,000	\$ -	
Subtotal		\$ 1,550,000	\$ 527,100	\$ 500,000	\$ 2,800,000	\$ 300,000	\$ 1,550,000
CCRC Projects							
WWTP Elec Substation Replacement - Phase 2	AM-High		\$ -	\$ -	\$ 3,250,000	\$ -	\$ 3,325,000
WWTP Main Pump Station Improvements	Master Plan		\$ -	\$ -	\$ 2,600,000	\$ 150,000	\$ 3,450,000
Boiler Replacement & Solids Process HVAC Upgrade Project	Master Plan	\$ 1,400,000	\$ 156,900	\$ 200,000	\$ 2,200,000	\$ 800,000	\$ 1,200,000
WWTP 480v MCC Replacement & IPS Pump Station Upgrade	Master Plan		\$ -	\$ -	\$ 3,250,000	\$ 100,000	\$ 3,250,000
Subtotal		\$ 1,400,000	\$ 156,900	\$ 200,000	\$ 11,300,000	\$ 1,050,000	\$ 11,225,000
Regional Act 537 Projects							
Regional Flow Management Strategy ⁽¹⁾	Regulatory	\$ 3,145,000	\$ 625,800	\$ 775,000	\$ 1,640,000	\$ 1,500,000	\$ 500,000
Flow Characterization Study ⁽²⁾	Regulatory	\$ 2,100,000	\$ 1,243,400	\$ 1,250,000	\$ 850,000	\$ 920,000	\$ 350,000
Miscellaneous Act 537 Planning ⁽³⁾	Regulatory	\$ 500,000	\$ 7,300	\$ -	\$ 850,000	\$ 250,000	\$ 250,000
Subtotal		\$ 5,745,000	\$ 1,876,500	\$ 2,025,000	\$ 3,340,000	\$ 2,670,000	\$ 1,100,000
Total Allentown Division Wastewater Capital Expenditures:			\$ 3,899,100	\$ 4,185,000	\$ 24,101,400	\$ 5,480,000	\$ 22,675,000

* Includes Sodium Hypo project in 2021

(1) "Administrative Order" Project as per the Agreement to be Funded by the City and executed by LCA.

(2) "Administrative Order" Project as per the Agreement to be Funded by the City (\$800,000) and WLI signatory municipalities (\$120,000) and executed by LCA.

(3) "Administrative Order" Project to be Funded by LCA.

LEHIGH COUNTY AUTHORITY
CAPITAL EXPENDITURES - ADMINISTRATION
2022 Budget (as of 10-05-21)

Project	Primary Project Category	Estimated Project Cost	Estimated Costs Through 2021	2021 Budget (approved)	Cap Plan Costs 2022 - 2026	2022 Budget (draft)	Estimated Costs 2023-2027
<u>LCA Funded Projects</u>							
CMMS Upgrades	Efficiency	\$ 342,667	\$ 110,000	\$ 57,667	\$ 175,000	\$ 25,000	
Computer System Hardware & Software Upgrades	AM - High	\$ 387,167	\$ 79,500	\$ 57,667	\$ 250,000	\$ 50,000	
Disaster Recovery/Security Upgrades	Efficiency	\$ 249,417	\$ 110,000	\$ 14,417	\$ 125,000	\$ 25,000	
Document Management	Efficiency	\$ 225,333	\$ 35,000	\$ 115,333	\$ 75,000	\$ 75,000	
GIS Upgrades & Application Development	Efficiency	\$ 340,424	\$ 11,590	\$ 28,833	\$ 300,000	\$ 75,000	
Information Technology Master Plan Update	Planning	\$ 604,975	\$ 182,892	\$ 72,083	\$ 350,000	\$ 100,000	
SCADA Programming, Hardware Upgrades, Software & Training	AM - Varies	\$ 2,983,409	\$ 96,909	\$ 86,500	\$ 2,800,000	\$ 750,000	
Sub-total Administration Capital Funded by LCA			\$ 625,892	\$ 432,500	\$ 4,075,000	\$ 1,100,000	\$ -
Total Administration Capital Expenditures (Funded):			\$ 625,892	\$ 432,500	\$ 4,075,000	\$ 1,100,000	

LEHIGH COUNTY AUTHORITY
CAPITAL EXPENDITURES - SUBURBAN - WATER FUND
2022 Budget (as of 10-05-21)

	Int Serv 100	Undesignated 200	Suburban - Water Systems										Buss Acres 210	YTD			
			Western Lehigh Service Area			S. Lehigh	Northern Lehigh Service Area					Northampton		Budget	Forecast	Budget	Actual
			Central Lehigh 201	Arcadia West 211	Emmaus 209	Beverly Hills 207	North Whitehall 202	Washington 203	Mill Creek 204	Heidelberg 205	PL of Lynn 206	Madison North 221	CFE 208	2022	2021	2021	2020
CAPITAL WATER RESERVE FUNDS																	
Annual Projects																	
Capital Management	-	7,500	-	-	-	-	-	-	-	-	-	-	-	7,500	33,937	50,000	21,471
Capital Works Misc Expense	-	5,000	-	-	-	-	-	-	-	-	-	-	-	5,000	4,216	7,500	717
Distribution Mains - Development	-	-	200,000	-	-	-	-	-	-	-	-	-	-	200,000	347,141	200,000	331,826
Distribution Mains - Upsizing	-	150,000	-	-	-	-	-	-	-	-	-	-	-	150,000	189,798	180,000	72,960
Distribution System Improvements (3rd Party)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,000	-
General Water System Replacements	-	-	100,000	-	-	-	-	-	-	-	-	-	-	100,000	192,377	250,000	162,385
Main Office Improvements	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49,500	180,000	6,630
New & Replacement Meter Installations	-	-	75,000	-	-	-	-	-	-	-	-	-	-	75,000	52,653	50,000	77,377
Other Equipment	-	50,000	-	-	-	-	-	-	-	-	-	-	-	50,000	207,659	200,000	186,945
Reservoir Rehab/Maintenance	-	75,000	-	-	-	-	-	-	-	-	-	-	-	75,000	272,315	320,000	182,532
Water Company Acquisitions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,000	-
Water Condition Facility Assessments/Upgrades	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45,734	300,000	96,601
	-	287,500	375,000	-	-	-	-	-	-	-	-	-	-	662,500	1,395,330	1,747,500	1,139,446
Multi-Year Projects																	
Additional (Redundant) Water Supply - Small Satellite Divisions	-	50,000	-	-	-	-	-	-	-	-	-	-	-	50,000	121,287	100,000	121,501
Arcadia Water Tank Replacement	-	-	-	400,000	-	-	-	-	-	-	-	-	-	400,000	342,156	500,000	70,550
AWIA ACT - 2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,846	-	2,832
Backflow & Meter Review	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14,472	-	10,159
Central Lehigh to Upper Milford Division Interconnection - Kohler	-	-	-	-	-	-	-	-	-	-	-	-	-	-	182,135	200,000	-
CLD Auxiliary Pump Station & Main Extension	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86,079
CLD Distribution System Improvements	-	-	-	-	-	-	-	-	-	-	-	-	-	-	61,433	50,000	12,307
CLD Well Improvements - Study Phase	-	-	100,000	-	-	-	-	-	-	-	-	-	-	100,000	71,139	60,000	20,834
Fixed Base Metering Reading System	-	100,000	-	-	-	-	-	-	-	-	-	-	-	100,000	76,494	100,000	15,657
Main Extensions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	874	-	1,570,573
North Whitehall Division System Improvements - Study Phase	-	-	-	-	-	-	25,000	-	-	-	-	-	-	25,000	46,385	50,000	3,209
Residential Svc Conn & Water Svc Inquiry	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9,635	-	13,050
Upper Milford Central Div. Improvements - Buss Ac	-	-	-	-	-	-	-	-	-	-	-	-	-	-	666,960	850,000	1,342,786
Upper Sys Evalua / Lower Sys Model	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	145
Upper System Pump Station and Water Main Extension (new)	-	200,000	-	-	-	-	-	-	-	-	-	-	-	200,000	-	-	-
Water Main Replacement Projects	-	2,400,000	-	-	-	-	-	-	-	-	-	-	-	2,400,000	601	-	14,307
Water Meter Replacement Projects	-	450,000	-	-	-	-	-	-	-	-	-	-	-	450,000	-	-	-
Water Meter Reading Equipment Upgrade	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7,580	100,000	420,434
Watershed Monitoring	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,815	-	1,595
	-	3,200,000	100,000	400,000	-	-	25,000	-	-	-	-	-	-	3,725,000	1,606,811	2,010,000	3,706,018
Administrative Projects																	
Accounting Area Renovation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	500	-	1,437
CMMS Upgrades	-	25,000	-	-	-	-	-	-	-	-	-	-	-	25,000	110,000	57,667	21,157
Computer System Hardware & Software Upgrades	-	50,000	-	-	-	-	-	-	-	-	-	-	-	50,000	79,000	57,667	15,045
Disaster Recovery/Security Upgrades	-	25,000	-	-	-	-	-	-	-	-	-	-	-	25,000	110,000	14,417	6,580
Document Management	-	75,000	-	-	-	-	-	-	-	-	-	-	-	75,000	35,000	115,333	9,593
GIS Upgrades & Application Development	-	75,000	-	-	-	-	-	-	-	-	-	-	-	75,000	11,590	28,833	48,310
Information Technology Master Plan Update	-	100,000	-	-	-	-	-	-	-	-	-	-	-	100,000	182,892	72,083	61,611
SCADA Programming, Hardware Upgrades, Software & Training	-	750,000	-	-	-	-	-	-	-	-	-	-	-	750,000	96,909	86,500	54,509
	-	1,100,000	-	-	-	-	-	-	-	-	-	-	-	1,100,000	625,892	432,500	218,243
Total Capital Water Reserve Fund	-	4,587,500	475,000	400,000	-	-	25,000	-	-	-	-	-	-	5,487,500	3,628,033	4,190,000	5,063,707

LEHIGH COUNTY AUTHORITY
CAPITAL EXPENDITURES - SUBURBAN - WASTEWATER FUND
2022 Budget (as of 10-05-21)

	Suburban - Wastewater Systems														YTD			
	Interceptor Group			CRCS										W.Weisenberg	Budget 2022	Forecast 2021	Budget 2021	Actual 2020
	Int Serv 100	WLI 312	LLRI 1 313	LLRI 2 314	Heidelberg 305	Upper Milford 315	Wynnewood 316	Weisenberg 317	Sand Spring 319	Lowhill Twp. 323	NLSA 318	Washington 303	Lynn Twp. 322	WWTP 320	Arcadia West 311			
CAPITAL WASTEWATER RESERVE FUNDS																		
Annual Projects																		
General Sewer System Improvements*	-	-	-	-	-	-	-	-	-	-	150,000	-	-	-	-	150,000	75,000	200,000
LLRI Coll Sys Development & Svc Connections	-	-	5,000	-	-	-	-	-	-	-	-	-	-	-	-	5,000	-	5,000
Mobile Equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	248,750	180,000
Other Equipment	-	50,000	-	-	-	-	-	-	-	-	-	-	-	-	-	50,000	230,242	200,000
Sewer Company Acquisitions	-	-	-	-	-	-	-	-	-	-	10,000	-	-	-	-	10,000	3,205	5,000
Upper Milford Coll Sys Development & Svc Connections	-	-	-	-	-	5,000	-	-	-	-	-	-	-	-	-	5,000	-	10,000
WLI Capital Management	-	5,000	-	-	-	-	-	-	-	-	-	-	-	-	-	5,000	4,670	7,500
WLI Coll Sys Development & Svc Connections	-	5,000	-	-	-	-	-	-	-	-	-	-	-	-	-	5,000	-	5,000
WLI High Flow Emergency Response	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,008	-
WW Facility Condition Assessments/Upgrades	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,000	10,000
	-	60,000	5,000	-	-	5,000	-	-	-	-	160,000	-	-	-	-	230,000	563,876	622,500
Operating Funded Projects																		
Arcadia West WWTP Mechanical Screen	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50,000	50,000	-	-
Chestnut St Bridge Replacement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,631	9,422
CLV WW Capacity Plan/Expansion	-	400,000	-	-	-	-	-	-	-	-	-	-	-	-	-	400,000	740,206	799,300
Common Rate Coll Sys Upgrade & Imp	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12,044
Heidelberg Heights I/I Investigation and Remediation Program	-	-	-	-	300,000	-	-	-	-	-	-	-	-	-	-	300,000	294,529	300,000
Heidelberg Heights WWTP Rehabilitation	-	-	-	-	200,000	-	-	-	-	-	-	-	-	-	-	200,000	21,206	40,000
Lynn Township I/I Investigation and Remediation Program	-	-	-	-	-	-	-	-	-	-	-	-	25,000	-	-	25,000	-	50,000
Lynn Township WWTP Improvements & Expansion	-	-	-	-	-	-	-	-	-	-	-	-	25,000	-	-	25,000	-	50,000
Park Pump Station Cond. Assesm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,206	762
Park Pump Station Force Main Rehabilitation	-	-	50,000	-	-	-	-	-	-	-	-	-	-	-	-	50,000	36,255	100,000
Park Pump Station Rehabilitation/Improvements	-	-	400,000	-	-	-	-	-	-	-	-	-	-	-	-	400,000	122,861	100,000
Park Pump Station Scada Gen Fuel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,904	2,079
Plan Review & Inspection, Development & Svc Connections	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,767	14,610
Pretreatment Plant Improvements	-	-	-	-	-	-	-	-	-	-	-	-	-	700,000	-	700,000	640,000	700,000
Regional Park Pump Station	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50,000
Sand Spring WWTP Remediation & Replacement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	559,452	500,000
Signatory I/I Investigation & Remediation Program	-	300,000	-	-	-	-	-	-	-	-	-	-	-	-	-	300,000	240,620	270,000
Small System I/I Removal - Test & Seal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	183,845	-
Spring Creek Force Main A/V Valve Replacements	-	40,000	-	-	-	-	-	-	-	-	-	-	-	-	-	40,000	15,000	40,000
Spring Creek PS Upgrade	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12,014
SSES (Weisenberg, UMIT, Lowhill)	-	-	-	-	-	-	-	25,000	-	-	-	-	-	-	-	25,000	75,000	75,000
Strawberry Acres Sewer	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wastewater TP Improvements (OMI Capital)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	138,283	1,155,877
WLI-Trexliertown Area Storage Facility	-	100,000	-	-	-	-	-	-	-	-	-	-	-	-	-	100,000	71,969	200,000
WTP Upgrade Study	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35,427
WWTP Propane Tank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14,584	131
Wynnewood I/I Investigation and Remediation Program	-	-	-	-	-	-	25,000	-	-	-	-	-	-	-	-	25,000	10,000	25,000
	-	840,000	450,000	-	500,000	-	25,000	25,000	-	-	-	-	50,000	700,000	50,000	2,640,000	3,174,319	3,299,300
Total Capital Expenses	-	900,000	455,000	-	500,000	5,000	25,000	25,000	-	-	160,000	-	50,000	700,000	50,000	2,870,000	3,738,195	3,921,800
																	8,336,452	

LEHIGH COUNTY AUTHORITY
CAPITAL EXPENDITURES - CITY - DIVISION FUND
2022 Budget (as of 10-05-21)

	City Division - Systems							Total			
	Undesignated 400	Int Serv 490	WFP 491	DIST 492	WWTP 493	WWCOLL 494	LAB 495	Budget 2022	Forecast 2021	Budget 2021	Actual 2020
CAPITAL WATER EXPENSES:											
Annual Projects											
Capital Management	-	-	-	10,000	-	-	-	10,000	3,900	10,000	6,073
Distribution Mains - Development	-	-	-	-	-	-	-	-	15,300	-	29,420
Lehigh-Union St Roadwork	-	-	-	-	-	-	-	-	-	-	342
Miscellaneous	10,000	-	-	-	-	-	-	10,000	-	-	-
Mobile Equipment	50,000	-	-	-	-	-	-	50,000	110,400	-	-
New & Replacements Meter Installations	-	-	-	75,000	-	-	-	75,000	14,300	50,000	51,173
Other Equipment	-	-	-	200,000	-	-	-	200,000	199,100	200,000	91,208
PennDOT relocations	-	-	-	-	-	-	-	-	100	80,000	-
Reservoir Rehab/Maintenance	315,000	-	-	-	-	-	-	315,000	13,500	-	-
SR 145 Bridge Project	-	-	-	-	-	-	-	-	-	-	151
WFP General Improvements	-	-	250,000	-	-	-	-	250,000	457,800	500,000	36,210
WFP General System Replacements	-	-	-	225,000	-	-	-	225,000	490,073	500,000	579
	375,000	-	250,000	510,000	-	-	-	1,135,000	1,304,473	1,340,000	215,156
Non-CCRC Projects											
Cedar Creek Bridge Replacement	-	-	-	-	-	-	-	-	-	-	7,918
Devonshire Main Break	-	-	-	-	-	-	-	-	61,100	-	165,065
Distribution System Improvements	-	-	-	-	-	-	-	-	274,200	-	721,114
EPA AWIA Act 2020	-	-	-	-	-	-	-	-	-	-	28,310
Huck Ridge Main Break	-	-	-	-	-	-	-	-	4,300	-	212,929
Indenture Report Upgrades	-	-	300,000	-	-	-	-	300,000	250,300	250,000	508
Large Diameter Valve Replacement Project	-	-	-	100,000	-	-	-	100,000	-	-	-
Low Lift Painting	-	-	-	-	-	-	-	-	600	-	158,044
Misc Facility Permit	-	-	-	-	-	-	-	-	-	-	327
N 17th Main Replacement	-	-	-	-	-	-	-	-	-	-	115,292
Tank and Reservoir Rehabilitation	-	-	-	300,000	-	-	-	300,000	-	-	-
Various Water System Related Studies	-	-	-	250,000	-	-	-	250,000	-	-	-
	-	-	300,000	650,000	-	-	-	950,000	590,500	250,000	1,409,506
CCRC Projects											
Annual Water Main Replacements	-	-	-	2,400,000	-	-	-	2,400,000	2,106,400	1,900,000	11,150
Filter Evaluations	-	-	-	200,000	-	-	-	200,000	-	-	21,860
High Service Pump VFD Replacement Project	-	-	1,100,000	-	-	-	-	1,100,000	429,800	800,000	77,108
	-	-	1,100,000	2,600,000	-	-	-	3,700,000	2,536,200	2,700,000	110,118
City Funded Projects											
Itron/AMR Meter Project (1)	-	-	-	-	-	-	-	-	10,400	85,000	272
	-	-	-	-	-	-	-	-	10,400	85,000	272
Administrative Projects											
CMMS Upgrades	-	-	-	-	-	-	-	-	-	42,333	-
Computer System Hardware & Software Upgrades	-	-	-	-	-	-	-	-	-	42,333	-
Disaster Recovery/Security Upgrades	-	-	-	-	-	-	-	-	-	10,583	-
Document Management	-	-	-	-	-	-	-	-	-	84,667	-
GIS Upgrades & Application Development	-	-	-	-	-	-	-	-	-	21,167	-
Information Technology Master Plan Update	-	-	-	-	-	-	-	-	-	52,917	-
SCADA Programming, Hardware Upgrades, Software & Training	-	-	-	-	-	-	-	-	-	63,500	155,440
	-	-	-	-	-	-	-	-	-	317,500	155,440
Total Capital Water Reserve Fund	375,000	-	1,650,000	3,760,000	-	-	-	5,785,000	4,441,573	4,692,500	1,890,493

LEHIGH COUNTY AUTHORITY
CAPITAL EXPENDITURES - CITY - DIVISION FUND
2022 Budget (as of 10-05-21)

	City Division - Systems							Total			
	Undesignated 400	Int Serv 490	WFP 491	DIST 492	WWTP 493	WWCOLL 494	LAB 495	Budget 2022	Forecast 2021	Budget 2021	Actual 2020
CAPITAL WASTEWATER EXPENSES:											
Annual Projects											
2020 SBM Data Capture	-	-	-	-	-	-	-	-	4,300	-	25,344
Capital Management	-	-	-	-	-	10,000	-	10,000	7,200	10,000	4,379
Collection System - Development	-	-	-	-	-	-	-	-	12,800	-	18,547
Mobile Equipment	200,000	-	-	-	-	-	-	200,000	-	-	-
Other Equipment	-	-	-	-	-	350,000	-	350,000	308,100	350,000	232,088
PennDOT relocations	-	-	-	-	-	-	-	-	100	200,000	-
Sanitary Sewer Main Replacements & Rehab	-	-	-	-	-	100,000	-	100,000	98,200	100,000	113,188
SR 145 Bridge Project	-	-	-	-	-	-	-	-	800	-	5,268
Various Wastewater System Related Studies	-	-	-	-	-	-	-	-	-	-	6,206
WWTP General Improvements	-	-	-	-	800,000	-	-	800,000	608,600	800,000	239,094
WWTP Sodium Hypo	-	-	-	-	-	-	-	-	298,500	-	657,156
	200,000	-	-	-	800,000	460,000	-	1,460,000	1,338,600	1,460,000	1,301,269
Non-CCRC Projects											
Indenture Report Upgrades	-	-	-	-	300,000	-	-	300,000	500,900	500,000	-
KIWWTP Digester Study	-	-	-	-	-	-	-	-	1,300	-	10,473
KIWWTP Master Plan	-	-	-	-	-	-	-	-	-	-	96
KIWWTP Max Month Study	-	-	-	-	-	-	-	-	6,700	-	7,279
KIWWTP Peak Flow Study	-	-	-	-	-	-	-	-	-	-	49,185
KIWWTP Model Expansion	-	-	-	-	-	-	-	-	18,200	-	-
	-	-	-	-	300,000	-	-	300,000	527,100	500,000	67,033
CCRC Projects											
WWTP Elec Substation Replacement - Phase 2	-	-	-	-	-	-	-	-	-	-	128
WWTP Main Pump Station Improvements	-	-	-	-	150,000	-	-	150,000	-	-	-
Boiler Replacement & Solids Process HVAC Upgrade Project	-	-	-	-	800,000	-	-	800,000	156,900	200,000	57,758
WWTP 480v MCC Replacement & IPS Pump Station Upgrade	-	-	-	-	100,000	-	-	100,000	-	-	-
	-	-	-	-	1,050,000	-	-	1,050,000	156,900	200,000	57,886
City Funded Projects											
Regional Flow Management Strategy (1)	-	-	-	-	1,500,000	-	-	1,500,000	625,800	775,000	664,495
Flow Characterization Study (2)	-	-	-	-	920,000	-	-	920,000	1,243,400	1,250,000	72,631
Miscellaneous Act 537 Planning (3)	-	-	-	-	250,000	-	-	250,000	7,300	-	104,988
	-	-	-	-	2,670,000	-	-	2,670,000	1,876,500	2,025,000	842,115
Total Capital WasteWater Expenses	200,000	-	-	-	4,820,000	460,000	-	5,480,000	3,899,100	4,185,000	2,268,304
TOTAL CAPITAL EXPENSES:	575,000	-	1,650,000	3,760,000	4,820,000	460,000	-	11,265,000	8,340,673	8,877,500	4,158,796

(1) "Uncompleted Work" City Projects that were supposed to be complete by the time of settlement or executed by City personnel after settlement.
The City will fund these projects but has requested that LCA execute them.

(2) "Administrative Order" Projects as per the Agreement are to be Funded by the City and executed by LCA.

Supplemental Information

**LEHIGH COUNTY AUTHORITY
SUMMARY OF LONG TERM DEBT
2022 Budget (as of 10-05-21)**

	Long Term Debt for 2021									Long Term Debt for 2022								
	December 31, 2020						December 31, 2021			December 31, 2021						December 31, 2022		
	Short Term Portion	Long Term Portion	Total Debt	Additions Accretions	Retirements		Short Term Portion	Long Term Portion	Total Debt	Short Term Portion	Long Term Portion	Total Debt	Additions Accretions	Retirements		Short Term Portion	Long Term Portion	Total Debt
Suburban Water Fund																		
Bonds																		
Water Revenue Bonds Series of 2010 A	-	11,590,000	11,590,000	-	(11,590,000)		-	-	-	-	-	-	-	-		-	-	-
Water Revenue Bonds Series of 2011	125,448	65,779	191,227	-	(125,448)		65,779	-	65,779	-	-	-	-	(65,779)		-	-	-
Water Revenue Bonds Series of 2015	1,088,705	-	1,088,705	-	(1,088,705)		-	-	-	-	-	-	-	-		-	-	-
Water Revenue Bonds Series of 2015 A	304,500	7,412,800	7,717,300	-	(7,717,300)		-	-	-	-	-	-	-	-		-	-	-
Water Revenue Bonds Series of 2017	330,000	14,250,000	14,580,000	-	(330,000)		340,000	13,910,000	14,250,000	-	(340,000)	-	-	(340,000)		350,000	13,560,000	13,910,000
Water Revenue Bonds Series of 2021	-	-	-	17,740,000	(295,000)		1,445,000	16,000,000	17,445,000	-	(1,445,000)	-	-	(1,445,000)		1,585,000	14,415,000	16,000,000
Subtotal	1,848,653	33,318,579	35,167,232	17,740,000	(21,146,453)		1,850,779	29,910,000	31,760,779	1,850,779	29,910,000	31,760,779	-	(1,850,779)		1,935,000	27,975,000	29,910,000
Bond Premium / Discount	-	346,272	346,272	3,326,942	(332,694)		-	3,340,520	3,340,520	-	3,340,520	3,340,520	-	(332,694)		-	3,007,826	3,007,826
Total Suburban Water Fund Bonds	1,848,653	33,664,851	35,513,504	21,066,942	(21,479,147)		1,850,779	33,250,520	35,101,299	1,850,779	33,250,520	35,101,299	-	(2,183,473)		1,935,000	30,982,826	32,917,826
Notes From Direct Borrowings																		
2007 State Pennworks Note	179,737	1,123,172	1,302,909	-	(1,302,909)		-	-	-	-	-	-	-	-		-	-	-
2011 Pennsylvania Infrastructure Investment Authority Note	73,295	861,904	935,199	-	(73,295)		74,410	787,494	861,904	74,410	787,494	861,904	-	(74,410)		75,541	711,953	787,494
Total Suburban Water Fund Direct Borrowings	253,032	1,985,076	2,238,108	-	(1,376,204)		74,410	787,494	861,904	74,410	787,494	861,904	-	(74,410)		75,541	711,953	787,494
Net Suburban Water Fund Long-Term Debt	2,101,685	35,649,927	37,751,612	21,066,942	(22,855,351)		1,925,189	34,038,014	35,963,203	1,925,189	34,038,014	35,963,203	-	(2,257,883)		2,010,541	31,694,779	33,705,320
Suburban Wastewater Fund																		
Bonds																		
2011 Sewer Revenue Bonds Series A	114,595	1,252,497	1,367,092	-	(114,595)		118,358	1,134,139	1,252,497	118,358	1,134,139	1,252,497	-	(118,358)		122,605	1,011,534	1,134,139
Subtotal	114,595	1,252,497	1,367,092	-	(114,595)		118,358	1,134,139	1,252,497	118,358	1,134,139	1,252,497	-	(118,358)		122,605	1,011,534	1,134,139
Bond Premium / Discount	-	-	-	-	-		-	-	-	-	-	-	-	-		-	-	-
Total Suburban WasteWater Fund Bonds	114,595	1,252,497	1,367,092	-	(114,595)		118,358	1,134,139	1,252,497	118,358	1,134,139	1,252,497	-	(118,358)		122,605	1,011,534	1,134,139
Notes From Direct Borrowings																		
2009 Pennsylvania Infrastructure Investment Authority Note	259,995	2,690,721	2,950,716	-	(259,995)		266,694	2,424,027	2,690,721	266,694	2,424,027	2,690,721	-	(266,694)		273,567	2,150,460	2,424,027
2013 Pennsylvania Infrastructure Investment Authority Note	138,009	1,884,953	2,022,962	-	(138,009)		140,107	1,744,846	1,884,953	140,107	1,744,846	1,884,953	-	(140,107)		142,237	1,602,609	1,744,846
2015 Pennsylvania Infrastructure Investment Authority Note	36,771	592,007	628,778	-	(36,771)		36,922	555,085	592,007	36,922	555,085	592,007	-	(36,922)		37,571	517,514	555,085
Total Suburban WasteWater Fund Direct Borrowings	434,775	5,167,681	5,602,456	-	(434,775)		443,723	4,723,958	5,167,681	443,723	4,723,958	5,167,681	-	(443,723)		453,375	4,270,583	4,723,958
Net Suburban Wastewater Fund Long-Term Debt	549,370	6,420,178	6,969,548	-	(549,370)		562,081	5,858,097	6,420,178	562,081	5,858,097	6,420,178	-	(562,081)		575,980	5,282,117	5,858,097
City Division Fund																		
Bonds																		
2013 Water and Sewer Revenue Bonds, Series A	-	107,615,000	107,615,000	-	-		-	107,615,000	107,615,000	-	107,615,000	107,615,000	-	-		-	107,615,000	107,615,000
2013 Water and Sewer Capital Appreciation Revenue Bonds, Series A	1,339,642	62,963,478	64,303,120	3,748,807	(1,395,000)		1,735,649	64,921,278	66,656,928	1,735,649	64,921,278	66,656,928	3,909,635	(1,895,000)		2,097,077	66,574,486	68,671,563
2013 Water and Sewer Capital Appreciation Revenue Bonds, Series B	-	-	-	-	-		-	-	-	-	-	-	-	-		-	-	-
2018 Water and Sewer Revenue Bonds (Federally Taxable) Series A	-	-	-	-	-		-	-	-	-	-	-	-	-		-	-	-
2020 Water and Sewer Revenue Bonds, Series 2020	-	161,035,000	161,035,000	-	-		-	161,035,000	161,035,000	-	161,035,000	161,035,000	-	-		-	161,035,000	161,035,000
Subtotal	1,339,642	331,613,478	332,953,120	3,748,807	(1,395,000)		1,735,649	333,571,278	335,306,928	1,735,649	333,571,278	335,306,928	3,909,635	(1,895,000)		2,097,077	335,224,486	337,321,563
Bond Premium / Discount	-	(4,466,580)	(4,466,580)	-	-		-	(4,466,580)	(4,466,580)	-	(4,466,580)	(4,466,580)	-	-		-	(4,466,580)	(4,466,580)
Total City Division Fund Fund Bonds	1,339,642	327,146,898	328,486,540	3,748,807	(1,395,000)		1,735,649	329,104,698	330,840,348	1,735,649	329,104,698	330,840,348	3,909,635	(1,895,000)		2,097,077	330,757,906	332,854,983
Notes From Direct Borrowings																		
2020 Water and Sewer Revenue Bonds (Federally Taxable) Series A	1,175,000	15,850,000	17,025,000	-	(1,175,000)		-	15,850,000	15,850,000	-	15,850,000	15,850,000	-	-		-	15,850,000	15,850,000
Total Suburban City Division Fund Direct Borrowings	1,175,000	15,850,000	17,025,000	-	(1,175,000)		-	15,850,000	15,850,000	-	15,850,000	15,850,000	-	-		-	15,850,000	15,850,000
Net City Division Fund Long-Term Debt	2,514,642	342,996,898	345,511,540	3,748,807	(2,570,000)		1,735,649	344,954,698	346,690,348	1,735,649	344,954,698	346,690,348	3,909,635	(1,895,000)		2,097,077	346,607,906	348,704,983
Total Net Long-Term Debt	5,165,697	385,067,003	390,232,700	24,815,749	(25,974,721)		4,222,919	384,850,809	389,073,728	4,222,919	384,850,809	389,073,728	3,909,635	(4,714,964)		4,683,598	383,584,802	388,268,399

LEHIGH COUNTY AUTHORITY
SCHEDULE OF PRINCIPAL MATURITY AND DEBT SERVICE
2022 Budget (as of 10-05-21)

	Suburban Water					Suburban Wastewater					City Division					Total LCA				
	Bonds		Direct Borrowings		Total Debt Service	Bonds		Direct Borrowings		Total Debt Service	Bonds		Direct Borrowings		Total Debt Service	Bonds		Direct Borrowings		Total Debt Service
	Principle Amount	Total Interest	Principle Amount	Total Interest		Principle Amount	Total Interest	Principle Amount	Total Interest		Principle Amount	Total Interest	Principle Amount	Total Interest		Principle Amount	Total Interest	Principle Amount	Total Interest	
2020 - Audit	1,833,012	1,393,601	248,379	42,686	3,517,678	114,905	79,068	427,161	116,819	737,953	156,813,554	10,693,003	1,125,000	108,194	168,739,751	158,761,471	12,165,672	1,800,540	267,699	172,995,382
2021 - Forecast	21,146,453	1,193,591	1,376,204	28,321	23,744,569	114,595	72,843	434,775	111,229	733,442	1,339,642	11,106,719	1,175,000	493,725	14,115,086	22,600,690	12,373,153	2,985,979	633,275	38,593,097
SubTotal Prior Obligations	22,979,465	2,587,192	1,624,583	71,007	27,262,247	229,500	151,911	861,936	228,048	1,471,395	158,153,197	21,799,722	2,300,000	601,919	182,854,838	181,362,162	24,538,824	4,786,519	900,974	211,588,480
2022 - Budget	1,850,779	1,187,800	74,410	12,501	3,125,490	118,358	66,456	443,723	102,955	731,492	1,735,649	11,210,712	1,210,000	459,650	14,616,011	3,704,786	12,464,968	1,728,133	575,106	18,472,993
SubTotal Current Obligations	1,850,779	1,187,800	74,410	12,501	3,125,490	118,358	66,456	443,723	102,955	731,492	1,735,649	11,210,712	1,210,000	459,650	14,616,011	3,704,786	12,464,968	1,728,133	575,106	18,472,993
2023	1,935,000	1,119,114	75,541	11,370	3,141,025	122,605	59,840	453,375	93,303	729,123	2,097,077	11,364,284	1,245,000	424,560	15,130,921	4,154,682	12,543,238	1,773,916	529,233	19,001,069
2024	2,005,000	1,045,214	76,689	10,221	3,137,124	127,003	52,987	463,248	83,431	726,669	2,421,819	11,574,542	1,280,000	388,455	15,664,816	4,553,822	12,672,743	1,819,937	482,107	19,528,609
2025	2,090,000	961,414	77,856	9,055	3,138,325	131,560	45,888	473,347	73,332	724,127	2,710,368	11,835,993	1,320,000	351,335	16,217,696	4,931,928	12,843,295	1,871,203	433,722	20,080,148
2026	1,890,000	874,014	79,039	7,871	2,850,924	136,280	38,534	483,677	63,002	721,493	2,963,026	12,153,335	1,130,000	539,750	16,786,111	4,989,306	13,065,883	1,692,716	610,623	20,358,528
2027	2,200,000	794,414	80,241	6,670	3,081,325	141,169	30,916	494,243	52,434	718,762	3,186,176	12,520,185	1,185,000	483,250	17,374,611	5,527,345	13,345,515	1,759,484	542,354	21,174,698
2028	2,275,000	702,214	81,461	5,449	3,064,124	146,234	23,025	505,053	41,624	715,936	3,376,670	12,939,691	1,245,000	424,000	17,985,361	5,797,904	13,664,930	1,831,514	471,073	21,765,421
2029	2,365,000	615,614	82,700	4,211	3,067,525	151,480	14,850	516,112	30,566	713,008	3,542,176	13,409,185	1,310,000	361,750	18,623,111	6,058,656	14,039,649	1,908,812	396,527	22,403,644
2030	2,450,000	525,564	83,957	2,953	3,062,474	156,915	6,383	527,425	19,253	709,976	3,686,902	13,914,459	1,375,000	296,250	19,272,611	6,293,817	14,446,406	1,986,382	318,456	23,045,061
2031	2,540,000	432,214	85,234	1,677	3,059,125	20,893	237	231,269	10,932	263,331	3,813,734	14,467,627	1,440,000	227,500	19,948,861	6,374,627	14,900,078	1,756,503	240,109	23,271,317
2032	495,000	335,414	64,776	408	895,598	-	-	206,875	7,674	214,549	3,914,681	15,066,680	1,515,000	155,500	20,651,861	4,409,681	15,402,094	1,786,651	163,582	21,762,008
2033	510,000	320,564	-	-	830,564	-	-	210,125	4,425	214,550	3,995,718	15,705,643	-	79,750	21,376,111	4,505,718	16,026,207	1,805,125	84,175	22,421,225
2034	525,000	304,626	-	-	829,626	-	-	101,197	1,616	102,813	4,342,883	16,753,478	-	-	21,096,361	4,867,883	17,058,104	101,197	1,616	22,028,800
2035	535,000	288,220	-	-	823,220	-	-	46,304	642	46,946	4,927,020	18,294,341	-	-	23,221,361	5,462,020	18,582,561	46,304	642	24,091,527
2036	560,000	271,501	-	-	831,501	-	-	11,708	34	11,742	5,169,220	19,507,141	-	-	24,676,361	5,729,220	19,778,642	11,708	34	25,519,604
2037	580,000	253,581	-	-	833,581	-	-	-	-	-	5,392,132	20,834,229	-	-	26,226,361	5,972,132	21,777,810	-	-	27,059,942
2038	595,000	234,731	-	-	829,731	-	-	-	-	-	5,381,383	21,543,136	-	-	26,924,519	5,976,383	21,777,867	-	-	27,754,250
2039	615,000	214,650	-	-	829,650	-	-	-	-	-	10,090,000	11,051,361	-	-	21,141,361	10,705,000	11,266,011	-	-	21,971,011
2040	635,000	193,894	-	-	828,894	-	-	-	-	-	11,130,000	10,546,861	-	-	21,676,861	11,765,000	10,740,755	-	-	22,505,755
2041	660,000	172,462	-	-	832,462	-	-	-	-	-	12,235,000	9,990,361	-	-	22,225,361	12,895,000	10,162,823	-	-	23,057,823
2042	680,000	150,187	-	-	830,187	-	-	-	-	-	13,425,000	9,378,611	-	-	22,803,611	14,105,000	9,528,798	-	-	23,633,798
2043	705,000	127,237	-	-	832,237	-	-	-	-	-	14,685,000	8,707,361	-	-	23,392,361	15,390,000	8,834,598	-	-	24,224,598
2044	730,000	103,444	-	-	833,444	-	-	-	-	-	10,665,000	7,973,111	-	-	18,638,111	11,395,000	8,076,555	-	-	19,471,555
2045	750,000	78,806	-	-	828,806	-	-	-	-	-	11,210,000	7,426,530	-	-	18,636,530	11,960,000	7,505,336	-	-	19,465,336
2046	780,000	53,494	-	-	833,494	-	-	-	-	-	11,785,000	6,852,017	-	-	18,637,017	12,565,000	6,905,511	-	-	19,470,511
2047	805,000	27,168	-	-	832,168	-	-	-	-	-	12,390,000	6,248,036	-	-	18,638,036	13,195,000	6,275,204	-	-	19,470,204
2048	-	-	-	-	-	-	-	-	-	-	11,100,000	5,613,049	-	-	16,713,049	11,100,000	5,613,049	-	-	16,713,049
2049	-	-	-	-	-	-	-	-	-	-	11,460,000	5,254,297	-	-	16,714,297	11,460,000	5,254,297	-	-	16,714,297
2050	-	-	-	-	-	-	-	-	-	-	11,830,000	4,883,910	-	-	16,713,910	11,830,000	4,883,910	-	-	16,713,910
2051	-	-	-	-	-	-	-	-	-	-	12,210,000	4,501,564	-	-	16,711,564	12,210,000	4,501,564	-	-	16,711,564
2052	-	-	-	-	-	-	-	-	-	-	12,635,000	4,076,412	-	-	16,711,412	12,635,000	4,076,412	-	-	16,711,412
2053	-	-	-	-	-	-	-	-	-	-	13,075,000	3,636,461	-	-	16,711,461	13,075,000	3,636,461	-	-	16,711,461
2054	-	-	-	-	-	-	-	-	-	-	13,530,000	3,181,190	-	-	16,711,190	13,530,000	3,181,190	-	-	16,711,190
2055	-	-	-	-	-	-	-	-	-	-	14,005,000	2,710,075	-	-	16,715,075	14,005,000	2,710,075	-	-	16,715,075
2056	-	-	-	-	-	-	-	-	-	-	14,490,000	2,222,421	-	-	16,712,421	14,490,000	2,222,421	-	-	16,712,421
2057	-	-	-	-	-	-	-	-	-	-	15,015,000	1,696,144	-	-	16,711,144	15,015,000	1,696,144	-	-	16,711,144
2058	-	-	-	-	-	-	-	-	-	-	15,560,000	1,150,799	-	-	16,710,799	15,560,000	1,150,799	-	-	16,710,799
2059	-	-	-	-	-	-	-	-	-	-	16,125,000	585,660	-	-	16,710,660	16,125,000	585,660	-	-	16,710,660
SubTotal Future Obligations	29,910,000	10,199,755	787,494	59,885	40,957,134	1,134,139	272,660	4,723,958	482,268	6,613,025	329,570,986	359,570,181	14,640,000	3,732,100	707,513,267	360,615,125	370,042,596	20,151,452	4,274,253	755,083,426
TOTAL PRINCIPAL MATURITY AND DEBT SERVICE	54,740,244	13,974,747	2,486,487	143,393	71,344,871	1,481,997	491,027	6,029,617	813,271	8,815,912	489,459,832	392,580,615	18,150,000	4,793,669	904,984,116	545,682,073	407,046,389	26,666,104	5,750,333	985,144,899

Lehigh County Authority
2022 Budget (as of 10-05-21)
Definitions and Explanations of Accounts

OPERATING REVENUES:

Large Industrial – This classification includes water revenue from utility billing customers classified as Large Industrial.

Other Industrial/Commercial – This classification includes water revenue from utility billing customers classified as Other Industrial and Commercial.

Residential – This classification includes water revenue from utility billing customers classified as Residential. The category includes apartments, mobile homes, single family attached and single family detached dwellings.

Penalties – Late fees assessed to past due accounts.

Private Fire Service – This classification includes charges for private fire protection for those industrial/commercial customers who have either a sprinkler system or private fire hydrants

Public Fire Service – This classification includes charges for public fire hydrants billed to municipalities in our service area.

User Charges – Municipal - The City is party to Municipal Sewer Service Agreements under which the Sewer Utility System provides sewer services to seven municipalities or municipal authorities: the Borough of Emmaus, Hanover Township, Salisbury Township, South Whitehall Township, Coplay-Whitehall Authority, Existing LCA System, and Lower Macungie Township. Pursuant to these agreements, LCA will act as the agent of the City and will perform all of the contractual obligations of the City under each Municipal Agreement, including the billing and collection of the revenues.

The Suburban division provides sewer service to Lower Macungie Township, Upper Macungie Township, Borough of Emmaus, Borough of Alburtis, and Borough of Macungie through the Western Lehigh Interceptor. Through the Little Lehigh Relief Interceptor, sewer service is provided to Lower Macungie, Upper Macungie, Salisbury and South Whitehall Townships and the Boroughs of Alburtis and Macungie.

User Charges - Residential & Commercial – This classification includes revenue from sewer service to residential and commercial customers in the Suburban and City Division.

User Charges – Hauler – This classification includes revenues from haulers based on strength and volume of waste brought to the wastewater treatment plants.

Hauler Fees – This classification includes revenue from annual permit fees.

Industrial Charges – This classification includes revenue from industrial strength surcharges to the Suburban Division Pretreatment Plant.

Industrial Pretreatment Revenues - This classification includes charges for the operation of the EPA approved Pretreatment Program, as described in 40 CFR 403.

Wastewater Analysis Reimbursement – This classification includes reimbursements for lab testing costs.

Leachate Program Revenues - This classification includes charges for the processing and treatment of hauled leachate to the Allentown WWTP.

Lehigh County Authority
2022 Budget (as of 10-05-21)
Definitions and Explanations of Accounts

Other Income – This classification includes reimbursement of Lehigh County Authority expenses by other entities.

Other Water Sales – This classification includes revenues from water sold to Municipal Signatories and for bulk water drawn from hydrants.

Provision for Doubtful Debts - The provision for doubtful debts is the estimated amount of bad debt that will arise from accounts receivable that have been issued but not yet collected.

Rental Income – This classification includes the annual reimbursement from the various funds for a portion of the Authority Operations Center costs and expansion.

Miscellaneous – This classification includes revenue from other miscellaneous categories not part of other revenue classifications.

CONNECTION & SYSTEM CHARGES:

Supply/Tapping Fees – This classification includes charges to new customers which are based on connection size. These revenues offset costs related to construction of storage and supply facilities.

Capital Cost Recovery – This classification includes the portion of major capital project costs being reimbursed by customers.

Distribution Tapping Fees – This classification includes charges to new customers which are based on connection size. These revenues offset costs related to construction of transmission and distribution facilities. These charges are generally not applicable to customers connecting within a developer-installed distribution system.

Meter Sales – This classification includes charges to new customers for initial meter and backflow prevention device costs and installation.

Inspection & Review Fees – This classification includes the deposits made by developers for LCA construction inspection and plan review costs.

Developer Reimbursement - This classification includes the reimbursement from developers for LCA inspection and plan review costs.

NON-OPERATING REVENUES:

Other Non-Operating Income - This classification includes revenue from other non-operating miscellaneous categories not part of other revenue classifications.

OPERATING EXPENSES:

Personnel:

Salaries and Wages - Salary is a consistent payment to an employee based on working a full-time position. Wages are hourly or daily payments for work done during the working day.

Overtime - Overtime refers to any hours worked by an employee that exceed their normally scheduled working hours.

Taxes – Comprised of Employer portion of FICA, Social Security and Medicare contributions.

Lehigh County Authority
2022 Budget (as of 10-05-21)
Definitions and Explanations of Accounts

Fringe Benefits - Comprised of medical coverage, defined benefit pension, long-term and short-term disability, flexible spending and unemployment insurance.

Purchase of Services:

Shared Services - General & Administrative - Overhead costs, which are not easily assignable to specific funds, are allocated based on a pro rate share of Salary and Wages and include the following types of expenses:

Postage - Represents cost to mail correspondence and customer billings.

Computer Services - Nominal services for computer services.

Advertising - Includes costs for advertising bid and meeting notices.

Building & Equipment Maintenance - Represents Operations Center costs, such as site and building maintenance and equipment maintenance.

Dues & Subscriptions - Organization membership fees and contributions and periodical subscriptions.

Travel and Mileage - Includes reimbursement to employees at prevailing IRS rate for personal vehicle use for business purposes.

Education and Training - Budget includes specifically identified training for employees, whether through participation in seminars or classes.

Workers Compensation - Workplace injury coverage.

Property & Liability Insurance – Insurance premiums for all properties, with the exception of the Wastewater Treatment Plant in Upper Macungie which is charged directly to that fund.

Legal/Litigation - Represents costs associated with labor relations, part-time Solicitor and other global legal issues.

Miscellaneous - Comprised of banking costs, printing services, contributions, employee activities and other miscellaneous expenses.

Risk Management - Includes safety equipment, training and miscellaneous expenses.

Public Relations - Represents costs associated with reaching out to stakeholders with educational programs and a host of interactive agendas.

Human Resources - Comprised of human resource projects.

Special Studies - Includes costs for conducting a customer survey, compensation study, strategic planning, and process improvement.

Utilities - This account includes electric costs, natural gas service, telephone and garbage hauling.

Compliance - This budget includes permit fees and renewals for the water and wastewater treatment plants

Lehigh County Authority
2022 Budget (as of 10-05-21)
Definitions and Explanations of Accounts

Contract Operating Svcs - Budget includes such services as root control program, Farland Development Dump Site, system check support services and Trenchless spot repairs.

Engineering - This budget line item is for miscellaneous consultant assistance with reporting to the Pa DEP on RDII removal efforts and unanticipated situations at facilities requiring engineering services.

Exceptional Strength Analysis - This account provides for external laboratory analysis of samples containing higher strength concentrations.

Extraordinary Expenditures - This budget line maintains the same level of insurance against an extraordinary leak repair and restoration in all systems. It includes items such as well and booster pump replacements, piping re-configurations and other services utilized in various systems.

Fleet Management Services - This budget includes maintenance services for vehicles and mobile equipment

General Analyses - This account provides for external laboratory analysis of samples to support the biosolids disposal and the residuals disposal programs.

Industrial Meter Testing – This budget includes cost to test large commercial meters for accuracy.

Maintenance Services - This budget includes expenses required for site and building maintenance, transmission and distribution maintenance services, equipment maintenance and rental, janitorial services, and other miscellaneous maintenance services.

Miscellaneous Services - This budget includes property self-insured, Enterprize fleet program lease, traffic control, after hours dispatching service, communication center, PA One Call system, easement brush & tree cleaning, radio repairs, Trimble software maintenance, TV truck Win Can, railroad easement fees, miscellaneous services and miscellaneous shipping.

Rental - Allocation of expenses related to the Authority Operations Center renovations and expansion are being allocated over 30 years.

Residuals - This budget includes residuals disposal costs.

Water Purchases - This budget includes the purchase of water from the Northampton Borough Municipal Authority for customers in the North Whitehall Division, the purchase of water from the Borough of Slatington for customers in the Washington Township Division, the purchase of water from the Borough of Emmaus for the LCA Out-of-Borough customers in Lower Macungie, Salisbury and Upper Milford Townships and the purchase of water from the City Division for customers in the Central Lehigh Division.

System Planning / Capital Management – This budget includes allocation of certain capital management costs to the operating budgets.

Treatment and Transportation - Represents charges to the Upper Milford, Weisenberg Township, and Lowhill Collector Systems for flow and strength based on sample strength or normal strength levels for non-sampled customers. This category also includes costs associated with the Western Lehigh Interceptor, the Little Lehigh Interceptors and Emmaus transportation charges.

Lehigh County Authority
2022 Budget (as of 10-05-21)
Definitions and Explanations of Accounts

Materials & Supplies:

Purification Chemicals - The treatment plant chemical budget includes: LOX, sodium hypochlorite, chlorine, polymer, larvicide, potassium permanganate and other chemicals.

Purification Supplies - This budget includes reagent sets, injectors and repair parts, analyzer supplies, and miscellaneous parts and supplies.

Pump Supplies - This budget includes pump supplies, well supplies and reservoir supplies.

Misc. Materials & Supplies - This budget includes SCADA / TELOG supplies, uniform costs, lab supplies, and miscellaneous supplies.

Fuel & Mileage – This budget includes the cost of unleaded and diesel fuels.

Fleet Management Supplies - This budget provides for mobile equipment supplies and lubricating oils.

Equipment - Funding to replace / update equipment used to maintain the distribution and collection systems. This budget includes line locators/metal and leak detector equipment, permaloggers, magnetic locators, curb/valve keys chemical pumps, valve replacement, sump pumps, prominent Cl2 analyzers, well depth probes, VFD purchase, dehumidifiers, booster pumps, TELOG equipment, pipe saws, trash pumps, hypo tanks, reservoir #5 mixer, submersible level transmitters, miscellaneous lab equipment, and miscellaneous tools & other minor equipment.

Leased Equipment – This budget includes costs to lease mobile and other equipment.

Distribution & Transmission Supplies - This item includes repair clamps, fittings, and pipes, “No-Lead” brass and copper, crushed stone and blacktop, valve and curb boxes, miscellaneous supplies, and hydrant supplies.

Collection System Supplies - This budget includes degreaser, inspection dye & deodorizer, concrete, manhole frames and covers, risers rings, ferncos & couplings / wrapid seal, SDR Pipe, hose lines paving material, salt, and topsoil, crushed clean stone, lubricating oils & grease, misc. supplies/gaskets/seals, and maintenance & construction materials.

Depreciation and Amortization - This expense is calculated by the straight-line method using standard depreciation periods. Annual amortization over the life of the financing is included.

Other Expenses:

Major Maintenance Expenses – Includes the City Capex charged to expense.

Other Miscellaneous – This expense includes financing costs related to new debt and annual fees from the Trustees overseeing the various bond series, cost of goods sold, and allocation of GIS capital costs to wastewater operating funds.

NON-OPERATING INCOME (EXPENSE):

Investment Earnings – Interest earned on Authority investments and deposit accounts.

Interest Expense – Interest paid on Authority bonds and Pennvest loans.

Capital Contributed – This includes infrastructure contributed by developers .



LEHIGH COUNTY AUTHORITY

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email: service@lehighcountyauthority.org

MEMORANDUM

Date: October 1, 2021

To: Board of Directors & Management Staff

From: Jennifer Montero

Re: Proposed 2022 WLI, LLRI-Phase 1 and LLRI-Phase 2
Wastewater User Charges

Attached is a copy of the “2022 Report on Wastewater User Charges”. This is the annual report that explains the derivation of the various billing rates that are charged to the users of the Western Lehigh Interceptor, Little Lehigh Relief Interceptor Phase 1, and Little Lehigh Relief Interceptor Phase 2.

As you will read in the Executive Summary on page 3, **costs to an average residential user associated with the use of the WLI, LLRI-I and LLRI-2 are expected to increase overall by 2%.** The increase in the WLI flow rate is due to the addition of a reserve amount earmarked for the WLI – Trexlertown Area Capacity Solution Alternative. The increase in the LLRI-I rates reflects the addition of reserves earmarked for the Park Pump Station Rehab/Improvements and Force Main projects. The decrease in the LLRI-II rate is due to a significant decrease in operating and maintenance costs from those budgeted in 2021.

LCA has implemented estimated quarterly billing procedures effective January 2009. Estimating the quarterly bills have provided consistent Signatory payments and has resulted in having payments approximately one month prior to remitting LCA payment for to the City Division. The estimates are based on a prior four quarter average and projected growth and are being reviewed by the respective Signatory. The four quarterly estimated bills are reconciled the following year.

We request that the Board give preliminary approval of the rates.

LEHIGH COUNTY AUTHORITY

2022 REPORT ON WASTEWATER USER CHARGES

October 4, 2021

LEHIGH COUNTY AUTHORITY
2022 REPORT ON WASTEWATER USER CHARGES

INDEX

	<u>Page No.</u>
Executive Summary	3
I. Introduction	5
II. Billing Basis Determination	7
III. Capital Recovery Fees	8
IV. Western Lehigh Interceptor User Charge Development	9
Tables: Allentown Estimated Costs	13
Operation & Maintenance Costs	14
O&M Costs Shared by Signatories and Emmaus	15
Total System Costs	16
Cost Allocation Summary	17
Billing Basis O&M	18
Unit Cost Summary	19
V. Relief Interceptor User Charge Development	20
Tables: Phase 1 - Operation & Maintenance Costs	22
Phase 2 - Operation & Maintenance Costs	23
Billing Basis	24
Phase 1 - Cost Allocation	25
Phase 2 - Cost Allocation	26
Appendix A User Charge Sampling and Analysis Procedures	27
Appendix B Estimated Quarterly Bill Procedures	32

EXECUTIVE SUMMARY

This summary provides an overview of the various assumptions included in the Lehigh County Authority (LCA) “2022 Report on Wastewater User Charges.” Further detailed information can be found in the report.

1. Waste Strength

The assumed concentration for all Non-Exceptional Strength users will be 250 ppm for BOD, 275 ppm for TSS, and 35 ppm for TKN. Exceptional Strength Limits will be 300 ppm for BOD, 360 ppm for TSS, and 85 ppm for TKN.

The estimated concentration for LCA’s Western Lehigh Interceptor signatory discharge to the Kline’s Island Wastewater Treatment Plant is 118 ppm for BOD, 123 ppm for TSS, and 30 ppm for TKN which are net values without Emmaus discharges. These strengths are based on the continuation of the LCA Wastewater Treatment Plant (PTP) in Fogelsville reducing all waste strength that passes through it and with brewing operations at Boston Beer.

2. Payments to the LCA Wastewater Pretreatment Plant (PTP)

Credits will be given to the PTP, at City unit rates, for pounds of BOD and TSS removed by the operation of the PTP in excess of the required removal of certain industrial strengths. These credits are as detailed in the 4/17/91 Amendment to the 4/1/83 Agreement between LCA, the LCA Signatories, and the County.

3. User Rates

The following rates are proposed for 2022 as shown in comparison to the budgeted 2021 rates and represent an increase of 2% from the 2021 rates for a typical residential customer.

	<u>2021 Approved</u>	<u>2022 Proposed</u>
<u>LCA SIGNATORIES</u>		
Western Lehigh Interceptor		
FLOW (per 1,000 gals)	0.91	1.16
BOD (per pound)	0.36	0.33
TSS (per pound)	0.29	0.25
TKN (per pound)	0.47	0.38
ALLOCATION (per 1,000 gals per day	0.22	0.21
Little Lehigh Relief Interceptor		
PHASE 1 (per 1,000 gals)	0.23	0.23
PHASE 2 (per 1,000 gals)	0.02	0.011
<u>EMMAUS</u>		
Western Lehigh Interceptor	0.38	0.36
FLOW (per 1,000 gals)		
<u>OTHER USERS</u> – L. Macungie, Salisbury, & S. Whitehall - Little Lehigh Relief Interceptor – Phase 1		
FLOW (per 1,000 gals)	0.21	0.23

3. User Rates (continued)

NOTES:

Western Lehigh Interceptor: LCA has elected to use a combination of operating funds and capital recovery fees collected from new connections to pay certain Regional Flow Management Strategy capital projects such as the Signatory I&I Investigation and Remediation Program. Sixty percent of the costs will be recovered through user charges over a 20 year period and are noted as amortized planning and flow monitoring in the WLI operating and maintenance cost table on page 14. Capital recovery fees will cover 40% of the costs.

Little Lehigh Relief Interceptor – PHASE 1: The rate for 2022 will increase 8% from the 2021 rate for non-LCA signatory users. This reflects an increase in reserves for future capital projects. The future reserves will be earmarked for the Park Pump Station Force Main Upgrade. In addition, the non-LCA signatory users are being charged an extra component in their rate for the Park Pump Station Rehabilitation project. This is due to the LCA signatory portion of the project being partially paid for by funds available to them via reserves paid from WLI rates and capital recovery fees. LCA signatory users will have no increase in its LLRI-Phase 1 rate.

Little Lehigh Relief Interceptor – PHASE 2: The rate for 2022 will decrease from the 2021 rate of .02/1,000 gallon to \$.01/1,000 gallons and reflects a decrease in the budgeted operating and maintenance costs.

4. User Payments

Quarterly Estimated Payments: To improve the WLI operating fund cash flow, Signatories receive a quarterly bill that contains estimated flows and loads. Estimating the quarterly bills provides consistent Signatory payments and results in having payments arriving prior to LCA's payment to the City (City Division) for treatment and transportation costs incurred on the WLI signatory's behalf. Submission of the actual Signatory flow and load data is still required for annual reconciliation of the rates, but the timing of the submission is no longer as critical. The estimated quarterly billing procedure is described and attached to this report, "Estimated Quarterly Bill Procedures" as Appendix B.

I. INTRODUCTION

This report is intended to demonstrate how the user rates for 2022 were developed. It also reports comparative historical data. The Lehigh County Authority (LCA) Wastewater facilities – the Western Lehigh Interceptor (WLI), and the Little Lehigh Relief Interceptor, Phases 1 and 2 (LLRI-P1 and LLRI-P2) are legally and financially independent of each other.

Background – WLI

In 1971, LCA constructed the WLI to serve four municipalities – Upper and Lower Macungie Townships and the Boroughs of Alburtis and Macungie. Since then, Upper Milford, Lowhill and Weisenberg Township service areas have been added. Collectively, the municipalities are referred to as the “Signatories” (or “Signatory”). LCA also provides transportation service through the WLI to a portion of the Borough of Emmaus (“Emmaus”).

LCA, serving as agent for the Signatories, contracts with the City of Allentown (City) for the transportation, treatment and disposal of wastewater from the Signatory area (see “City of Allentown – Concession Lease” on page 6). Discharges to the City are based on constant flow measurements and periodic sampling and analyses to determine discharge strength.

The WLI consists of 20.6 miles of gravity sewer line and several parallel relief lines, including the Western Lehigh Relief Facilities (WLRF – a parallel relief interceptor, pump station and 3 miles of force main) and the Spring Creek Force Main Extension (5 miles of force main) completed in 2005. In 2010, the 3-million-gallon Flow Equalization Basin was constructed at the PTP to be utilized for storing wet weather flows to reduce the risk of sanitary sewer overflows within the WLI system.

Background – LLRI

Under the provisions of agreements with the City, all municipalities are required to construct relief facilities whenever jointly used City-owned sewer lines become overloaded. In 1973, the City notified the Signatories, Salisbury Township (Salisbury) and South Whitehall Township (South Whitehall) that the City-owned Little Lehigh Interceptor required relief.

Under an agreement dated February 10, 1981, LCA was authorized to plan and construct the required facilities. The agreement contemplated two financially independent sets of facilities. The first, known as Phase 1, relieves the City’s Little Lehigh Interceptor and serves the Signatories, Salisbury and South Whitehall and a section of Lower Macungie Township that does not discharge to the WLI known as “LMT-Phase II/Brookside Diversion”. It consists of the Park Pump Station and a large diameter force main, extending from the Park Pump Station to the Allentown Interceptor, just upstream of the City treatment plant. The second, known as Phase 2, relieves the City’s Emmaus Interceptor from Keck’s Bridge to the Park Pump Station and serves only the Signatories.

Existing Billing Practices – WLI

Costs attributable to the WLI and the use of the City facilities are allocated through user rates among the Signatories based on three criteria: (1) flow, (2) strength, and (3) treatment allocation. Costs attributable to the operation of the WLI, the City interceptors, and a portion of the City treatment plant operational costs are allocated based on flow. The balance of the City treatment plant operational and the LCA PTP excess removal credits are allocated to the three waste strength parameters of BOD, TSS and TKN. Allocation of the City costs are based on the City's user charge system, developed in 1979. All City and LCA debt service costs are allocated based on wastewater treatment allocations to the Signatories.

Emmaus, because it deals directly with the City for its treatment and transportation needs and because it has made a capital contribution in lieu of paying future debt service, pays user charges based only on WLI operating costs.

Billing practices used herein were established in the April 1, 1983 Service Agreement. Billable flows and strengths to each Signatory are based on a summation of the individual customer discharges within each Signatory service area. Inflow and infiltration (I/I) attributable to the WLI service area is shared proportionately by all Signatories.

Existing Billing Practices – LLRI

Costs attributable to LLRI-P1 are allocated among the Signatories, Salisbury and South Whitehall Townships and LMT-Phase II/Brookside Diversion in proportion to metered wastewater flows tributary to the City's Little Lehigh Interceptor, except that South Whitehall flows are reduced by 500,000 gallons per day (gpd,) based on a City commitment to transmit that wastewater on South Whitehall's behalf.

Costs attributable to LLRI-P2 are allocated among only the Signatories based on billable wastewater flow. The Authority has established a rate per 1,000 gallons to cover expected expenses. Therefore, a rate of \$0.01 will be applied to the Signatory billing.

City of Allentown – Concession Lease

In August 2013, LCA assumed responsibility for the operation of the City of Allentown water and wastewater systems (City System), now referred to as the LCA Allentown Division. As part of this 50-year lease, LCA is now responsible for calculating annual In-City user and Municipal Signatory user wastewater rates and billing City Municipal Signatories (which includes LCA as agent for its WLI Signatories) for wastewater usage. The 2022 rates have been calculated according to Municipal Service Agreements. City Municipal Signatories will remain responsible for their share of the previously existing City Debt Service plus additional amounts for ongoing capital improvements. The City System is legally and financially independent of the LCA-owned systems.

II. BILLING BASIS DETERMINATION

Discharge from each residential, commercial or industrial user is estimated and summed within each Signatory service area.

Flow Determination

Flows are determined based on one of the following methods. Where a sewer meter is available, periodic readings are used. If a sewer meter is not available, periodic readings of the water meter are used for commercial and industrial customers. For residential users receiving water service as of 1 January, the first quarter's metered water usage is used. For residential users connecting after 1 January, or for users not having a water meter, 220 gpd is used.

Strength Determination

Assumed Average Strength and Exceptional Strength Limits proposed for 2022 are:

Discharge Type	Parameter	
	Assumed Average Strength	Exceptional Strength
BOD	250 ppm	300 ppm
TSS	275 ppm	360 ppm
TKN	35 ppm	85 ppm

As in previous years, all industrial and certain commercial users with greater than 25,000 gallons per billing period will be sampled and tested at least once per year in order to determine the strength of their discharge. Any user with BOD, TSS or TKN discharge in excess of the Exceptional Strength Limit will be billed based on those test results. All users with discharge below the Exceptional Strength Limit will be billed at the Average Strength level.

Sampling and testing frequency, duration and other related guidelines are described in the "User Charge Sampling & Analysis Procedures and Billing Computations," attached to this report as Appendix A.

The LCA Pretreatment Plant (PTP) is required to treat certain industrial discharges to 210 ppm for BOD and 230 ppm for TSS. Through the operation of the PTP, those industrial discharges, together with other customer discharges located upstream of the PTP, will be significantly reduced below those required levels. An agreement between the Signatories, LCA and the County (prior PTP owner) identifies how billings, and credits for those additional removals, will be calculated. Those terms have been used in calculating total system billables and the credits for this report.

Emmaus Billing Basis

The Emmaus Service Agreement (7/1/86) provides that Emmaus will participate in WLI operating and maintenance costs, including administrative costs, while excluding debt service. Administrative costs are allocated based on the ratio of salaries applicable to WLI operation and maintenance to total WLI salaries. The minimum and maximum limits for allocation of Administrative costs are 32% and 52% respectively.

III. CAPITAL RECOVERY FEES

Background

Since 1985, capital recovery fees have been charged to property owners in the Signatory service area connecting to the regional wastewater system to recover the purchase cost of treatment capacity from the City (Treatment allocation Fee) and the construction costs of major capital improvements to the WLI (Interceptor Fee). Since 1986, a Relief Interceptor Fee has also been charged to all new connections. The Relief Interceptor Fee is recovering costs of the various relief facility projects and the flow equalization basin.

A review of all fees is conducted annually with proposed changes made effective when determined. All fees are calculated in accordance with Pennsylvania Law (Act 57 of 2003.)

Use of Capital Recovery Fees

The Interceptor fees currently collected for new user connections to the WLI are currently held in a reserve account to retire additional WLI debt, fund capital projects or pay for unexpected expenses.

Since the bonds that financed the Relief Interceptor were retired, collected fees have been placed in an account and will be funding a portion of the Relief system capital costs.

Concerning treatment capacity, as the service area continues to grow and the need for treatment capacity grows, the treatment fees collected are placed in a reserve fund to either purchase additional capacity or to fund additional capacity options.

IV. WLI USER CHARGE DEVELOPMENT

This section describes the methods used to calculate WLI User Charges. Four general steps are followed:

1. Year 2022 costs have been estimated based on prior years' cost, flow and loading trends.
2. Costs have been allocated to five billing parameters – FLOW, BOD, TSS, TKN and ALLOCATION.
3. A billing basis has been estimated for each billing parameter.
4. Unit costs were determined for each parameter by dividing the total costs by the billing basis.

Two types of costs are incurred – City and LCA. City charges include three types of costs – debt service, interceptor use, and operation and maintenance. LCA charges include two types of costs – debt service and operation and maintenance.

Assumptions

For estimating City costs, the following assumptions have been made for LCA total discharge to the City:

	<u>2021</u>	<u>2022</u>
LCA Total Allocation in City Plant	10.78 MGD	10.78 MGD
Average Daily FLOW	9.3 MGD	9.5 MGD
Average BOD Concentration	121 ppm	118 ppm
Average TSS Concentration	125 ppm	123 ppm
Average TKN Concentration	31 ppm	30 ppm

City Debt Service

LCA is required to pay a portion of the pre-concession lease debt service on the bonds that were purchased to finance the City Plant improvements based on the LCA share of treatment capacity. LCA's estimated share of these total debt service costs is \$113,914 for 2022. This pre-concession debt will be completely paid off by the end of 2026. An additional debt service amount of \$263,869 is also being charged for projects which LCA has executed since it began operating the City Plant in 2013. These projects include the replacement of the belt filter press, motor control center, Substation #2 rehabilitation, and digester cover replacement at the Kline Island Wastewater Treatment Plant and roof replacements at both the Kline Island Wastewater Treatment Plant and the Distribution and Collections Building. Also included in total City Debt Service is an annual payment of \$78,921 for financed Regional Flow Management (formerly known as Administrative Order) projects, bringing total City Debt Service for 2022 to \$442,904.

City Interceptor Use

In lieu of debt service, LCA pays a fixed rate of \$0.01 per 1,000 gallons for the use of the City interceptors. For 2022, the estimated cost is \$34,480.

City Operation and Maintenance

LCA pays the City fund for all flow and pounds discharged by the Western Lehigh Interceptor Signatories. The following City Division's municipal signatory unit rates, shown in comparison to the previous year's rates, were estimated by LCA:

City Rates	2021 Rates - Estimated	2022 Rates - Estimated
FLOW (per 1,000 gals)	0.236	0.231
BOD (per pound)	0.314	0.298
TSS (per pound)	0.277	0.262
TKN (per pound)	0.415	0.392

The components of the City costs are summarized in the Table - "Allentown Estimated Costs" (page 13). For 2022, we have estimated the City Division's municipal signatory unit charges using a 2021 estimate for total hydraulic and organic loadings based on actual 3rd and 4th quarter 2020 and 1st and 2nd quarter 2021 signatory flows and loads into Kline's Island Wastewater Treatment Plant. 2022 budget rates used for City Division municipal signatory quarterly bills are calculated using 2022 approved budget Kline's Island Wastewater Treatment Plant and Collections Department operating and maintenance expenses divided by the 2022 *actual* flows and loads, which may differ from the 2021 *estimated* flows. Because the cost basis of the City Division municipal signatory rates is about the same as in 2021 and the billing basis across parameters is slightly higher, the resulting 2022 rates are lower than those estimated in 2021.

LCA Debt Service - WLI

The 2022 Debt Service is estimated at \$398,555. The Debt Service is based on PennVest loans approved to fund the Flow Equalization Basin project mentioned in the Introduction.

LCA Operation and Maintenance

Operation and maintenance costs are shown in the Table - "Operation & Maintenance Costs" (page 14). As mentioned previously, since Emmaus does not participate in all operation and maintenance costs, separate costs that Emmaus and the Signatories share in are shown in the Table - "O&M Costs Shared by Signatories and Emmaus" (page 15).

Billing Basis

To estimate the 2022 billable discharges, the second half of 2020 and the first half of 2021 billings were reviewed. Projected growth was added to Upper Macungie Township, Lower Macungie Township, and Upper Milford Township to account for increased production at various industries that discharge to the pretreatment plant, projected development, and the Fields at Indian Creek and Jasper Ridge residential housing developments, respectively. A summary of this information may be found in the Table - "Billing Basis O&M" (page 18).

Rate Design

Although rate calculation options are almost limitless, several legal requirements eliminate many of the options. First, federal law and regulations provide that “each recipient of the waste treatment services within the applicant’s service area will pay its proportionate share of the cost of operation (including replacement) of all waste treatment service provided by the applicant.”

Second, Pennsylvania’s Municipality Authorities Act requires that rates be “uniform and reasonable.”

Finally, the Service Agreements require that a rate methodology substantially identical to that adopted by the City be used and that debt service costs attributable to the City facilities and to the WLI be allocated in proportion to the hydraulic allocation.

Based on the aggregate of these restrictions, unit costs for FLOW, BOD, TSS, TKN, and ALLOCATION are calculated on the total billables divided into the total cost for each parameter. City and LCA debt service and other costs are only allocated to the Signatories and not Emmaus. LCA operation and maintenance costs related to the WLI are allocated to both the Signatories and Emmaus.

User Rate Adequacy

Using the proposed unit rates, multiplied by the various customer billing bases, a total expected revenue of \$9,222,467 is estimated. Comparing this revenue to the expense of \$9,222,467 shown on the Table - “Cost Allocation Summary” (page 17) indicates an overall coverage of 0%.

WESTERN LEHIGH INTERCEPTOR
TABLES

ALLENTOWN ESTIMATED COSTS

	2021 Est Budget	2022 Estimate
DEBT SERVICE:		
Summary	\$ 414,117	\$ 442,904
Other Interceptor	33,882	34,480
DEBT SERVICE SUBTOTAL	\$ 447,999	\$ 477,384
OPERATION AND MAINTENANCE:		
Flow	\$ 799,892	\$ 795,847
BOD	1,069,473	1,013,812
TSS	975,610	921,967
TKN	367,769	341,127
OPERATION AND MAINTENANCE SUBTOTAL	\$ 3,212,744	\$ 3,072,753
TOTAL ALLENTOWN COSTS	\$ 3,660,743	\$ 3,550,137

OPERATION & MAINTENANCE COSTS

ITEM	2021 BUDGETED LCA COSTS	2022 ESTIMATED LCA COSTS
DEBT SERVICE:		
Financing and Bond Issues	\$ 398,555	\$ 398,555
OPERATING & MAINTENANCE CHARGES:		
Personnel		
Personnel Subtotal	\$ 153,053	\$ 279,013
Purchase of Services		
General Services	\$ 231,953	\$ 91,153
Employee Benefits	\$ 165,838	\$ 186,782
Utilities	\$ 111,216	\$ 99,735
Engineering	\$ -	\$ 25,000
Exc. Str. Analyses (External)	\$ 43,000	
General Analyses (External)	\$ 3,300	
Fleet Management Services		\$ 18,000
Maintenance	\$ 123,750	\$ 149,600
Misc. Purchase of Services	\$ 4,650	\$ 4,300
I/I Rehabilitation Program	\$ -	
Rental Charges	\$ -	\$ -
Purchase of Services Subtotal	\$ 683,708	\$ 574,570
Materials and Supplies		
Fuel	\$ 10,000	\$ 10,000
Misc. Materials & Supplies	\$ 66,830	\$ 54,500
Equipment	\$ 179,480	\$ 28,500
Amoritized Equipment	\$ -	\$ 140,248
Materials & Supplies Subtotal	\$ 256,310	\$ 233,248
Capital Funding (Sig. + Emmaus)		
Capital Management	\$ -	\$ 7,500
Amoritized Planning & Flow Monitoring (AO projects)	\$ 242,000	\$ 250,000
Capital Funding Subtotal	\$ 242,000	\$ 257,500
TOTAL OPERATING & MAINTENANCE	\$ 1,335,071	\$ 1,344,331
Pay-Go Capital Projects (Non-AO)	\$ -	\$ -
Reserve Amount for Future Projects	\$ 250,000	\$ 1,160,000
TOTAL LCA EXPENSES	\$ 1,585,071	\$ 2,504,331
Less: Miscellaneous Revenue	\$ -	\$ -
TOTAL LCA CHARGES	\$ 1,983,626	\$ 2,902,886

O&M COSTS SHARED BY SIGNATORIES AND EMMAUS

ITEM	2022 ESTIMATED LCA COSTS	PERCENT ALLOCABLE TO EMMAUS	PORTION SHARED BY SIGNATORIES AND EMMAUS
DEBT SERVICE:			
Financing & Bond Issue	\$ 398,555	0.0%	\$ -
OPERATING & MAINTENANCE CHARGES:			
Personnel			
Personnel Subtotal	\$ 279,013	52.0%	\$ 145,087
Purchase of Services			
General Services	\$ 91,153	52.0%	\$ 47,399
Employee Benefits	186,782	52.0%	97,127
Utilities	99,735	100.0%	99,735
Engineering	25,000	100.0%	25,000
Exc. Str. Analyses (External)	-	0.0%	-
General Analyses (External)	-	0.0%	-
Fleet Managent Services	18,000	100.0%	18,000
Maintenance	149,600	100.0%	149,600
Misc. Purchase of Services	4,300	100.0%	4,300
I/I Rehabilitation Program	-	100.0%	-
Rental Charges	-	52.0%	-
Purchase of Services Subtotal	\$ 574,570		\$ 441,161
Materials and Supplies			
Fuel	\$ 10,000	100.0%	\$ 10,000
Misc. Materials & Supplies	54,500.00	100.0%	54,500.00
Materials & Supplies Subtotal	\$ 64,500		\$ 64,500
Equipment	\$ 28,500.00	100.0%	\$ 28,500.00
Amortized Equipment	\$ 140,248	100.0%	\$ 140,248
Equipment Subtotal	\$ 168,748		168,748
Capital Funding			
Capital Management	7,500	100.0%	\$ 7,500
Amortized Planning & Flow Monitoring	250,000	100.0%	250,000
Capital Funding Subtotal	\$ 257,500		\$ 257,500
TOTAL OPERATING & MAINTENANCE	\$ 1,344,331		1,076,996
Reserve Fund Allocation	\$ 1,160,000	0.0%	0
TOTAL LCA EXPENSES	2,504,331		\$ 1,076,996
Less: Miscellaneous Revenue	\$ -		0
TOTAL LCA CHARGES	\$ 1,742,886		\$ 1,076,996

TOTAL SYSTEM COSTS

	2021 Budget	2022 Estimate
DEBT SERVICE:		
Allentown	\$ 447,999	\$ 477,384
LCA	398,555	398,555
DEBT SERVICE SUBTOTAL	<u>\$ 846,554</u>	<u>\$ 875,938</u>
 OPERATION AND MAINTENANCE:		
Allentown	\$ 3,212,744	\$ 3,072,753
LCA	1,585,071	2,504,331
OPERATION AND MAINTENANCE SUBTOTAL	<u>\$ 4,797,815</u>	<u>\$ 5,577,084</u>
 COUNTY CREDITS		
BOD	\$ 1,912,081	\$ 2,042,913
TSS	822,616	726,532
TOTAL COUNTY CREDITS SUBTOTAL	<u>\$ 2,734,697</u>	<u>\$ 2,769,445</u>
 TOTAL SYSTEM COST	<u><u>\$ 8,379,066</u></u>	<u><u>\$ 9,222,467</u></u>

COST ALLOCATION SUMMARY

	Total Cost	ALLOCATION PARAMETER				
		Flow	Allocation	BOD	TSS	TKN
O&M						
Allentown O&M	\$ 3,072,753	\$ 795,847	\$ -	\$ 1,013,812	\$ 921,967	\$ 341,127
LCA O&M	2,504,331	2,504,331	-	-	-	-
Total O&M	\$ 5,577,084	\$ 3,300,178	\$ -	\$ 1,013,812	\$ 921,967	\$ 341,127
LCA WTP CREDITS *	\$ 2,769,445	\$ -	\$ -	\$ 2,042,913	\$ 726,532	\$ -
DEBT SERVICE						
Allentown Interceptor	\$ 34,480	\$ 34,480	\$ -	\$ -	\$ -	\$ -
Summary of Allentown Debt	442,904	-	442,904	-	-	-
LCA	398,555	-	398,555	-	-	-
Total Debt Service	\$ 875,938	\$ 34,480	\$ 841,459	\$ -	\$ -	\$ -
TOTAL COSTS	\$ 9,222,467	\$ 3,334,658	\$ 841,459	\$ 3,056,725	\$ 1,648,499	\$ 341,127

* Credits to the LCA WTP are paid at City unit rates for non-required removals

BILLING BASIS O&M

	Flow gpd	BOD lb/day	TSS lb/day	TKN lb/day
<u>Signatory Area</u>				
Alburtis	135,187	321	343	57
Macungie	172,211	386	418	51
Lower Macungie	1,586,183	3,705	3,763	489
Upper Macungie *	5,297,931	19,958	12,715	1,691
Weisenberg	26,534	57	61	8
Upper Milford	206,112	497	538	120
Lowhill	6,493	14	15	2
Pretreatment Plant & Haulers	<u>222,266</u>	<u>463</u>	<u>510</u>	<u>65</u>
LCA SYSTEM SUBTOTAL	7,652,917	25,401	18,363	2,483
Emmaus	<u>620,266</u>			
TOTAL	<u><u>8,273,183</u></u>	<u><u>25,401</u></u>	<u><u>18,363</u></u>	<u><u>2,483</u></u>

* Includes 2% growth for UMT, and LCA direct customers Boston Beer (with a 3.5% growth factor) & Hilton Homewood Suite

Billing Basis for Debt Service

10.780 Million Gallons Per Day

UNIT COST SUMMARY

Item	Annual Cost	Billing Basis (gpd or lb/day)	Unit Cost (\$/1000 gal or \$/lb)
FLOW - Allentown Costs	\$ 830,327	7,652,918	\$0.2973
- Interceptor Costs/ Signatories	\$ 1,427,335	7,652,918	\$0.5110
- Interceptor Costs/ Signatories & Emmaus	\$ 1,076,996	8,273,184	\$0.3567
BOD (lb)	\$ 3,056,725	25,401	\$0.3297
TSS (lb)	\$ 1,648,499	18,363	\$0.2460
TKN (lb)	\$ 341,127	2,483	\$0.3764
ALLOCATION	\$ 841,459	10,780,000	\$0.2139

V. RELIEF INTERCEPTOR USER CHARGE DEVELOPMENT

This section describes the methods used to calculate user rates for the Little Lehigh Relief Interceptor System.

For both Phases, the total costs are divided by the billable flow. Phase 1 provides service to the Signatories, Salisbury, South Whitehall, and a section of Lower Macungie Township that bypasses the WLI known as Phase II/Brookside Diversion. Billable flows differ for Phase I between the LCA WLI Signatories and other users per contract terms. Phase 2 provides service only to the WLI Signatories.

Costs for both Phases are shown in the Tables - "Phase 1-Operation & Maintenance Costs" (page 22) and "Phase 2-Operation & Maintenance Costs" (page 23).

Debt Service - Phase 1

In January 1993, the bonds issued for construction of Phase 1 were retired. No additional projects that required bond issues are ongoing and no debt service is included in the rate tables for this year. However, a reserve amount is included in the operating expenses per contract terms. This will be applied to 2022 budgeted costs for Phase 1 ongoing improvements and force main rehabilitation.

User Rate Adequacy

For Phase 1, using the rate proposed, multiplied by the billing units derived in the table - "Billing Basis (For Phase 1) (page 24)," total revenue of \$773,353 is estimated. Comparing this revenue to the total expense of \$749,684, as shown on Table - "Phase 1-Operation & Maintenance Costs" (page 22), indicates an overall coverage of 3%. The extra revenue collected from the rate that applies to the non-WLI signatories that use LLRI-I is being applied to their capital cost for the Park Pump Station Rehabilitation. See section 3 of the Executive Summary for more detail.

For Phase 2, using the rate proposed, multiplied by the billing basis derived in the table - "Phase 2 – Cost Allocation" (p.26), total revenue of \$31,862 is estimated. Comparing this revenue to the total expense of \$31,862 as shown on Table - "Phase 2-Operation & Maintenance Costs" (page 23), indicates an overall coverage of 0%.

LITTLE LEHIGH RELIEF INTERCEPTOR

PHASES 1 AND 2

TABLES

PHASE 1 - OPERATION & MAINTENANCE COSTS

ITEM	2021 BUDGETED LCA COSTS	2022 ESTIMATED LCA COSTS
DEBT SERVICE & FINANCING EXPENSES:		
OPERATING AND MAINTENANCE CHARGES:		
Personnel	64,138	41,057
Personnel Subtotal	64,138	41,057
Purchase of Services		
General Services	98,113	13,413
Employee Benefits	70,227	35,151
Utilities	203,488	134,137
Maintenance Services	81,800	81,800
Miscellaneous Services	300	300
Engineering	5,000	5,000
Rental Charges	-	-
Compliance - PA DEP Tank Registration	125	125
Purchases of Services Subtotal	459,053	269,927
Materials and Supplies		
Fuel	3,000	3,000
Misc. Materials & Supplies	15,014	19,700
Misc. Equipment	13,000	16,000
Materials and Supplies Subtotal	31,014	38,700
TOTAL OPERATING & MAINTENANCE COSTS	554,206	349,684
Pay-as-you-go Capital Project Funding	-	-
Reserve Amount for Future Projects	100,000	400,000
TOTAL LCA EXPENSES	654,206	749,684
Less: Miscellaneous Revenue	-	-
TOTAL LCA CHARGES	654,206	749,684

PHASE 2 - OPERATION & MAINTENANCE COSTS

ITEM	2021 BUDGETED LCA COSTS	2022 ESTIMATED LCA COSTS
DEBT SERVICE & FINANCING EXPENSES:		
OPERATING AND MAINTENANCE CHARGES:		
Personnel	7,786	3,082
Personnel Subtotal	7,786	3,082
Purchase of Services		
General Services	11,112	1,007
Employee Benefits	7,954	2,786
Maintenance Services & Misc. Services	8,000	8,000
Utilities	116	138
Rental Charges	-	-
Purchases of Services Subtotal	27,181	11,930
Materials and Supplies		
Fuel	350	350
Misc. Materials & Supplies	2,204	1,500
Equipment	15,000	15,000
Materials and Supplies Subtotal	17,554	16,850
TOTAL OPERATING & MAINTENANCE COSTS	52,522	31,862
TOTAL LCA EXPENSES	52,522	31,862
Less: Miscellaneous Revenue	-	
TOTAL LCA CHARGES	52,522	31,862

BILLING BASIS (For Phase 1)

<u>Municipality</u>	<u>Flow (gpd)</u>	<u>% Share</u>
Salisbury	428,020	3.89
South Whitehall	837,727	7.62
Lower Macungie-Phase II & Brookside	288,674	2.62
LCA Signatories	9,446,550	85.87
Total	11,000,971	100.00

LCA SIGNATORY BREAKDOWN BILLING BASIS (For Phase 1 and Phase 2)

<u>Signatory</u>	<u>Billable Flow (gpd)</u>	<u>% Share</u>
Alburtis	135,187	1.77
Lower Macungie	1,586,183	20.73
Macungie	172,211	2.25
Upper Macungie	5,297,931	69.23
Upper Milford	206,112	2.69
Weisenberg	26,534	0.35
Lowhill	6,493	0.08
LCA PTP	222,266	2.90
Subtotal	7,652,918	100.00
Infiltration/Inflow	1,793,632	
Total	9,446,550	

PHASE 1 - COST ALLOCATION

AMONG ALL USERS

Municipality	Flow % Share	Costs
Salisbury	3.89	\$ 29,168
South Whitehall	7.62	57,089
Lower Macungie - Phase II & Brookside	2.62	19,672
LCA Signatories	85.87	643,755
Total	100.00	\$ 749,684
	Billing Basis (gpd)	Unit Costs \$/1000 gals.
Annual Cost	11,000,971	\$0.1867
\$749,684		

(See Table "Phase I- Operation and Maintenance Costs")

\$167,510	11,000,971	\$0.0417
(\$3.35M amortized over 20 years at 0% for Park Pump Station Rehabilitation)		
Total costs		Total Rate
\$917,194	11,000,971	\$0.2284

Note: To determine unit cost: Divide total annual cost by converted billing basis
(Converted billing basis = ((10,534,695/1000)*365)

AMONG LCA SIGNATORIES

Signatory	Flow % Share	Costs
Alburtis	1.77	\$ 11,372
Lower Macungie	20.73	133,428
Macungie	2.25	14,486
Upper Macungie	69.23	445,656
Upper Milford	2.69	17,338
Weisenberg	0.35	2,232
Lowhill	0.08	546
LCA PTP	2.90	18,697
Total	100.00	\$ 643,755
	Billing Basis (gpd)	Unit Costs \$/1000 gals.
Annual Cost	7,652,918	\$ 0.2305
\$ 643,755		

Note: To determine unit cost divide annual cost by billing basis times number of days in year
divided by 1,000.

PHASE 2 - COST ALLOCATION

<u>Signatory</u>	<u>Flow % Share</u>	<u>Costs</u>
Alburtis	1.77	\$ 563
Lower Macungie	20.73	6,604
Macungie	2.25	717
Upper Macungie	69.23	22,057
Upper Milford	2.69	858
Weisenberg	0.35	110
Lowhill	0.08	27
LCA PTP	2.90	925
Total	100.00	\$ 31,862

<u>Annual Cost</u>	<u>Billing Basis (gpd)</u>	<u>Unit Costs \$/1000 gals.</u>
\$ 31,862	7,652,918	\$ 0.011

Note: To determine unit cost, divide annual cost by billing basis times number of days divided by 1,000.

APPENDIX A (Revised 11/30/16) USER CHARGE SAMPLING AND ANALYSIS PROCEDURES

The purpose of this document is to assist signatory municipalities using the Western Lehigh Interceptor (WLI) regarding sampling and analysis of non-residential users of their respective wastewater collection system. This document also describes the billing process and how test results are applied to the process.

LCA'S ROLE AS THE AGENT FOR THE MUNICIPALITIES

As the agent of the requesting municipality, Lehigh County Authority (LCA) will provide sampling and coordinate analysis of all designated users. Results reports with calculated averages used for billing ("Monitoring Data") and if applicable, additional sampling/analysis costs will be sent to the municipalities the month following sample collection. Difficulties encountered with an appropriate sampling site location, customer service or other inquiries will be directed to the municipality. LCA will be available to assist in addressing concerns.

MUNICIPALITIES ROLE

Using Monitoring Data provided by LCA and flow data (provided by LCA or municipality), the municipality will prepare monthly and/or quarterly reports for billing purposes, depending on user flow and monitoring frequency. Prepared reports will be submitted to LCA by the end of the month following the previous quarter. Agreed upon summary figures will be used for final billing to the municipality.

WLI USERS—LIST OF CUSTOMER TYPES

1. Residential Users
2. Non-residential Users
 - a. Non-sampled Users
 - b. Sampled Users
 - i. Sampled-low flow
 - c. Restaurant
 - i. Restaurant-low flow

NON-RESIDENTIAL TYPES TABLE

Non-Residential Type	Abbreviation	Description
Non-Sampled User	N	Industrial/commercial user assumed to have residential (flow) strength, such as banks and office buildings.
Sampled User	S	Industrial/commercial user whose flow strength has the potential to surpass the Extra Strength Limit (ESL) (based on technical literature on type of operation at facility, spot tests, and experience of other wastewater utilities).
Sampled-Low Flow User	S-LF	Used when a typically sampled site has quarterly flow less than 25,000 per annual average.
Restaurant	R	Commercial user whose facility processes food--has direct service connection to the municipal sewer system. Does not include facilities where food is served, but prepared elsewhere.
Restaurant-Low Flow	R-LF	Used when a typically sampled restaurant site has an annual average flow of less than 25,000 gallons per billing period.

Parameter	Average Strength Limit (ASL) (ppm)	Extra Strength Limit (ESL) (ppm)
BOD (Biochemical oxygen demand)	250	300
TSS (Total suspended solids)	275	360
TKN (Total Kjeldahl nitrogen)	35	85
FOG (Fats, oils & grease)	N/A	50

WASTEWATER STRENGTH TABLE BY PARAMETER

INITIAL DESIGNATION DETERMINATION

The initial sample type designation of a non-residential user is based on the probability of high strength discharge, as determined from technical literature, spot tests, experience of other utilities, or from the information provided by the user.

Types of businesses to sample:

Restaurants

Manufacturing

Brewing and distilling operations

Water Bottlers

Food processing

Soft drink/juice processing/bottling

Grocery stores that process meat or other food preparation

The municipality shall have a process in place where-by they identify new users and notify LCA of any new non-residential users and add them to the monthly/quarterly billing report in the appropriate section of the report—Sampled/Restaurants or Non-sampled (non-residential users). LCA may contact the municipality to discuss and arrange initial monitoring of facilities not listed on the billing report or listed as non-sampled when it appears as though they have the potential for producing extra strength waste.

During the municipal review process for a new Sampled User or new Restaurant, a sampling location will be required to be shown on the drawings and approved by the municipality. The municipality will also make the determination if a grease interceptor/grease trap is required. For existing buildings, LCA will review the proposed sampling location and determine if the installation of a sampling manhole and/or a grease interceptor is necessary.

The municipality shall furnish LCA with the following information for all Sampled and Restaurant Users and of the interceptor prior to the selection of the sample site:

1. User designation—Sampled User (S) or Restaurant (R)
2. Name of company
3. Property address
4. Municipal building identification code (if applicable) or account number
5. Business contact information—responsible person and phone number
6. Number of normal working days or days of operation
7. Description of business operations
8. Sampling location

This information will be used for scheduling and reporting. Please promptly provide updates to LCA to ensure proper scheduling and correct information for reports.

ANNUAL DESIGNATION

By December 15 of each year, the municipality shall furnish LCA with an annual average flow report for non-residential users. For this calculation, average the prior year QTR 4, the current year QTRs 1, 2, and 3 flows. This is an example of a basic report design:

SITE ID	BUSINESS NAME	2015 QTR 4	2016 QTR 1	2016 QTR 2	2016 QTR 3	ANNUAL AVG FLOW
4	Company X	200,000	200,000	200,000	200,000	200,000

Notes: Unless the site has flow >1,000,000 in a billing period, the annual average flow calculated in December of the prior monitoring year sets the monitoring frequency for the non-residential user for the next monitoring year. Do not change the monitoring frequency of sites based on the flow of one billing period or at any other time throughout the year.

Low Flow Sites: All industrial/commercial sites that were previously sampled but now have an annual average flow per billing period <25,000 gallons will be excluded from monitoring. These sites will be listed as either S-LF or R-LF indicating low flow. LF sites will be placed back on the schedule for monitoring if the annual average flow per billing period exceeds 25,000 gallons. Low flow sites should be moved to the non-sampled portion of your quarterly billing report with LF added to the site type and ID number to make them easier to track. Use Average Strength billing parameters for LF sites regardless of previously reported test results. Treat LF sites like any other non-sampled site while the flow remains low (less than 25,000 annual average).

SAMPLING FREQUENCY

SAMPLING FREQUENCY BASED ON ANNUAL AVERAGE FLOW

Annual Average Flow per Billing Cycle	Sample Frequency-Sampled User	Sample Frequency-Restaurant
<25,000 gals	Not sampled	Not sampled
25,000 to 99,999 gals	One day per year	3-days per year (Wed, Thurs, Fri or Thurs, Fri, Sat) plus FOG for 1 day
100,000 to 999,999 gals	Work week per year	
> 999,999 gals	Work week per billing period	3-days per billing period (Wed, Thurs, Fri or Thurs, Fri, Sat) plus FOG for 1 day
Notes: Any new Sampled User will initially be sampled for a work week. Scheduling will be required per billing period, if a site has a flow >1,000,000 gallons per billing period and has exceeded one of the extra strength limits.		

The discharge from each Sampled User will be analyzed at least once per year. Each sample will be analyzed for pH, BOD (biochemical oxygen demand), TSS (total suspended solids), and TKN (total Kjeldahl nitrogen). Fats-Oils-Grease (FOG) concentration will be analyzed if food products are produced at the facility or at the request of the municipality.

LCA may sample the non-residential location at any time during the calendar year, but will try to schedule sampling in the same quarter each year.

Initial sampling for any new Sampled User will be for a work week (providing flow is greater than 25,000 gallons per billing period). The Table for sampling frequency by annual flow does not apply for initial monitoring. This also does not apply to Restaurant Users, which are sampled for 3 consecutive days with quarterly flow >25,000 gallons.

The discharge from each Restaurant will be analyzed at least 3 consecutive days annually, either Wednesday-Thursday-Friday or Thursday-Friday-Saturday. Each daily sample will be analyzed, at a minimum, for pH, BOD, TSS, and TKN. FOG concentration will be analyzed at least one day during the sampling period.

REQUESTED ADDITIONAL SAMPLING AND ANALYSIS

A municipality may request additional sampling and analysis of any Sampled or Restaurant User. Sample collection and analysis costs will be noted on the results reports to the municipality. Billing for additional Monitoring Data will be addressed in the final bill of the year.

The Monitoring Data will be used for billing purposes for that billing period and all successive billing periods until new Monitoring Data become available after the completion of the next monitoring event.

NON-SAMPLED USER SAMPLING AND ANALYSIS

A municipality may request sampling and analysis of any non-residential user not included in the Sampled or Restaurant User definition. Test costs and sample collection costs will be billed to the municipality with the results reports.

While the municipality may use the results of the sampling and analysis for billing, LCA will not use the results for purposes of billing the municipality. However, results greater than the extra strength limits may indicate that the user should be added to the municipality's Sampled list.

BILLING COMPUTATION

With the exception of pH, results for each parameter will be averaged and used for billing purposes. The acceptable pH range is 6.5-10.5 pH units upstream of the LCA Wastewater Pretreatment Plant, or 5.0-12.0 pH units below the plant. The municipality will be notified if any result is out of range so that they can determine the cause and initiate corrective action.

To calculate pounds:

If all average results—other than pH—are less than the ESL (BOD-300ppm, TSS-360ppm, and TKN-85ppm), the ASL (BOD-250ppm, TSS-275ppm, and TKN-35ppm) will be used for billing calculations. If any average result is greater than the ESL, the result will be used for billing that parameter and ASL will be used for any parameter average result less than the ESL. The calculation for pounds is: $\text{flow} \times 8.34 \times \text{ppm}$.

Example: Average results are: BOD-400, TSS-300, and TKN-100. The BOD result is greater than the ESL of 300--calculate using 400. TSS is less than the ESL of 360--calculate using the ASL of 275. The TKN is greater than the ESL of 85--calculate using the result of 100.

SAMPLING AND ANALYSIS CHARGES

If a user in the Sampled User or Restaurant category is sampled and found to discharge flow with strength below the ESL, sampling and analysis charges will be waived.

If a user is found to discharge greater than the ESL (a result greater than any one of the billing parameters not including FOG), sampling and analysis charges will be billed to the municipality for annual sampling, or any repeated sampling found to exceed any extra strength limit.

The limit for FOG (fats-oils-grease) analysis is 50 ppm. If result is greater than this limit, the municipality will be billed for sample collection and analysis.

APPENDIX B
(10/22/15)
ESTIMATED QUATERLY BILL PROCEDURES

Estimated Quarterly Bills

- Four quarterly bills will be estimated.
- The estimated quarterly bill amount will be calculated in October for the following year.
- The estimated quarterly bill will be based on a 4 quarter average and the following year's User Charge Report.
- Signatories will be notified of the following year's quarterly estimated bill amount in September or October of each year.
- Quarterly estimated bills will be issued on or about the first of the following months: April, July, November, and January.
- Quarterly estimated bills will be due 30 days after the billing date.
- LCA will enforce the 5% penalty for late payment. The penalty shall be 5% of the payment due if not paid within 30 days from the billing date and an additional 5% of the payment due if not paid within 60 days, and thereafter an additional 1% per month or fraction thereof.
- Signatories must provide actual quarterly data in a timely manner.
- Actual bills will be calculated during the year but no later than May of the following year.
- Adjustments for reconciliation of the prior year's quarterly estimated bills and reconciliation of the City bill will be issued no later than July of each year.

FINANCE & ADMINISTRATION

ACTION ITEMS

1. **2022 Budget Review & Adoption** – October 11, 2021 (discussion); October 25, 2021 (approval)

The Board will receive a second presentation on the 2022 Budget and review the schedule for the remainder of the process for approval at the last meeting in October.

2. **WLI User Charge Report** – October 11, 2021

The Western Lehigh Interceptor (WLI) User Rates will be presented to the Board for review and preliminary approval. The rates will be presented to the municipal signatories for comment, and final rates incorporated into the 2022 Budget.

3. **Audited 2020 Financial Statements** – November meeting TBD

DISCUSSION ITEMS

1. **Strategic Plan Update** – November meeting TBD

Since April 2021, LCA has been working on preparing an updated Strategic Plan and incorporating feedback from employees, key stakeholders, and the Board of Directors. The work has been facilitated by Raftelis and progress continues on the development of updated mission and vision statements, along with strategic priorities, measures, and implementation plans. At an upcoming Board meeting, an update on this work will be provided.

INFORMATION ITEMS

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

CERTIFICATES OF DEPOSIT						
29-Sep-21						
Fund	Bank	Location	Gross Amount	Date of Purchase	Date Due	Net Rate %
WW Capac	Goldman Sachs Bank USA	New York, NY	249,000.00	9/8/21	9/8/23	0.350

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

Developments

Water system construction is occurring in the following developments:

5420 Crackersport Road, 1 commercial lot, UMT

8323/8449 Congdon Hill Drive, 2 industrial lots with warehouses, LMT

Fields at Indian Creek, Phases 4 & 5, 86 residential units (sfd), water and sewer, UMiIT & Emmaus

Kohler Tract, 123 residential lots (sfa), water and sewer, UMiIT

Lehigh Hills, Lot 5 Phase 2, 240 residential units (sfd.), UMT

Lehigh Hills Townhouses, 24 townhouse units (sfa), UMT
Mountain View Estates, 27 residential units (sfd), LMT
Shepherds Corner, 1 commercial lot, LMT
West Hills Business Center – Lot H, 1 commercial lot, Weisenburg T - New

Water system plans are being reviewed for the following developments:

749 Route 100, 1 industrial lot with warehouse, UMT
5329-5347-5357 Hamilton Blvd., 1 commercial lot, LMT
ABE Doors & Windows Redevelopment, 1 commercial lot, LMT
ATAS International, 1 industrial lot, UMT
Estates at Maple Ridge, 30 residential units (sfd), UMT
Glenlivet Drive West Extension & Subdivision, 52 residential units (sfd), UMT
Green Hills Commerce Center III, 1 commercial lot, UMT
Laurel Field, Phase 5, 25 townhouses, UMT
Madison Village at Penn's View, 66 manufactured homes, 1 lot, water and sewer, LynnT
Mertztown Residential Subdivision, 264 sf units & 136 townhouse units, LMT
Mosser Road Subdivision, 10 sf units, UMT
Parkland Crossing (formerly 1224 Weilers Rd Twins), 144 townhouse units, UMT
Readington Farms – 1 industrial lot, UMT - New
Ridings at Parkland – Phase 2, 38 residential units (sfd), NWT
Sauerkraut Lane Extension – Roadway & water line extension, LMT
Self-Storage Facility – Cedarbrook Road – 1 Commercial Lot, LMT
Schoeneck Road, Lot 1, 1 lot, warehouse, LMT
Sheetz – Cetronia Road, 1 commercial lot, UMT
Spring Creek Properties, Lot 12, 1 lot, warehouse, LMT - New
The Annex at Fields at Indian Creek, 22 S.F. residential units, Emmaus Borough
Towneplace Suites by Marriott, 91-room hotel, UMT
Towns At Schaefer Run, 128 townhouse unit (sfd), UMT - New

Sewage Facilities Planning Modules Reviewed in Prior Month:

Microtel Inn & Suites by Wyndham, Allentown, 5,390 gpd.
Da Vinci Discovery Center, Allentown, 8,967 gpd.
Central Park Apartments, Allentown, 29,988 gpd.
Auburn Court Apartments, Allentown, 3,808 gpd.
Basin St Development, Allentown, 5,250 gpd.
Advanced Health Care of Allentown, LMT, 5,778 gpd.
411 W Walnut St Subdivision, Allentown, 5,760 gpd.
Popeyes Restaurant, Allentown, 1,200 gpd.

WATER

ACTION ITEMS

DISCUSSION ITEMS

INFORMATION ITEMS

1. **Allentown Division – Water Filtration Plant: High Lift Pump VFD Replacements**

The High Service Pumping System (HSPS) at the WFP is the primary means of conveying treated water into the distribution system. The HSPS has experienced regular failures from aging electrical components in recent years. The July 2017 Allentown Water Master Plan categorizes the pump variable frequency drives (VFDs) in very poor condition and notes that the VFDs are no longer supported by the manufacturer. This project will replace two of the existing VFDs and add a third VFD to the constant speed pump. Design phase was completed in late 2020. LCA submitted a funding application and supporting documentation to PennVEST in early November 2020, which was approved in January 2021. Construction phase of the project was approved at the 3/22/2021 Board meeting. In May 2021, PennVEST granted consent to proceed with construction prior to closing on the loan, which will follow completion of construction in 2022. Notices to Proceed have been issued for both contracts and construction phase is in progress.

(No Change)

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

The project features the installation of a new booster pumping station and water main extension to interconnect the Central Lehigh Division (CLD) with the Upper Milford Division (UMD) allowing the abandonment of the UMD water supply facilities, and to provide water service to the proposed 123-lot Kohler Tract subdivision in Upper Milford Township. Costs are being shared between the LCA Suburban Division and the developer of the Kohler Tract (Jasper Ridge). Pumping station bids were opened on 4/25/19. Board approval for the construction phase of the project was granted at the 5/13/19 meeting and a preconstruction meeting was held on 6/25/19. The NPDES permit was issued on 3/9/20 and a premobilization teleconference was held on 3/19/20. As of April 2021, construction is more than 96% complete. The contractors are addressing the remaining punch list items. The station went on-line on 11/19/20. **(No Change)**

3. **Suburban Division – Watershed Monitoring Program**

The project involves construction of a surface water flow-monitoring network for the Little Lehigh Creek. The work is in response to the Watershed Monitoring Plan that was developed and reported to LCA by AI Guiseppe (SSM, Inc.) in 2017. Project update meetings with SSM and USGS will be conducted in May and July 2021. **(No Change)**

4. **Suburban Division – Buss Acres Pump Station Replacement Construction**

The project consists of the consolidation and replacement of two well stations with a single new pump station and a new water storage tank to replace two antiquated hydropneumatic pump stations. The new station will be a variable frequency drive controlled double pumping system with full SCADA control. The design will include radon reduction elements and accommodate the future installation of additional radon removal equipment, to be implemented upon DEP's mandate of a regulatory limit. The project is in construction phase. The Notice to Proceed was issued to the contractors on 9/24/19. Construction began in February 2020 and is approximately 95% complete. Equipment delivery delays from the pre-cast building manufacturer have slowed the progress of this project. The new station, the finished water reservoir and both the Gary and Laurie wells are online. The contractors were issued Certificates of Substantial Completion in September. Demolition of the original Gary station, final grading, landscaping, and punch list items are being addressed.

5. **Suburban Division – Water Meter Reading Equipment Upgrade**

LCA's capital program includes the replacement of 20,000 transceiver units, and 10,000 units will be replaced 2019 with the remaining to be replaced in 2020 under separate authorization. The new units have a 20-year battery life and are compatible with the new meter reading software purchased in 2017. This project will replace 100% of the remaining old style radio units over a two-year period. Construction phase services for the first round of 10,000 units was approved at the 5/13/19 Board meeting. Construction began in July 2019 and a change order was issued to the contractor for the installation of the remaining transceiver units that were originally scheduled for replacement in 2020, in order to expedite the completion of the work under the program and take advantage of favorable contract unit pricing. The project is in final closeout. **(No Change)**

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

This Project focuses on the development of an additional well for the Madison Park North (MPN) system per DEP guidelines to have a backup source of water supply. An agreement is in place with an adjoining property owner to MPN to drill a test well on their property. The "step drawdown test" was performed on 3/26/19 and indicated that the test well is a viable backup source to Well 1. A Pre-Drilling and Aquifer Test Plan was approved by DEP in late September of 2019. Authorization was granted at the June 22 Board meeting for aquifer testing of the proposed well as per the combined Pre-Drilling and Aquifer Test Plan. Well testing was performed in August in coordination with LCA's engineer. Testing was halted upon discovery of a water bearing zone blocked by casing pipe grouting. A second test well location has been identified on the same property and well drilling has been completed with positive results. Test Well 2 is more productive than the existing source for the system (Well 1). A sustained aquifer test of Well 2 was performed in March; however, an unpredicted heavy rainfall event invalidated the test. The second aquifer test was completed in July 2021. The second test results concluded that although the well was productive, it would not meet PADEP's criteria for sustainability and that the well was not approvable. Additional well drilling and testing within the Madison Park North area will likely yield similar results at considerable expense. For this reason, we have suspended the effort to develop a second well source.

7. Allentown Division – 36" DI Water Main Condition Assessment

Water distribution system consultant Gannett Fleming, Inc is working with Pure Technologies to develop a condition assessment project focusing on the 36" ductile iron transmission line that feeds the north end of Allentown and Huckleberry Ridge Reservoir. This line has had two recent major failures and it would be beneficial to determine if there is a root cause for these failures that can be corrected to prevent further damage and water loss. The work was performed on December 14-15, 2020. Final report was received. Follow-up assessment tasks are scheduled for Q4, 2021.

8. Suburban Division – Fixed Base Meter Reading Stations

The project focuses on securing land development and zoning approvals to construct eight fixed base water meter reading stations located throughout the Suburban Division water service area. The land development and zoning approvals will allow for the future construction of the stations as part a program to transition to a centralized advanced metering infrastructure system which will provide more consistent, timely and accurate billing to the customers. LCA will conduct additional investigatory work to refine construction costs and identify all zoning restrictions and limitations with the prospective tower sites, and present that information to the Board at a future date. A temporary base station will be erected in the Central Lehigh Division in November as a pilot study to demonstrate the capabilities of Advanced Metering Infrastructure.

9. Allentown Division – Water Main Replacement Program Cycle 5

The project is for the annual replacement of aged and/or failing cast iron water mains in multiple locations throughout the City, in accordance with the new amended lease requirements (one mile per year), based on the design engineer's risk prioritization protocol. The design engineer (Gannett Fleming) halted work on Cycle 5 in 2019 following City Compliance office acceptance

of the Cycle 5 main replacement prioritization, pending available funding. LCA restarted Cycle 5 design phase for construction in 2021 of a water main replacement project. As of November 2020, LCA began the process of negotiations for cost sharing agreement with the City for road surface restoration. In December 2020 LCA formally submitted the substantially complete plans and specifications to the City for approval, and City comments were reviewed on January 19, 2021. The project was advertised for bid on March 1, 2021, pre-bid meeting was held on March 17, 2021, and bids opened on March 31, 2021. The Board authorized the construction phase of this project at the April 12, 2021 LCA Board meeting. As of July 19, 2021, construction work commenced with anticipated completion by early October 2021. (No Change)

10. **Allentown Division – Water Filtration Plant: 2021 Indenture Upgrades – Construction Phase**

As a condition of the financing of LCA's up-front concession payment to the City, LCA entered into a Trust Indenture with the Manufacturers and Traders Trust Company that requires the preparation of an annual Consulting Engineer's Report (Report). The Report, which is prepared each year by Arcadis, documents the condition of the water and wastewater facilities (KIWWTP and WFP) based on physical inspections by the engineer, identifies repairs and upgrades required, and reflects progress made in addressing deficiencies. This project consists of addressing structural deficiencies at the Water Filtration Plant, with work located at various concrete structures in exterior areas. D'Huy Engineering completed design in February 2021, the project was advertised for bid in late March 2021, and bids were opened on April 22, 2021. Award of bids and construction phase authorization was granted at the May 10, 2021 LCA Board meeting. Construction has commenced and will be completed in Fall 2021. (No Change)

11. **Suburban Division – Arcadia West Water Storage Tank Replacement - Construction Phase**

The Arcadia West water storage tank has had several leaks in recent years and the coating system has reached the end of its useful life. A condition assessment study was done in 2019 which determined that the most cost-effective solution is to replace the aging tank with a new concrete tank. This project is for the replacement of the existing steel tank with a new tank of the same size, demolition of the existing tank, and miscellaneous yard piping and site work. Entech Engineering completed design in March 2021, the project was advertised for bid in late March 2021, and bids were opened on April 22, 2021. A Notice of Award was issued to the contractor following approval at the May 10, 2021 LCA Board meeting and the Notice to Proceed was issued in June 2021. Construction began in mid-August and is approximately 20% complete.

12. **Suburban Division – Upper System Pump Station and Main Extension Design - Phase**

Based on current and future demand for water service in the Upper System portion of the Central Lehigh Division, LCA's water system engineer, Gannett Fleming, has run various scenarios in the hydraulic model to simulate the impacts of this expected growth. The preferred alternative to increase water capacity and system resiliency in the Upper System is a system extension under Interstate-78 just west of Fogelsville and a new water booster station, which will supplement existing well supplies and pumping capacity in this area of the water system. Due to the near-term requirements of an industrial development slated to be constructed within the next two years in this area, the project will need to move forward immediately. A Request for Proposals was issued to three pre-qualified engineering firms for design of the Upper System pump station and main extension. Capital Works reviewed the proposals and board approval of design phase was granted at the 7/26/21 board meeting. Design phase is in progress. (No Change)

13. **Allentown Division – Water System Master Plan**

This project involves the preparation of a Master Plan for the Allentown Water Plant, water storage tanks, water storage reservoirs, pressure booster stations, raw water springs, and surface water intakes. The Master Plan will involve several key sections including, but not limited to: full-scale condition assessments, treatment process optimization, and development of short term/long term capital plans. The Master Plan is a requirement included within the City of Allentown lease, and it also needs to be updated every 5 years throughout the life of the lease. The first Master Plan was prepared in 2017. Board authorization will be requested in November or December of 2021 – as the next Master Plan is due in 2022. The project will be funded by the LCA Allentown Division.

WASTEWATER**ACTION ITEMS**

DISCUSSION ITEMS

INFORMATION ITEMS

1. Regional Act 537 Plan Alternatives Analysis: Pretreatment Plant Upgrade Option

To begin the process of developing the long-term Regional Act 537 Plan, the evaluation of the LCA Pretreatment Plant Alternatives was identified as an immediate need to assist with completing the full alternatives analysis to be completed within the next five years. The alternative to upgrade the Pretreatment Plant to full treatment was previously evaluated in the 2011-2016 timeframe. Additional study is required to fully evaluate the facility's capacity to treat current and future dry-day, wet-weather, and peak flows. To complete this evaluation, LCA staff has received proposals for two engineering firms that will serve in Program Manager and Technical Lead roles. The Program Manager will oversee all alternatives being evaluated at both the Pretreatment Plant and Kline's Island Wastewater Treatment Plant in Allentown as the Act 537 Plan is being developed. The Technical Lead will provide specific engineering and treatment plant modeling services to support evaluation of the Pretreatment Plant alternatives. Board approval for these professional services authorizations was granted at the 8/24/2020 meeting. A preliminary report is expected in September 2021. Internal presentations occurred in August and a summary of results was provided to the Board in September.

2. Suburban Division – Western Lehigh Service Area: Revenue Planning Tool

As part of the long-term Act 537 planning process, a revenue planning tool is required to help predict the impact of proposed system modifications in the Western Lehigh Service Area. This tool will simulate financial impacts based on current and future flows and loads and utilizing the terms of existing inter-municipal agreements. For the alternatives being evaluated by LCA's engineering consultants for potential upgrade of the Pretreatment Plant to full treatment, the revenue planning tool will simulate changes in future flows and loads and general financial analyses to assist with decision-making regarding these alternatives. Prior phases of this work were completed in 2019 and 2020 to review the assumptions and parameters required to develop the financial model. Authorization for Phase 2 (development of the actual revenue planning tool) was approved at the 12/14/2020 Board Meeting. Final tool delivery occurred in July 2021 with additional staff evaluation of the results occurring in August. A summary of this work was provided to the Board in September.

3. Suburban Division – Western Lehigh Service Area: 2020 Sewer Modeling

The Western Lehigh Sewer Partnership (WLSP) hydraulic model has been calibrated using 2019 flow meter and rainfall data and is available to support long-term Act 537 planning for the Western Lehigh Interceptor (WLI). Five separate modeling tasks will be performed in order to facilitate broader Kline's Island Sewer System (KISS) planning need discussions. The results of this 2020 modeling will help to inform further future modeling decisions and alternative analyses that will occur during the full KISS model calibration period in 2022. A consulting engineer has been retained and full authorization was granted at the 5/11/2020 Board meeting. A presentation was presented to the Board at the 8/10/20 Board Meeting. Various modeling alternatives are still ongoing and the full model results are now available. The project is funded by the LCA Suburban Division.

4. Suburban Division – Western Lehigh Manhole Rehabilitation Project – Phase 2 Construction Phase

This project involves the rehabilitation of key manholes in the Western Lehigh Interceptor service area. The project includes flood-proofing, interior pipe connection grouting, exterior

concrete work and sealing of manholes, particularly those manholes in close proximity to the floodway, which experience floodwater inundation. The purpose of the project is to eliminate floodwater inflow into the system. The project scope for Phase 1 included 50 manholes that were rehabilitated in 2020 as part of a phased manhole rehabilitation program. The Phase 1 project construction was completed in early 2021. Phase 2 of the WLI Manhole Rehabilitation Project, which includes a similar scope with manholes moving downstream in the WLI drainage basin, was advertised for bid in June 2021, with the construction phase authorized at the 7/26/21 Board meeting. Construction will begin in fall 2021 and conclude by the end of the year. **(No Change)**

5. **Suburban Division - Trexlertown Area Capacity Solution Alternative**

As part of the Interim Act 537 Plan that was approved by DEP in June 2021, a conveyance capacity “bottleneck” was identified in the Trexlertown area of the Western Lehigh Interceptor, and this area was assigned a high priority due to occurrence of sanitary sewer overflows and basement backups in the vicinity. A parallel interceptor was originally conceived to run approximately from Cetronia Rd to Spring Creek Rd. An alternative concept also studied to focus on providing storage capacity in the system for this area, due to concerns about downstream hydraulic impacts. These two alternatives were studied by HDR as authorized by the Board in 2019, with results indicating downstream impacts and long construction timelines due to location in environmentally sensitive areas. A third alternative has been developed which includes bypass pumping from a location at the Industrial Pretreatment Plant to a location in the Upper Macungie Township interceptor which has capacity for the additional flows, thereby relieving this bottleneck. This third alternative has been modeled successfully by Arcadis showing minimal downstream impact and a significant reduction of overflows in the Trexlertown area. An overview of these alternatives was provided to the Board in June 2021. Upon successful Special Act 537 Planning completion, a Part 2 permit will be submitted to DEP. Board authorization requests for planning, permitting, and design services are forthcoming. **(No Change)**

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

The Park Pump Station and Force Main line were constructed in 1980 to provide wet weather relief to the Little Lehigh Creek Interceptor, which conveys wastewater from ten municipalities from outlying areas to the Kline’s Island Wastewater Treatment Plant (KIWWTP). The force main consists of 8,715 linear feet of prestressed concrete cylinder pipe (PCCP) of various sizes (2,615’ of 24”; 2,695’ of 30”; and 3,405’ of 36”) and connects with the 54” sanitary sewer interceptor that runs to KIWWTP. PCCP is particularly sensitive to deterioration due to hydrogen sulfide gas from wastewater, and corrosion of exposed reinforcing steel can result in structural degradation and pipe failure. An internal investigation of the pipe is required to assess the condition of the PCCP pipe and identify damage areas, in order to determine the locations and extent of rehabilitation needed to restore the level of service, prolong service life, and mitigate the risk of failure. On April 10, 2021, LCA conducted a limited manned inspection of the force main pipe at 5 air release valve (ARV) locations, 100 feet in both directions from the ARV manhole, which will be used as the initial evaluation of the representative condition of the pipe. A draft report is in-hand and LCA staff is currently working with our consultant to finalize the report. **(No Change)**

7. **Suburban Division – Park Pump Station Phase 2 Upgrade - Design Phase**

The Park Pump Station Phase 1 Upgrade was completed in early 2020, and consisted of new pumps, new pump control center with variable frequency drives, new automatic transfer switch, new wet well level control system, upgraded HVAC system, roof replacement, new pump removal access hatch, new pump hoist system, and associated mechanical and instrumentation equipment. The existing 40-year old generator does not have the capacity to handle the full

loads of the upgraded station at 100% design flow and is at the end of its useful life. The Phase 2 Upgrade project consists of replacement of the original station backup generator system. The designer of record for the Phase 1 Upgrade was Whitman, Requardt & Associates, LLP (WRA). As WRA is already very familiar with the power systems and controls at the station, Capital Works requested a design phase proposal from the firm for the Phase 2 project. Authorization for design phase was granted at the 3/22/21 Board meeting. Design is anticipated to be completed by the end of 2021. **(No Change)**

8. Suburban Division – Sand Spring WWTP Upgrade Project Construction

The Sand Spring WWTP was constructed in 1972 by the developer to serve the Sand Spring development, located in the Schnecksville area in North Whitehall Township. Sewer service is provided to approximately 248 apartment units, 8 commercial properties, and an elementary school. Lehigh County Authority (LCA) acquired the system in 2005. The project includes replacement of the existing deteriorating treatment facility in entirety with new technology and concrete tanks appropriate for the wastewater flows and loading characteristics. The new facility shall meet the effluent limits criteria established in the respective DEP and DRBC permits, including new or additional limits that may be imposed during the permitting process. Design phase was authorized in February 2017 and final design was delayed due to DEP Part 2 Water Quality Management and NPDES permitting issues. DEP approval of the Water Quality Management Permit was received in late December 2018, the design was finalized in late Spring 2019, and the project was advertised for bid in July 2019. Bids were opened on 8/13/19 and construction phase authorization was approved at the 8/26/19 Board meeting. A pre-construction meeting was held on 11/1/19 following execution of contract documents. Conditional Use approval and land development waiver were granted by North Whitehall Township in Spring 2020. Construction mobilization for site work occurred in late winter 2020 and construction is proceeding. Substantial completion and start-up of the new facility occurred in May 2021 and the project will be closed out by the end of the year. **(No Change)**

9. Suburban Division - Lynn Township Corrective Action Plan

Excessive inflow and infiltration (I&I) and high wet-weather flows into the Lynn Township sewer system has been ongoing and increasingly challenging to address. As noted in LCA's monthly operations reports, treatment plant bypasses and sanitary sewer overflows have occurred in this system and must be addressed. A meeting was held at Lynn Township with DEP and township representatives in June 2019 to discuss the Lynn Township Corrective Action Plan and Township sewer planning/growth issues, and DEP directed LCA to submit a CAP Amendment by the end of summer 2019. The CAP Amendment contained an updated sewer system condition assessment and a corrective plan to further mitigate I/I flows. Updated CCTV work of the entire system was substantially completed in August 2019, and the inspection data was summarized in the CAP Amendment and is being used to scope a capital repair project. The Lynn Township Board of Supervisors adopted a sewer system rules and regulations ordinance on 9/12/19, which gives LCA the authority to inspect private laterals and facilities for illegal connections and perform follow-up enforcement. A meeting with DEP and Lynn Township representatives was held on 1/15/20 to discuss the CAP Amendment and plan moving forward. DEP sent a letter to LCA dated 6/8/20 granting 55 EDUs of sewer allocation relief for new connections to the system. **(No Change)**

10. Suburban Division - Heidelberg Heights Consent Order & Agreement

On 2/11/19, DEP submitted a notice of violation to LCA regarding bypasses and permit exceedances at the Heidelberg Heights wastewater treatment plant. The system has been challenged by high groundwater levels and significant infiltration and inflow (I&I) of clear water into the sewer system during rain events. LCA staff developed a Corrective Action Plan (CAP) which was submitted DEP in April 2019. The Heidelberg Township Board of Supervisors adopted an updated sewer system rules and regulations ordinance in October 2019, which gives LCA the authority to inspect private laterals and facilities for unauthorized connections and perform follow-up enforcement. A Consent Order & Agreement (CO&A) was

approved by DEP and LCA in June 2020, which incorporates the projects and schedule outlined in LCA's CAP. The first annual report was submitted to DEP per the CO&A requirements in late March 2021. A public outreach program will be initiated in 2021 regarding upcoming inspections of private side sewer facilities, to commence in 2022. **(No Change)**

11. **Suburban Division – Heidelberg Heights 2021 and 2022 Sanitary Sewer Replacement Project**

In accordance with the Consent Order and Agreement (CO&A) executed by LCA and DEP, LCA is required to complete annual inflow and infiltration mitigation projects to eliminate hydraulic overloads and bypass events at the Heidelberg Heights wastewater treatment plant. The CO&A requires that all original vitrified clay sewer main and lateral pipe be replaced within five years. The 2021 sewer replacement project bids were opened on 3/31/2021. Only two bids were received, both of which significantly exceeded the engineer's estimate. The Board approved rejection of bids at the 4/26/2021 Board meeting. The project scope was expanded to include the 2022 required sewer main replacement (Phase 2), in order to gain economy of scale and attract more bidders. The expanded project was advertised for bid on 8/24/2021, and bids were opened on 9/15/2021. Construction phase authorization was granted at the 9/27/2021 Board meeting. Phase 1 of the project will be completed by the end of 2021, and Phase 2 will be completed in Spring 2022.

12. **Kline's Island Sewer System – Regional Sewer Capacity & Wet-Weather Planning – Sewage Billing Meter QA/QC Data Analytics and 2021 Flow Metering Preparation**

As part of the Interim Act 537 Plan, the municipalities served by the Kline's Island Sewer System have committed to completing a flow metering and modeling project beginning in 2021. The flow metering data will be used to prepare modeling and identify the capital improvements needed to meet the future sewage capacity needs of the region through 2050. The flow metering will include a mix of temporary meters and the existing sewage billing meters. Data delivery and storage procedures, quality assurance, and flow analytics were implemented in 2020 for these sewage billing meters. Without this meter development program, the data cannot be used from these billing meters. A consulting engineer's professional service proposal was granted at the April 27, 2020 Board meeting. Costs associated with the development of the QA/QC data analytics and the 2021 flow metering preparation will be paid by the City of Allentown and reimbursed through existing intermunicipal agreements and by City customers through the use of the Administrative Order Fee. As of late September 2021, the flow metering program continues to utilize 22 existing sewer billing meters.

13. **Kline's Island Sewer System – Regional Sewer Capacity & Wet-Weather Planning: 2021 Model Expansion and Calibration**

The prior KISS sewer model from 2014 included only the City of Allentown and LCA/Western Lehigh municipalities. The primary goal of this work is to expand the sanitary sewer model into the surrounding Signatories (Coplay, Whitehall, North Whitehall, Hanover, South Whitehall, Salisbury, and Emmaus). Calibration of this expanded model to current flow characteristics will aid in the identification and evaluation of regional alternatives for solutions to both treatment and conveyance through the year 2050 Act 537 planning horizon (the LCA/Western Lehigh portion of this model calibration work was completed in 2019 and 2020). The end result of this proposed work will provide one comprehensive, calibrated sewer model for the entire KISS system using 2021 temporary meter flow data and rainfall data. On February 22, 2021, Board approval was granted for this next phase of Act 537 planning efforts. The model is anticipated to be complete by June 2022. **(No Change)**

14. **Allentown Division – Sanitary Sewer Collection System: Rain Derived Inflow and Infiltration (RDII) Analysis**

The main goal of this work is to conduct an RDII analysis of storm events during the flow monitoring period to determine the nature and extent of infiltration and inflow (I&I) leakage, and to use hydrograph interpretation to help the City focus their rehabilitation work (both secondary

Sanitary Sewer Evaluation Survey (SSES) investigations and rehabilitation efforts) toward the sources contributing the leakage. It will also be determined where the flow meters should be installed for the next monitoring period and where SSES future work should be completed. Data from approximately 43 temporary flow meters and five rain gauges from the 2021 flow metering program will be used for this analysis. The analysis itself will begin in late 2021 and will be concluded by March of 2022. On February 22, 2021, Board approval was granted for this project. **(No Change)**

15. Kline's Island Sewer System – Act 537 Planning: 2021 Flow Data QA/QC

As part of the Interim Act 537 Plan, the municipalities served by the Kline's Island Sewer System have committed to completing a sewage flow metering and modeling project beginning in 2021. The flow metering data will be used to prepare sewer modeling and identify the capital improvements needed to meet the future sewage capacity needs of the region through 2050. The flow metering program will include a mix of temporary meters (~63), existing sewage billing meters (~24), and various permanent, non-billing Signatory meters (~11). Flow metering services will be provided by Flow Assessment Services, as previously authorized in 2020. To ensure the data collected from the nine-month monitoring period are accurate and to ensure the validity of the resulting hydraulic model, a rigorous quality assurance and quality control program must be implemented. Approval of a consulting engineer's proposal for this work was granted at the January 25, 2021 Board meeting. Costs associated with these services will be paid by the City of Allentown and reimbursed through existing intermunicipal agreements and by City customers through the use of the Administrative Order Fee. The 2021 flow characterization study will be completed by October or November of 2021, with the third round of QA/QC having been recently concluded.

16. Allentown Division – Sanitary Sewer Collection System: I&I Source Reduction Program Plan (Year 2)

This project includes the design of the City of Allentown's I&I Source Reduction Program Plan. In 2014, Video Pipe Services complete various CCTV inspections throughout twenty Primary and Secondary Basins. All pipe segments that called for complete pipe replacement have already been repaired. The remaining source reduction activities within the twenty Basins have been organized into a 5-Year Plan, with each year focusing on a different geographic region of the City's sewer collection system. Design has been approved for all five years, with the first project completed in 2020 and the last project finishing in 2024. Board approval for the construction phase was granted at the March 22, 2021 Meeting. Construction began in May 2021 and will be completed by November 2021. This project is considered an AO expense under terms of the Lease and is City funded. **(No Change)**

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

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

18. Allentown Division – Kline's Island WWTP: Max Monthly Flow Capacity Evaluation

DEP has noted that the KIWWTP has been performing at a high level and meeting its permitted effluent quality limits during a period of prolonged wet weather since early 2018. This study will provide the basis for confirming the plant's maximum monthly average that can be sustained during prolonged periods of wet weather – while remaining in full compliance with effluent quality requirements of the plant's permit. Approval of the study was granted at the 8/26/19 Board Meeting. The study was completed in mid-October 2019 and a Part II Permit was sent to DEP on

10/18/19. The permit was then resubmitted in late January 2021. Upon receipt of the Interim 537 Plan approval on 6/25/21, the permit submission was slightly modified to correspond with a 44.6 MGD hydraulic re-rate. This project is considered an AO expense under terms of the Lease and is City funded. **(No Change)**

19. Allentown Division – Kline’s Island WWTP: Sodium Hypochlorite System Installation Project – Construction Phase

This project involves the replacement of the existing gaseous chlorination system at the Kline’s Island Wastewater Treatment Plant (KIWWTP). The use of gaseous chlorine for effluent disinfection, while reliable, is outdated and creates significant public health and employee safety risks. In addition, the existing equipment has reached the end of its useful life. The 2018 KIWWTP Master Plan recommended abandoning gaseous chlorine and switching to (liquid) sodium hypochlorite. The design commenced in March of 2019 and was completed in early 2020. The project was advertised for bid in February 2020, construction phase was authorized at the 6/8/2020 meeting and the contractor mobilized in late summer 2020. The project is anticipated to be completed in Fall 2021. The project is funded by the LCA Allentown Division. **(No Change)**

20. Allentown Division – Kline’s Island WWTP: 2021 Indenture Upgrades - Construction Phase

As a condition of the financing of LCA’s up-front concession payment to the City, LCA entered into a Trust Indenture with the Manufacturers and Traders Trust Company that requires the preparation of an annual Consulting Engineer’s Report (Report). The Report, which is prepared each year by Arcadis, documents the condition of the water and wastewater facilities (KIWWTP and WFP) based on physical inspections by the engineer, identifies repairs and upgrades required, and reflects progress made in addressing deficiencies. This project consists of addressing structural deficiencies at KIWWTP, with work located at the Main Pump Station, Auxiliary Pump Station, Effluent Pump Station, and Plastic Media Tricking Filters. Work includes masonry repointing and restoration, door and window lintel replacement, concrete crack repair and resurfacing, and pipe painting. D’Huy Engineering completed design in February 2021, the project was advertised for bid in mid-March 2021, and bids were opened on April 19, 2021. Award of bids and construction phase authorization was approved at the May 10, 2021 LCA Board meeting. Construction is anticipated to be completed in Fall 2021. **(No Change)**

21. Allentown Division – Kline’s Island WWTP: Solids Process Boiler and HVAC System Upgrade Project - Design Phase

The solids process boiler system is more than 25 years old and provides critical heat to the anaerobic digesters and solids dewatering and processing buildings. The equipment has reached the end of its service life, and replacement of the equipment is identified as a near-term (0 – 5 years) project priority in the KIWWTP Master Plan. This project includes replacement of the boilers and associated solids processing HVAC equipment. A preliminary engineering Basis of Design Report was prepared by GHD Engineering and submitted to the City Office of Compliance in January 2021. The City granted approval of the report in a letter dated 3/22/21 and the project is classified as a Major Capital Improvement. Approval of design phase engineering was granted at the 5/24/21 LCA Board meeting and design is proceeding. **(No Change)**

22. Allentown Division – Lehigh Street (Rte. 145) Water and Sewer Main Relocation Project

As part of the Pennsylvania Rapid Bridge Replacement Program, the proposed replacement of the Lehigh Street Bridge near the intersection with MLK Boulevard has required the relocation of existing City water and sewer lines that are located within the PennDOT right of way. Because the bridge is owned by Lehigh County and not the Commonwealth, the normal PennDOT relocation reimbursement schedules do not apply. Therefore, the County and LCA have executed an agreement on cost reimbursement on similar terms. LCA’s engineer is working on behalf of LCA on a final sewer relocation design that minimizes the extent of the relocation. There will be less water infrastructure relocation work required since the existing

water main is attached under the bridge and will be reattached after the new bridge is constructed. Construction will commence in late 2021. **(No Change)**