



LCA Main Office:
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Wescosville, PA 18106
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Agendas & Minutes Posted:
www.lehighcountyauthority.org

LEHIGH COUNTY AUTHORITY

Published: April 3, 2023

BOARD MEETING AGENDA – April 10, 2023 – 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

- *March 27, 2023 Board meeting minutes*

4. Public Comments

5. Action / Discussion Items:

FINANCE AND ADMINISTRATION

- *LCA Strategic Plan – 2023 Quarterly Progress Reporting (Discussion) (yellow) (digital Board packet, pages 8-13)*

WATER

- *Suburban Division – Water Main Replacement Program – Cycles 7 & 8 (Approval) (blue) (digital Board packet, pages 14-17)*

WASTEWATER

6. Monthly Project Updates / Information Items (1st Board meeting per month) (digital Board packet, pages 18-23) – **April 2023 report attached**
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. Board Member Comments
13. Executive Sessions
14. Adjournment

UPCOMING BOARD MEETINGS		
April 24, 2023	May 8, 2023	May 22, 2023

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

March 27, 2023

The Regular Meeting of the Lehigh County Authority Board of Directors was called to order at 12:01 p.m. on Monday, March 27, 2023, Vice Chairman Amir Famili 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. Amir Famili, Ted Lyons, Linda Rosenfeld, Norma Cusick, Kevin Baker, Jeff Morgan, and Sean Ziller were present for Roll Call, and remained for the duration of the meeting.

Solicitor Michael Gaul of KingSpry was present along with Authority Staff, Liesel Gross, Ed Klein, Chuck Volk, Phil DePoe, Susan Sampson, Albert Capuzzi, and Lisa Miller.

Vice Chairman Famili announced that the Board received their electronic and hard copies 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

Liesel Gross announced that there are no changes or additions to the agenda; however, she requested that the Monthly Systems Operations Review be presented first on the agenda, followed by the Staff Comments, because some employees need to leave early to travel to a conference. No Executive Session is planned.

APPROVAL OF MINUTES

February 27, 2023 Meeting Minutes

Norma Cusick noted a grammatical error. On a motion by Linda Rosenfeld, seconded Norma Cusick, the Board approved the minutes of the February 27, 2023, Board meeting as corrected (7-0).

PUBLIC COMMENTS

None.

MONTHLY SYSTEM OPERATIONS REVIEW

Andrew Moore reviewed the February 2023 Operations report and noted that water production is in line for this time of the year. Wastewater treatment was a little lower than normal due to the low level of rainfall received in February. He reported on the sanitary sewer overflows that occurred mostly due to grease and rags. However, one was caused by a failed lining. Two injuries occurred in February: a neck injury, and an allergic reaction. Brief Board discussion followed.

STAFF COMMENTS

Liesel Gross highlighted an article in the February issue of The Authority magazine regarding Source Water Protection that was written by Susan Sampson. Ms. Gross also reported that she attended the AWWA Water Matters Fly-In in Washington DC last week to meet with members of Congress to discuss infrastructure funding, PFAS, and cybersecurity topics. The Board thanked Ms. Gross for her efforts.

Allentown Division – Large Diameter Valve Rehabilitation & Replacement Program

Chuck Volk introduced the Phase 1 design project to replace large diameter valves that are inoperable or in poor condition, as outlined in the recent study to review the condition of the valves. Jason Peters elaborated on the project stating that part of the Authority's asset management strategy is to prioritize the replacement of large diameter valves throughout the Allentown Division. Over the past few years, large water main breaks have highlighted the need for this program in order to better control the system during emergencies. This initial project will include the replacement or repair of three 36-inch diameter valves, two of which are located on the Schantz Spring line, and one valve on the 12th Street line. There was some Board discussion regarding the number of valves in need of replacement and their condition.

On a motion by Ted Lyons, seconded by Linda Rosenfeld, the Board approved the Capital Project Authorization for the Allentown Division Large Diameter Valve Replacement Program, Phase 1 Design in the amount of \$74,400.00 which includes the Professional Services Authorization to Gannett Fleming in the amount of \$59,300.00 (7-0).

Suburban Division – Industrial Pretreatment Plant Master Plan

Liesel Gross introduced Diana Heimbach, John Tobia, Tom Johnson, and Kevin Dahl from Jacobs, the engineering and contract operations firm that currently operates the Authority's industrial pretreatment plant (PTP) located in Fogelsville. Jacobs completed the master plan for the PTP, with results to be incorporated into the regional Act 537 Plan that is currently under development.

A detailed presentation was provided to review the background of the plant and discuss the scope, key findings, and recommendations of the master plan. John Tobia facilitated the presentation and discussion with support from the additional Jacobs team members in attendance.

The PTP is designed to treat high-strength waste and uses a high purity oxygen system to break down the high organic loading entering the facility. The PTP was constructed approximately 30 years ago and many components are reaching the end of their useful life. At the same time, the PTP is at full capacity already, and expansion will be required to meet future projected flows and loads. To determine future flows and loads, Jacobs used historical plant data, historical peaking factors, and future planning flows and loads provided by some industries and municipal partners. There was some discussion regarding industrial permits and regulations.

Jacobs reviewed the alternatives related to capacity expansion at the PTP to address future industrial needs. The recommended approach is to install two anaerobic pretreatment basins that would receive waste directly from the largest customer, Boston Beer Company. By separating the largest source of flow and organic loading into dedicated new pretreatment facilities, the existing plant would remain in place and required asset renewal projects can be phased more easily. This approach will have additional benefits of lowering the demand for oxygen in the treatment process, and reduction of biosolids production.

Jacobs then reviewed capital improvements that are required throughout the PTP as part of the ongoing rehabilitation and replacement process for aging system components. Jacobs completed a condition assessment on the entire plant, including the treatment systems and other components such as roofs, HVAC, and electrical systems. Key findings were summarized including the need to plan out the replacement of the PTP's mechanical, electrical, and cryogenic (oxygen generation) systems. It was noted that the capital improvements could be phased in parallel with the capacity expansion projects to reduce overall costs. Jacobs also reviewed the need to increase the annual budget for smaller repairs and replacements that could assist with the phasing of larger projects. This annual budget would be used for additional condition evaluations, purchasing of spare parts, smaller repair projects, and establishment of a contingency fund for emergency repairs.

As part of the master plan, Jacobs also reviewed opportunity for on-site cogeneration, using biogas produced from the treatment process in a combined heat and power system. However, due to the upfront expense and ongoing operating and maintenance costs, this option does not appear to be viable for the PTP. Some additional exploration of this topic is necessary.

Jacobs reviewed high level cost estimates for the work described in the master plan: \$222 million for the plant expansion projects, which capture the majority of additional capital improvements; \$25.5 million for additional capital improvements that are not part of the plant expansion approach, which could be phased over time to follow the plant expansion projects; and \$1.6 million additional annual funding for smaller repairs, purchase of spare parts, and establishment of contingency funds for emergencies. The next steps include a deeper review of the electrical system and high purity oxygen system requirements, confirmation of future flows and loads, identification of opportunities to reduce capital costs and maximize energy efficiency, and evaluation of opportunities to segregate additional commercial flows into the new pretreatment facilities.

Liesel Gross thanked Jacobs for the presentation and explained how the PTP fits in with the regional Act 537 Plan that is being developed. Flows from the PTP flow into the Kline's Island Sewer System, and effective treatment of industrial waste at the PTP impacts the flows and loads being discharged to the Kline's Island Wastewater Treatment Plant. Additionally, the municipalities have been working collaboratively on the regional Act 537 Plan and detailing their anticipated future needs for sewage treatment. The PTP master plan results will be incorporated into the overall regional approach being considered. Some Board discussion followed regarding how the costs from the PTP master plan would be shared with the industries and the communities, and ways to protect the Authority from the cost burden if the industrial development does not occur.

City of Allentown – KISS System Modeling – Preliminary Screening of Alternatives (PSOA)

Phil DePoe gave a detailed presentation of the results of the preliminary screening of the alternative (PSOA) work completed since its authorization in October 2022. The PSOA work is intended to provide preliminary review of alternatives for the regional Act 537 Plan, which would then be narrowed down into a final set of alternatives that would be reviewed in greater detail in the months ahead. Mr. DePoe provided background on the Act 537 Plan development process, requirements of the Pa. Department of Environmental Protection, schedule for completion of the plan, and Kline's Island Sewer System (KISS) goals for this planning effort.

Mr. DePoe reviewed the results of the PSOA work, stating that several projects have been identified as being required for inclusion in the final Act 537 Plan, while other projects will be contingent upon additional study. The required projects include: upgrades at the Kline's Island Wastewater Treatment Plant (KIWWTP) to address peak wet-weather flows, required capital projects from the KIWWTP master plan, an upgrade to the Little Lehigh Interceptor via gravity and/or pumping options, and upgrade to the Western Lehigh Interceptor via gravity and/or pumping options, and municipal signatory projects to eliminate the sources of inflow and infiltration (I&I). Projects that are still being reviewed for inclusion in the Act 537 Plan include additional KIWWTP upgrades, upgrades to additional regional interceptors and trunkline, and upgrades to various municipal signatories' interceptors and trunklines. The need for these additional projects will be determined primarily by the effectiveness of the municipalities' efforts to eliminate I&I from the system. Mr. DePoe provided additional details about the KIWWTP upgrades to address peak wet-weather flows, since some of those projects are already in design phase.

Liesel Gross commented that on the discussion regarding the Act 537 Plan to date has been focused on the engineering tasks to determine the physical needs of the system and scope of projects that must be completed. However, overall cost and affordability are critical factors that will shape the decision about what projects will be included in the Act 537 Plan. The plan approval

process requires adoption by all municipalities in the KISS system, and so the array of projects and rate impact of the work will need to be acceptable both financially and politically for each community. She noted the ability to implement the projects, in terms of available funding, staff resources, contractors, and materials, will also need to be considered in the decision-making process.

Mr. DePoe explained the next steps in the planning process leading up to a final draft of the plan being prepared for the public review and approval process in September 2024.

Suburban Division – Heidelberg Heights Wastewater Treatment Plant – Mechanical Screen Project

Chuck Volk provided background of the Heidelberg Heights wastewater system that was acquired by the Authority in 1998. A new wastewater treatment plant was constructed in 2000 using a Sequencing Batch Reactor (SBR) to address major environmental noncompliance. The comminutor placed in service at that time is now obsolete. A replacement is needed to improve performance and reduce operations and maintenance issues.

Bidding for the project was competitive with JEV Construction, LLC being the low bidder. JEV has successfully completed several projects for the Authority in the past five years and their bid came in under the engineer's estimate of \$368,000.00. There was some discussion regarding bid requirements.

On a motion by Norma Cusick, seconded by Ted Lyons, the Board approved the Capital Project Authorization for Heidelberg Heights Wastewater Treatment Plant Mechanical Screen Installation Project for the Construction Phase in the amount of \$415,000.00, which includes the General Construction Contract to JEV Construction, LLC in the amount of \$354,600.00 and the Professional Services Authorization for the Construction Phase Engineering Services to D'Huy Engineering in the amount of \$35,400.00 (7-0).

MONTHLY FINANCIAL REVIEW

Ed Klein gave an overview of the February 2023 financial statements, highlighting variances between actual expenses and budgeted or forecasted expenses. Mr. Klein reported that all three funds are positive against the forecast. He reported that some forecast refining will take place in the second quarter.

SOLICITOR'S COMMENTS

None.

PUBLIC COMMENTS / OTHER COMMENTS

None.

BOARD MEMBER COMMENTS

None.

EXECUTIVE SESSION

None.

ADJOURNMENT

There being no further business, the Vice Chairman adjourned the meeting at 2:07 p.m.

Linda Rosenfeld
Secretary

LCA Strategic Plan (2022-2027)

2023 Quarterly Progress Report: April 2023

Overview

Lehigh County Authority (LCA) adopted an updated Strategic Plan in December 2021, which included a refreshed look at our Mission, Vision, Values and Priorities. An ambitious list of strategies, activities, and tasks were developed to support the achievement of LCA's plan over the next five years. This progress report was developed to help our employees and Board of Directors keep a sharp focus on the plan and, specifically, the work we plan to achieve in the current year. While not all inclusive, milestones outlined in this report describe the breadth of activities LCA focused on in 2022, and will continued to focus on in 2023. A dashboard of key performance indicators is included on the last page of this report. Any questions about this report should be directed to LCA's Chief Executive Officer, Liesel Gross.

Asset Management

2022-2023 Focus:

1. Develop multi-year approach / roadmap to developing LCA's Asset Management (AM) program
2. Track all maintenance activities in a standard Computerized Maintenance Management System (CMMS) platform

2022 Milestones & Activities (completed):

- ✓ Conduct staffing assessment & develop organization structure for AM
- ✓ Define consultant work scope for the development of an AM roadmap
- ✓ Recruit and hire a Director of Engineering & Asset Management
- ✓ Conduct trial period for capital project management using MS Project
- ✓ Kick-off identification and definition of Preventive Maintenance (PM) and Corrective Maintenance (CM) programs within CMMS

2023 Milestones & Activities:

- **Develop new Board report on capital program progress (on time / on budget)**
 - 1st Quarter 2023 Status: Capital plan development process reviewed and recommendations provided by Hazen & Sawyer. Preliminary review of project management software system completed.
- **Strategic AM Plan (SAMP) documented including multi-year AM program roadmap**
 - 1st Quarter 2023 Status: AM Maturity Assessment and draft LCA AM Policy completed.
- **Identify and define all critical / key Preventive Maintenance (PM) and Corrective Maintenance (CM) programs within CMMS**
 - 1st Quarter 2023 Status: Ongoing progress by maintenance staff, with additional support expected following full AM Technology staff transition (see below).
- **Complete staffing transition for new AM Technology group, with refinements made to AM technology roadmap**
 - 1st Quarter 2023 Status: Two AM Technology Analysts hired in January with strong experience in geographic information systems (GIS). Additional program definition required to address CMMS and other AM technology needs.

Process Improvement

2022-2023 Focus:

1. Evaluate long-term viability of current Enterprise Resource Planning (ERP), Munis, and implement next steps for enhancement
2. Process improvements in Customer Care and Finance/Accounting areas

2022 Milestones & Activities (completed):

- ✓ Conduct ERP needs assessment & road map, and initiate next steps as determined
- ✓ Review and document current processes for capturing various delinquency types (e.g. waste haulers, sewer-only customers)
- ✓ Upgrade to MUNIS version 2021.3 if/when all technical barriers are removed

2023 Milestones & Activities:

■ **MUNIS Reimplementation Project milestones achieved**

- 1st Quarter 2023 Status: Draft new General Ledger string and chart of accounts developed by LCA staff. Tyler Technologies engaged, partial completion of investment analysis sessions to support scoping of implementation project. Full project schedule under development, dependent on Tyler resource availability in 2023/2024.

■ **Implement Paymentus upgrade to improve secure account access & add real time API**

- 1st Quarter 2023 Status: Not started.

■ **Adopt updated Board resolution for delegation of duties and purchasing authorizations**

- 1st Quarter 2023 Status: Board discussion under way regarding committee structure to support additional discussion of delegated responsibilities.

■ **Implement universal ACH payments for accounts payable**

- 1st Quarter 2023 Status: Vendor communication to collect ACH data prepared, with final data security measures being reviewed prior to release.

Water & Wastewater Capacity

2022-2023 Focus:

1. Advancing regional Act 537 Plan development for regulatory submission in 2025
2. Improve water supply resiliency for Central Lehigh Division (CLD) & North Whitehall Division (NWD)

2022 Milestones & Activities (completed):

- ✓ Kickoff of specific water projects (system interconnection, storage evaluation)
- ✓ Complete Water Filtration Plant master plan update
- ✓ Complete Pretreatment Plant (PTP) master plan (presented Q1 2023)
- ✓ Develop inflow & infiltration source removal plan for the Allentown Division collection system, the Western Lehigh Interceptor, and three collection systems owned and operated by LCA (Upper Milford, Weisenberg, and Lowhill Township)
- ✓ Complete preliminary design of pumping improvement projects at KIWWTP
- ✓ Initiate financial / institutional evaluation required for Act 537 Plan

2023 Milestones & Activities:

- **Commence construction phase of Upper Western Lehigh Pump Station & Force Main project**
 - 1st Quarter 2023 Status: Project design at >60%, with permits submitted to Pa. Department of Environmental Protection (DEP). Easement acquisition process ongoing.
- **Initiate additional CLD / NWD water supply evaluations and/or projects (scope TBD)**
 - 1st Quarter 2023 Status: CLD / NWD water master plan in final stage of completion, to be presented to LCA Board in May.
- **Complete design phase of pumping improvement projects at KIWWTP**
 - 1st Quarter 2023 Status: Design work ongoing. Initial evaluation of KIWWTP main pump station configuration complete.
- **Act 537 Plan analysis narrowed down to three final alternatives**
 - 1st Quarter 2023 Status: Preliminary Screening of Alternatives (PSOA) stage complete with results presented to municipalities and LCA Board in March. Authorization for Final Alternatives Analysis (FAA) phase to be requested in April.

Employee Engagement & Safety

2022 & 2023 Focus:

1. Employee & supervisory onboarding and ongoing development
2. Safety program enhancements

2022 Milestones & Activities (completed):

- ✓ Develop remote work / flexible work arrangements policy and procedures
- ✓ Hire human resources staff member to support employee development / succession planning
- ✓ Create Environmental, Health & Safety (EHS) Steering Committee

2023 Milestones & Activities:

Employee Engagement Milestones:

- 1st Quarter 2023 Status: Milestones listed below will be evaluated / refined following full onboarding of new Human Resources staff.
 - Standardize employee onboarding: develop standard human resources processes, work with managers on department-specific processes
 - Standardize onboarding process for new supervisors
 - Roll out stay interview and new-employee check-in / mentoring processes
 - Update LCA retirement risk profile / near-term succession plan

Employee Safety Milestones:

- **Evaluate needs for external support for standardizing / improvement of EHS program**
 - 1st Quarter 2023 Status: Staffing needs, external resources, and staff succession planning needs to be reviewed by EHS Steering Committee.
- **Improve root cause analysis process to enhance understanding and tracking of safety incidents**
 - 1st Quarter 2023 Status: Existing process for conducting root cause analysis and incident investigations reviewed by EHS Steering Committee.
- **Enhance safety metrics**
 - 1st Quarter 2023 Status: Initial draft of new incident reporting metrics reviewed by EHS Steering Committee.
- **Create standardized safety training requirements for new employees**
 - 1st Quarter 2023 Status: Not started.

Operational Excellence

2022-2023 Focus:

1. Completion of specific operational projects/programs that support Operational Excellence goals
2. Small systems compliance review and operational enhancements to achieve compliance

2022 Milestones & Activities (completed):

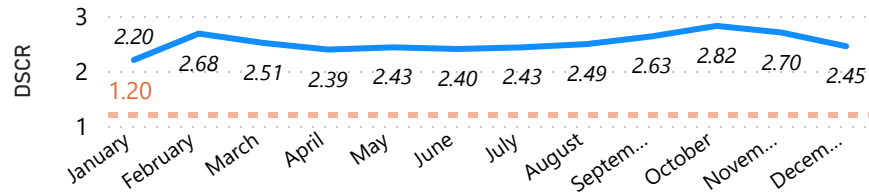
- ✓ Large diameter valve maintenance & replacement program development
- ✓ Suburban Water Supervisory Control and Data Acquisition (SCADA) upgrade, 2022 work scope (3:4 completed)
- ✓ Small systems process control & instrumentation plan development
- ✓ Develop root cause analysis and reporting process for compliance excursion events
- ✓ Regulatory and water quality monitoring program for PFAS (will be ongoing)
- ✓ Standardize Field Services resource sharing protocols (equipment, emergency response, other)
- ✓ Kline's Island Wastewater Treatment Plant (KIWWTP) belt filter press optimization program
- ✓ Initiate Heidelberg Heights private-side sewer system inspection program (will be ongoing into 2023)

2023 Milestones & Activities:

- **Begin implementation of Sand Spring WWTP permit compliance plan**
 - 1st Quarter 2023 Status: External engineering support retained to assist with evaluation. Compliance plan being drafted for submission to DEP in April.
- **Implement small systems process control & instrumentation plan**
 - 1st Quarter 2023 Status: Compliance Technician job description drafted and standard operating procedures (SOP) developed to support plan.
- **Lead service line replacement program kickoff & compliance planning for lead and copper rule revision (LCRR)**
 - 1st Quarter 2023 Status: Draft SOP prepared to address customer risk mitigation measures required following lead service line disruption. Pennvest grant application on track for May submission deadline. Lead service line inventory work slowed due to AM Technology staff transition period.
- **Other operational projects as determined by staff**
 - 1st Quarter 2023 Status: Design for phase 1 large diameter valve replacement project authorized in March. Supervisory Control and Data Acquisition (SCADA) upgrade for Suburban Water on track to complete 2022/2023 work scope – 6 stations upgraded.

Financial

2022 Debt Service Coverage Ratio - Total LCA



Debt Service Coverage Ratio - Current

City Division	Suburban Wastewater	Suburban Water
2.30	11.22	2.60

Unrestricted Days Cash On Hand

City Division	Suburban Wastewater	Suburban Water
298	219	146

* Target of 180 days.

Customer Care

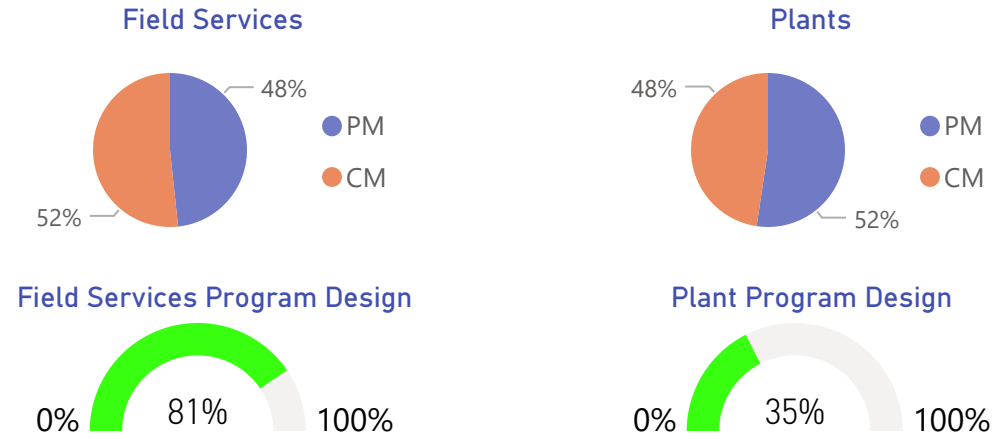
DEVELOPING
METRIC

Capital Program

DEVELOPING
METRIC

Asset Management

2022 Corrective Maintenance vs. Preventive Maintenance Hours



* Metric to show 2022 progress on preventive program redesign and implementation.

Safety

Days No Vehicle Accident

56

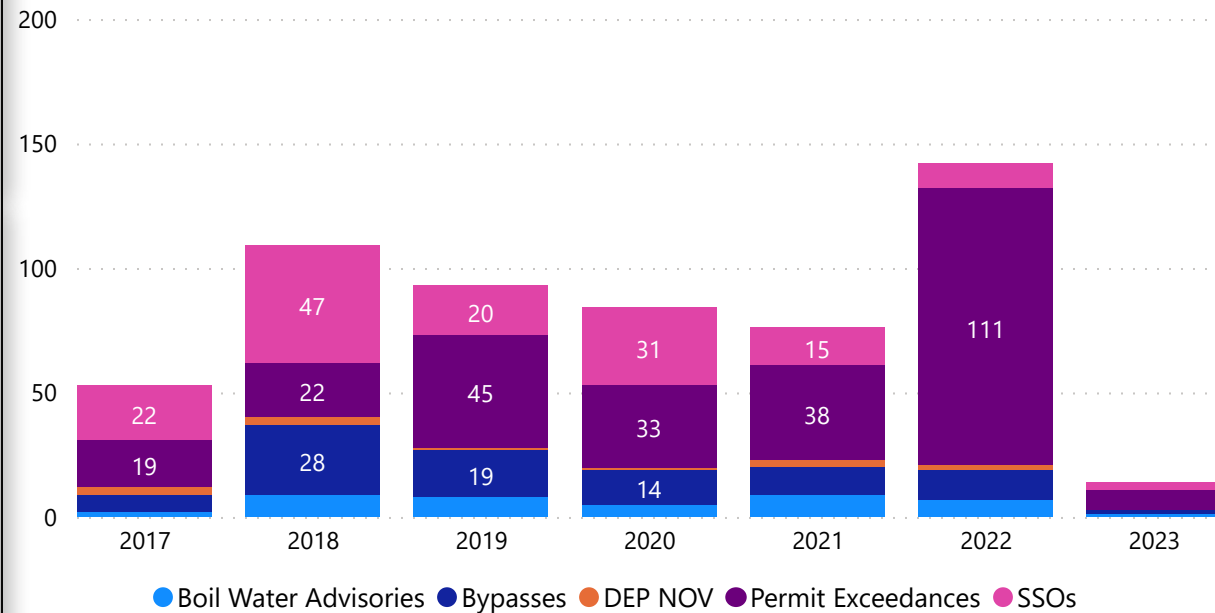
Days No Lost Time

124

Of Recordable Injuries YTD

2

Environmental Compliance



Employees

Total Employees

158

Average Age

46.1

Average Yrs of Service

12.0

Total Vacancies

16

MEMORANDUM

Date: April 10, 2023

To: Lehigh County Authority Board of Directors
From: Jason Peters, Charles Volk
Subject: Suburban Division- Water Main Replacement Program
Design & Bid Phase - Cycles 7&8

MOTIONS / APPROVALS REQUESTED:

No.	Item	Amount
1	Capital Project Authorization – Design & Bid Phase – Cycles 7&8	\$283,000
2	Professional Services Authorization – Gannett Fleming, Inc. (1), (2)	\$208,000

- (1) *Included in the Capital Project Authorization.*
- (2) *Does not include Construction phase related engineering services.*

PROJECT OVERVIEW:

The Suburban Division water systems serve multiple municipalities in Lehigh and Northampton Counties. It is the intention of this project to replace one mile of aging water main throughout the Suburban Division each year, which will extend service life, reduce system leakage, and mitigate disruptive water main breaks that impact our customers. This is an on-going program that requires the retention of an engineering design consultant for a multi-year cycle to assure continuity and efficiencies for the program.

This project covers Suburban Division Cycles 7 and 8 program, which includes approximately two and a half miles of water main to be replaced. The scope of this authorization is for design and bid phase of Cycles 7 and 8 water main replacements. The additional half mile of water main requested beyond the typical one mile per cycle is necessary to allow the main replacements to be constructed from roadway intersection to intersection, thus allowing future replacements to be easily constructed minimizing interruptions in service to customers in the area.

Given the complex nature of this project, replacing mains in suburban neighborhoods with many underground facilities, continuous traffic and work restrictions, coordination with municipalities and other outside agencies and private utilities (such as UGI) is critical to obtain the necessary approvals. All main replacements for a given year will be covered by a single construction contract.

FINANCIAL:

The Project will be funded by the LCA Suburban Division.

PROJECT STATUS:

Preliminary water main replacement prioritization for Cycles 7 and 8 has been completed and design phase is pending Board approval of this authorization.

THIS APPROVAL-DESIGN PHASE- CYCLES 7 AND 8

To assure continued continuity and efficiencies LCA recommends retaining the services of Gannett Fleming, Inc. (GF) to provide design related services for the Cycles 7 and 8 Program. The following table summarizes the professional services to be performed:

Professional Services ⁽¹⁾
1. Coordinate with local municipalities, outside agencies and utilities.
2. Prepare plans and specifications for segments of main to be replaced.
3. Prepare and obtain regulatory and municipal permits as required.
4. Provide bidding services.

(1) THE FOLLOWING SERVICES ARE NOT INCLUDED: The design and permitting of ADA ramps at intersections pursuant to the Americans With Disabilities Act that may be required in some cases by street paving restoration; permitting for railroad borings, creek/river crossings; design of water mains that are affixed to bridges. If deemed necessary, a cost will be negotiated for the required service.

CONSULTANT SELECTION BACKGROUND:

Gannett Fleming (GF) has been and our engineering consultant for the AD Main Replacement Project for Cycles 1-8 and the SD Main Replacement Project for Cycles 1-6. Over the duration of these projects, GF and LCA have established an excellent team relationship working directly with many key stakeholders at the local and state levels, producing highly detailed and comprehensive projects that have met and exceeded many goals. These goals include areas such as scheduling and planning, permitting approval, local and state department approvals as well as cooperatively working with other agencies and utility owners. This team approach has helped foresee potential issues and mitigate many unnecessary project delays and construction cost change orders.

FUTURE AUTHORIZATIONS: Capital Project Authorization (CPA) Amendment(s) will be presented to the Board at a later date for:

Construction Phase(s): Approvals will be requested separately for each cycle after bids are received.

CAPITAL PROJECT AUTHORIZATION

PROJECT NO.:	SD-W-23-1	BUDGET FUND:	Suburban Div\Water\Capital
PROJECT TITLE:	Suburban Division -Water Main Replacement Program Cycles 7&8	PROJECT TYPE:	<input type="checkbox"/> Construction <input checked="" type="checkbox"/> Engineering Design <input type="checkbox"/> Equipment Purchase <input type="checkbox"/> Amendment
THIS AUTHORIZATION:	\$ 283,000		

DESCRIPTION AND BENEFITS:

The Suburban Division water systems serve multiple municipalities in Lehigh and Northampton Counties. It is the intention of this project to replace one mile of water main throughout the division annually (per cycle). This work will be coordinated with all local and state stakeholders as well as all other outside agencies and private utilities.

The replacement of these mains is critical for providing increased reliability of water service for our customers by preventing excessive leakage and disruptive water main breaks.

Please reference the cover memo for additional information.

Authorization Status:

+

REQUESTED THIS AUTHORIZATION	
Design Phase	
Staff	\$50,000
Engineering Consultant Design & Bid phase Services	\$208,000
Contingencies	\$25,000
Total This Authorization	\$283,000
Future Authorizations	
Construction Phase 7	\$2,600,000
Construction Phase 8	\$2,700,000
Total Estimated Project	\$5,583,000

(1) Includes subsurface investigations such as geo-tech work, soft digs, ground penetrating radar if required; also permit fees and other miscellaneous costs.

REVIEW AND APPROVALS:

Project Manager	Date	Chief Executive Officer	Date
Chief Capital Works Officer	Date	Chairman	Date



Lehigh County Authority

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

PROFESSIONAL SERVICES AUTHORIZATION

Professional: GANNETT FLEMING, INC.
P.O. Box 67100
Harrisburg, PA 17106

Date: April 10, 2023

Requested By: Jason Peters

Approvals

Department Head: _____

Chief Executive Officer: _____

Suburban Division – Water Main Replacement Program – Design Phase Cycles 7 and 8

Gannett Fleming, Inc. will perform the design and bid related services for Cycles 7 and 8 of the Suburban Division – Water Main Replacement Program which include the following Professional Services:

Professional Services ⁽¹⁾
1. Coordinate with local municipalities, outside agencies and utilities.
2. Prepare plans and specifications for segments of main to be replaced.
3. Conduct design progress review meetings with LCA and other stakeholders
4. Prepare and obtain regulatory and municipal permits as required.
5. Provide bidding services.

(1) THE FOLLOWING SERVICES ARE NOT INCLUDED: The design and permitting of ADA ramps at intersections pursuant to the Americans With Disabilities Act that may be required in some cases by street paving restoration; permitting for railroad borings, creek/river crossings; design of water mains that are affixed to bridges. If deemed necessary, a cost will be negotiated for the required service.

Design Phase:

Cost Estimate (not to be exceeded without further authorization): \$208,000

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

(For Authority Use Only)

Authorization Completion:

Approval: _____ **Actual Cost:** _____ **Date:** _____

Lehigh County Authority – Monthly Report to Board of Directors

Upcoming Board Agenda Items & Project Updates – April 2023

Published: April 3, 2023

PART 1 – Upcoming Agenda Items – Action & Discussion Items

FINANCE & ADMINISTRATION

Project Title: LCA Strategic Plan - 2023 Quarterly Progress Reporting

Division / Funding: All Divisions

Board Action Date: 4/10/2023

Status or Action Desired: Discussion

Project Phase: n/a

Project Notes: A quarterly report of staff progress on key initiatives outlined in LCA's Strategic Plan will be presented for Board review and discussion. Staff Responsibility: Liesel Gross

Project Title: Monthly Financial Review

Division / Funding: n/a

Board Action Date: 4/24/2023

Status or Action Desired: Discussion

Project Phase: n/a

Project Notes: March 2023 monthly financial report will be presented on April 24. Staff Responsibility: Ed Klein

Project Title: Resolution 4-2023-1: Destruction of Authority Documents

Division / Funding: n/a

Board Action Date: 4/24/2023

Status or Action Desired: Approval

Project Phase: n/a

Project Notes: Board approval is required to allow for destruction of official Authority documents, in accordance with LCA's document retention program and the Pennsylvania Municipal Records Act. Staff Responsibility: Chris Moughan

SYSTEM OPERATIONS

Project Title: Monthly Operations Report

Division / Funding: n/a

Board Action Date: 4/24/2023

Status or Action Desired: Discussion

Project Phase: n/a

Project Notes: March 2023 monthly operations report will be presented. Staff Responsibility: Andrew Moore & Chris Moughan

WATER PROJECTS

Project Title: Water Main Replacement Program Cycle 7 and 8

Division / Funding: Suburban Division

Status or Action Desired: NEW

Board Action Date: 4/10/2023

Project Phase: Design Phase

Project Notes: This project covers Suburban Division Cycles 7 and 8 water main replacement program, which includes approximately two and a half miles of water main to be replaced. The scope of this authorization is for design and bid phase of Cycles 7 and 8 water main replacements. A minimum of one mile of new water main is typically replaced per project cycle, with additional length as necessary to allow the main replacements to be constructed from roadway intersection to intersection, thus facilitating future replacements with minimal service interruptions. Staff Responsibility: Jason Peters

WASTEWATER PROJECTS

Project Title: KISS System Modeling - Final Alternatives Analysis (FAA)

Division / Funding: City of Allentown (AO)

Status or Action Desired: NEW

Board Action Date: 4/24/2023

Project Phase: Planning Phase

Project Notes: The Kline's Island Sewer System (KISS) hydraulic model calibration to current flow characteristics was completed in June 2022 and will aid in the identification and evaluation of regional alternatives for both treatment and conveyance improvements through the year 2050, which is the current Act 537 planning horizon. The model is a comprehensive, calibrated sewer model for the entire KISS system using 2021 temporary meter flow data and rainfall data. Arcadis provided a brief overview of the model's strengths and weaknesses at the August 8, 2022 Board meeting, and the Capacity Problem Definition work was completed in November 2022. A Preliminary Screening of Alternatives (PSOA) phase was authorized at the October 10, 2022 Board Meeting. This work includes the narrowing down of all the potential storage, gravity conveyance, pumped conveyance, source reductions, and treatment options into manageable and realistic options for modeling purposes. After the PSOA concludes in April 2023, the next major Act 537 planning phase is the Final Alternatives Analysis (FAA). Authorization of the FAA will be requested at the April 24, 2023 Board meeting. Staff Responsibility: Phil DePoe

Project Title: Kline's Island WWTP: Primary Digester No. 2 Cleaning and Rehabilitation Project

Division / Funding: Allentown Division

Status or Action Desired: Approval

Board Action Date: 4/24/2023

Project Phase: Construction Phase

Project Notes: The anaerobic digesters at the KIWWTP are emptied, cleaned and upgraded every five years. Primary digester No. 2 is on schedule for cleaning in 2023. The cleaning project was advertised for bid in December 2022 and bids were opened on 1/19/2023. Construction phase authorization was approved at the 2/13/2023 LCA Board meeting. Bids will open on 4/5/2023 for the mechanical rehabilitation of this digester and Board approval of that phase of work will be requested at the 4/24/2023 LCA Board meeting. Staff Responsibility: Chuck Volk

PART 2 – Project Updates – Information Items

WATER PROJECTS – SUBURBAN DIVISION

Project Title: Central Lehigh and North Whitehall Systems – Water Supply Study

Division / Funding: Suburban Division

Board Action Date: n/a

Status or Action Desired: Updated

Project Phase: Planning Phase

Project Notes: This project involves the preparation of a water supply study (the “Study”) to identify and evaluate feasible means to address current and long-term water supply needs in the Central Lehigh Division (CLD) and North Whitehall Division (NWD). Recently completed planning studies have identified the need for additional supply in these two systems. Authorization was granted at the February 14, 2022 Board meeting and the draft Study will be completed in the second quarter of 2023. The final study and Board presentation will follow in May of 2023. From this study, additional engineering work will be initiated to develop water supply projects that enhance the region’s water system resiliency and redundancy. This water supply study will serve as the backbone for the future development of a comprehensive Master Plan update for the entire LCA Suburban Division Water System. Staff Responsibility: Phil DePoe

WASTEWATER PROJECTS – SUBURBAN DIVISION

Project Title: Heidelberg Heights Sanitary Sewer Consent Order & Agreement

Division / Funding: Suburban Division

Board Action Date: n/a

Status or Action Desired: Updated

Project Phase: Planning Phase

Project Notes: In accordance with the Consent Order and Agreement (CO&A) executed by LCA and DEP in 2020, LCA is required to complete annual sanitary sewer system inflow and infiltration mitigation projects to eliminate hydraulic overloads and bypass at the Heidelberg Heights wastewater treatment plant. The Corrective Action Plan, which is incorporated into the CO&A, includes an implementation schedule that requires all original VCP sewer main and public laterals to be replaced by the end of 2024, followed by the investigation of private side sewer components and removal/disconnection of all prohibited connections (basement drains, sump pumps, roof leader, etc.). LCA notified sewer customers of the upcoming private side sewer inspection program. LCA solicited a proposal from a local engineering consultant to perform 3rd party inspections of private side sewer components in the Heidelberg Heights system, and data from this planning effort will be used in the following years to develop individual repair projects for residences with prohibited connections in order to comply with the Heidelberg Township Sewer System Rules and Regulations Ordinance (#2019-1). Approval for this inspection program was granted at the 7/11/2022 LCA Board meeting. The private side sewer inspection program began in Fall 2022 with smoke testing of the sanitary sewer system. This was followed by a home plumbing inspection effort performed by a third party (Keystone Consulting Engineers). As of the end of 2022, approximately 27% of residences granted permission to perform a private side sewer inspection. This effort will continue in 2023 and the results may entail enforcement actions. Staff Responsibility: Chuck Volk

PART 3 – Open Project List – No Updates

Project Category	Project Title	Division / Funding	Project Phase	Staff Responsibility
Finance & Administration	Asset Management Roadmap & Strategic Asset Management Plan (SAMP)	All Divisions	Planning Phase	Albert Capuzzi
Finance & Administration	LCA Munis ERP System Planning & Re-Implementation	All Divisions	Planning Phase	Brooke Neve
System Operations	SmartBall Inspection - 30" and 36" Transmission Main - East Side	Allentown Division	Planning Phase	Chris Moughan
System Operations	Suburban Water Facilities - SCADA System Upgrade	Suburban Division	Construction Phase	Chris Moughan
System Operations	Watershed Monitoring Program	Suburban Division	Ongoing	Andrew Moore
Water - Suburban	I-78 Water Main Crossing	Suburban Division	Close Out	Amy Kunkel
Water - Suburban	2022 Commercial Meter Replacement Project	Suburban Division	Construction Phase	Amy Kunkel
Water - Suburban	Water Main Replacement Program Cycle 6	Suburban Division	Construction Phase	Jason Peters
Water - Suburban	Fixed Base Meter Reading Stations	Suburban Division	Planning Phase	Amy Kunkel
Water - Suburban	Upper System Pump Station and Main Extension	Suburban Division	Design Phase	Amy Kunkel
Water - Allentown	Large Diameter Valve Rehabilitation & Replacement Program	Allentown Division	Design Phase	Chuck Volk
Water - Allentown	Lead Service Line Replacement Program Planning	Allentown Division	Planning Phase	Andrew Moore
Water - Allentown	Water Main Replacement Program Cycles 7 & 8	Allentown Division	Design Phase	Jason Peters
Water - Allentown	Water Main Replacement Program Cycle 6	Allentown Division	Construction Phase	Jason Peters
Water - Allentown	Water Filtration Plant: Filter Upgrade Project	Allentown Division	Design Phase	Chuck Volk

Project Category	Project Title	Division / Funding	Project Phase	Staff Responsibility
Water - Allentown	Water Filtration Plant: 2022-2023 Indenture Upgrades	Allentown Division	Construction Phase	Chuck Volk
Sewer - Act 537	Sanitary Sewer Collection System: City of Allentown Manhole Inspections	Allentown Division	Planning Phase	Phil DePoe
Sewer - Act 537	Kline's Island WWTP - High-Rate Wet-Weather Treatment Pilot Study	Allentown Division	Planning Phase	Phil DePoe
Sewer - Act 537	KISS System Modeling - Preliminary Screening of Alternatives (PSOA)	City of Allentown (AO)	Planning Phase	Phil DePoe
Sewer - Act 537	Sanitary Sewer Collection System: City of Allentown Interceptor Inspections	City of Allentown (AO)	Planning Phase	Phil DePoe
Sewer - Act 537	KISS Act 537 Planning - Financial & Institutional Evaluation, Phase 1	City of Allentown (AO)	Planning Phase	Liesel Gross
Sewer - Act 537	Regional Sewer Capacity & Wet-Weather Planning - Regional Act 537 Plan Preparation	City of Allentown (AO)	Planning Phase	Phil DePoe
Sewer - Act 537	Kline's Island WWTP: Phase 1 AO Design Improvements	City of Allentown (AO)	On Hold	Phil DePoe
Sewer - Act 537	KISS System Modeling - Sewage Billing Meter QA/QC Data Analytics and 2021 Flow Metering Preparation	City of Allentown (AO)	Planning Phase	Phil DePoe
Sewer - Act 537	Industrial Pretreatment Plant Master Plan	Suburban Division	Planning Phase	Phil DePoe
Sewer - Act 537	Western Lehigh Interceptor Municipalities Test & Seal Lateral Grouting Project	Suburban Division	Construction Phase	Jason Peters
Sewer - Act 537	Upper Western Lehigh Pump Station and Force Main	Suburban Division	Design Phase	Amy Kunkel
Sewer - Act 537	Regional Sewer Capacity & Wet-Weather Planning: Engineering & Program Support	Suburban Division	Planning Phase	Phil DePoe
Sewer - Act 537	Western Lehigh Service Area - Engineering & Program Support	Suburban Division	Planning Phase	Phil DePoe
Sewer - Suburban	Heidelberg Heights Wastewater Treatment Plant - Mechanical Screen Project	Suburban Division	Construction Phase	Chuck Volk
Sewer - Suburban	Spring Creek Pump Station Upgrades	Suburban Division	Planning Phase	Amy Kunkel

Project Category	Project Title	Division / Funding	Project Phase	Staff Responsibility
Sewer - Suburban	Spring Creek Force Main Relocation - PA Turnpike Commission	Suburban Division	Design Phase	Amy Kunkel
Sewer - Suburban	Western Lehigh Manhole Rehabilitation Project - Phase 3	Suburban Division	Construction Phase	Jason Peters
Sewer - Suburban	Lynn Township Corrective Action Plan	Suburban Division	Ongoing	Jason Peters
Sewer - Suburban	Park Pump Station Phase 2 Upgrade	Suburban Division	Construction Phase	Amy Kunkel
Sewer - Allentown	Sanitary Sewer Collection System: I&I Source Reduction Program (LCA Year 1)	Allentown Division	Design Phase	Albert Capuzzi
Sewer - Allentown	Kline's Island WWTP: Substation No. 1 and Switchgear Replacement	Allentown Division	Design Phase	Chuck Volk
Sewer - Allentown	Kline's Island WWTP: Effluent Disinfection and Dechlorination System Improvements	Allentown Division	Construction Phase	Chuck Volk
Sewer - Allentown	Kline's Island WWTP: Solids Process Boiler and HVAC System Upgrade Project	Allentown Division	Construction Phase	Chuck Volk
Sewer - Allentown	Kline's Island WWTP: Wet Weather Capacity Enhancements	Allentown Division	Preliminary Design	Chuck Volk
Sewer - Allentown	Kline's Island WWTP: Sludge Thickener Tank No. 3 Mechanical Upgrade	Allentown Division	Project Closeout	Chuck Volk
Sewer - Allentown	Kline's Island WWTP: Main and Auxiliary Pump Station Improvements	Allentown Division	Preliminary Design	Chuck Volk
Sewer - Allentown	Kline's Island WWTP: Intermediate Pump Station Improvements	Allentown Division	Preliminary Design	Chuck Volk
Sewer - Allentown	Lehigh Street (Rte. 145) Water and Sewer Main Relocation Project	Allentown Division	Construction Phase	Jason Peters
Sewer - Allentown	Sanitary Sewer Collection System: I&I Source Reduction Program (City Year 4)	City of Allentown (AO)	Construction Phase	Phil DePoe