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

**Agendas & Minutes Posted:**
www.lehighcountyauthority.org

**LEHIGH COUNTY AUTHORITY**

Published: August 18, 2025

# BOARD MEETING AGENDA – August 25, 2025 – 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 the 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
   - *August 11, 2025 Board Meeting minutes*
4. Committee Reports
   - *None*
5. Public Comments
6. Action / Discussion Items:

**FINANCE AND ADMINISTRATION**
- *Targeted Staffing Assessment (Discussion)*
- *2026-2030 Suburban Division and Administration Capital Plan (Discussion)*

**WATER**
- *Suburban Division – 2025 Water Meter Replacements (Approval)* ***(green)*** *(digital Board packet, pages 6-8)*

**WASTEWATER**
- *Suburban Division – Industrial Pretreatment Plant Master Plan (Discussion)*
- *Allentown Division – Kline's Island WWTP – Wet Weather Improvements – Phase 1 (Approval)* ***(yellow)*** *(digital Board packet, pages 9-23)*

7. Monthly Project Updates / Information Items (1st Board meeting per month)
8. Monthly Financial Review (2nd Board meeting per month) **– July 2025 report to be distributed separately**
9. Monthly System Operations Overview (2nd Board meeting per month) (digital Board packet, pages 24-34) – **July 2025 report attached**
10. Staff Comments
11. Solicitor's Comments
12. Public Comments / Other Comments
13. Board Member Comments
14. Executive Sessions
15. Adjournment

| **UPCOMING BOARD MEETINGS** | | |
|---|---|---|
| September 8, 2025 | September 22, 2025 | October 13, 2025 |

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**
**August 11, 2025**

The Regular Meeting of the Lehigh County Authority Board of Directors was called to order at 12:01 p.m. on Monday, August 11, 2025, 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, Jeff Morgan, Ted Lyons, Linda Rosenfeld, Norma Cusick, Sean Ziller, and Peter Dent were present for Roll Call and remained for the duration of the meeting. Kevin Baker entered the meeting at 12:05 p.m. and remained for the remainder of the meeting.

Attorney Kevin Reid, the Authority's Solicitor, was present along with Authority Staff, Liesel Gross, Ed Klein, Chris Moughan, Andrew Moore, AJ Capuzzi, Charles Volk, Phil DePoe and Lisa Miller.

Chairman Famili announced that the Board received their electronic and hard copies of the Board packet in advance. A copy of the packet is also available online.

## REVIEW OF AGENDA

Liesel Gross stated there are no changes to the published agenda, and no Executive Session is planned.

## APPROVAL OF MINUTES

### *July 28, 2025 Meeting Minutes*

On a motion by Linda Rosenfeld, seconded by Sean Ziller, the Board approved the minutes from the July 28, 2025 meeting as presented (7-0).

## PUBLIC COMMENTS

None.

### *LCA Communications Assessment and Strategic Plan*

Liesel Gross provided a presentation regarding a Communications Assessment performed by Raftelis to provide the Authority with a plan to improve and expand its communications. She explained the need to enhance the Authority's public communications and community outreach due to expanding programs like the lead service line replacement program, sewer rehabilitation program, along with increasing rates and changing regulations. Some of the key observations from the assessment included the need to augment capacity of current staff, opportunities to leverage existing good relationships with media and stakeholders, and increased focus on clearly communicating about projects and rate impacts. She also reviewed a summary of feedback gathered from stakeholder interviews and a customer survey, which demonstrate low levels of awareness about the Authority, its mission, and its services to the community.

Ms. Gross noted that the Authority has begun to recruit for the Director of Communications and Strategic Partnerships position, and this assessment has been helpful in defining that position and creating the structure needed for the future of the program.

There was Board discussion regarding customer complaint tracking, name recognition and rebranding, and the benefits and risks of increased community engagement and education.

***2026-2030 Allentown Division Capital Plan***

Liesel Gross provided an introduction to the Authority's process for developing the Capital Plan (Plan), which is conducted annually. She noted the various Board approvals and public input process and explained that today's presentation is focused on the Allentown Division draft Plan for the 2026 to 2030 time period. Chuck Volk provided a timeline for future presentations and public input and noted that Plan approval will be requested in October. This year's five-year plan includes a modest increase from the prior five-year plan. Major cost drivers in the Plan include the Lead Service Line Replacement program at $92.5 million, the Water Filtration Plant (WFP) PFAS treatment upgrade at $20.5 million, escalated Inflow & Infiltration removal programs at $30.8 million, Kline's Island Wastewater Treatment Plant (KIWWTP) wet-weather upgrade at $21 million, and $16 million for the KIWWTP plastic media trickling filter rehabilitation project. Ms. Gross noted that some potential grant funding is included in the financial analysis for this Plan, with the potential for additional grants to offset borrowing.

Chuck Volk then presented the Allentown Division water and wastewater project details included in the Plan via a detailed PowerPoint presentation. His presentation included a review of annual projects, smaller improvement projects, major capital improvements, and new projects included for the first time in this year's Capital Plan. The new projects include: Leak Detection Program, WFP Electrical Upgrades, WFP Little Lehigh Intake Upgrades, Schantz Spring Water Treatment Upgrades, KIWWTP Odor Control Unit Building #24 Replacement, KIWWTP Effluent Pump Station Upgrades, and KIWWTP Facility Electrical Upgrades.

Ed Klein reviewed the financial analysis included in the Plan, noting water projects total $159 million, the wastewater projects total $95 million. To fund the Plan, approximately $139 million will come from operations and reserves, $100,000 from the City of Allentown grants and reimbursements, $29 million is expected in grant funding for the lead service line replacement program and the PFAS treatment upgrade. The remainder of the Plan, $86 million, will be funded from prior bonds and new borrowing. He presented a cash flow statement that indicates these funding sources.

Liesel Gross concluded the presentation with a review of the Plan's impact on water and sewer rates in Allentown, which are projected to increase 7 to 9 percent per year over the next five years. The current average residential water and sewer bill is $965 per year, which may increase to about $1,404 per year over the Plan period.

There was some Board discussion regarding grants and funding of projects.

Liesel Gross noted that the Suburban Division draft Capital Plan and the Administrative Plan will be discussed at the next Board meeting at which time the comment period will begin. The final review process will take place before approval in October.

**MONTHLY PROJECT UPDATES / INFORMATION ITEMS**

Liesel Gross provided highlights of items for the next Board meeting in August. She noted that the Suburban Division Capital Plan and Administrative Capital Plan will be on the agenda for discussion, along with an on-site presentation from EMA regarding the Targeted Staffing Assessment project. She also noted that Budget discussions will begin in September.

**MONTHLY FINANCIAL REVIEW**

The June 2025 Financial Statements were presented for information purposes only. There was no discussion at this time. Liesel Gross stated that the July 2025 report will be reviewed at the August 25th meeting.

**STAFF COMMENTS**

Liesel Gross reported that the public comment period ended at the end of July for the Kline's Island Sewer System (KISS) Act 537 Plan. A letter was received from the City of Allentown Environmental Advisory Committee supporting the plan. The next step is to seek Resolutions of approval of the plan from the KISS municipalities. The Authority will also seek to have the Board pass a Resolution adopting the plan. This is not required by Act 537, but would illustrate the Authority's support to the KISS municipalities.

**SOLICITOR'S COMMENTS**

None.

**PUBLIC COMMENTS / OTHER COMMENTS**

None.

**BOARD MEMBER COMMENTS**

None.

**EXECUTIVE SESSION**

None.

**ADJOURNMENT**

There being no further business, the Chairman adjourned the meeting at 1:54 p.m.

Linda A. Rosenfeld
Secretary

**Lehigh County Authority** 1053 Spruce Road * P.O. Box 3348 * Allentown, PA 18106-0348
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# MEMORANDUM

**Date:** August 25, 2025

**To:** Lehigh County Authority Board of Directors

**From:** Amy Kunkel, Capital Works Project Engineer

**Subject:** Suburban Division – 2025 Meter Replacement Project

**MOTIONS /APPROVALS REQUESTED:**

| No. | Item | Amount |
|---|---|---|
| 1 | Capital Project Authorization – 2025 Meter Replacement Project – **Construction Phase** | $592,043 |
| 2 | Contract Award – 2025 Meter Replacement Project: **Core & Main, LP Professional Service Contract for Meter Procurement and Installation** *(included in Capital Project Authorization)* | $552,043 |

**PROJECT OVERVIEW:**
The project consists of the replacement of approximately 1679 residential and commercial water meters throughout the Suburban Division that have either reached the end of their useful life and/or are inoperable. Recommended meter life is 20 years; these meters range in age from 23 to 25 years. Lehigh County Authority (LCA) uses the iPerl model of Sensus brand water meters for residential metering. Meters will be connected to existing radio read units installed in a previous project.

**PROJECT OBJECTIVE:**
The project objective is to replace and upgrade older and non-functioning meter equipment within the Suburban Division to increase meter reading accuracy and efficiency.

**FUNDING:**
The project will be funded by the LCA Suburban Division.

**PROJECT STATUS:**
Project scope, design, and specifications were developed in-house. Equipment and installation are being procured through COSTARS. Board approval is requested for the Construction Phase.

**THIS APPROVAL – CONSTRUCTION PHASE & CONTRACT AWARD – 2025 METER REPLACEMENT PROJECT:**

Core and Main, LP, is the authorized distributor for Sensus, which is the meter manufacturer used exclusively in LCA's Suburban Division for residential and commercial meters. They have acted as the general contractor on the last five meter replacement/upgrade projects in the Suburban Division. They are listed on COSTARS as an approved service provider for meter equipment installation. It is through the COSTARS program that we have received this proposal. Both the firm and its subcontractor's qualifications and experience statements indicate numerous projects of similar scope and type. The contract documents are in order and the company appears well qualified to perform the work. The proposal submitted is within the budgeted amount for this project.

**SCHEDULE:**

Based on contract award following the August 25, 2025 Board meeting, we anticipate construction to begin by September 2025, and substantial completion by the second quarter of 2026.

Lehigh County Authority

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# REQUEST FOR BOARD AUTHORIZATION

| | |
|---|---|
| Board of Directors Meeting Date: | August 25, 2025 |
| Staff Member Requesting Authorization: | AMY KUNKEL |
| Department: | CAPITAL WORKS |
| Short Description / Title of Project / Purchase: | 2025 METER REPLACEMENT PROJECT |
| Project Number (if applicable): | 11050 |

**Capital Expense:** *(check all that apply)*
- ☒Capital Project >$250,000
  - ☒Construction / Other Contract(s)
  - ☐Professional Services Authorization
  - ☒Initial Authorization
  - ☐Amended Authorization
- ☐Professional Services Authorization >$100,000
- ☐Equipment Purchase >$250,000
- ☐Upsizing / Extension >$250,000
- ☐Aggregate Change Order >10% of contract and >$100,000
- ☐Stand-Alone Change Order >$50,000

**Operations Expense:**
- ☐Construction / Other Contract >$250,000
- ☐Professional Services Authorization >$100,000
- ☐Equipment / Other Individual Item >$250,000
- ☐Emergency Authorization >$50,000
- ☐Aggregate Change Order >10% of contract and >$100,000
- ☐Stand-Alone Change Order >$50,000

**LCA Enterprise Fund:** ☐Allentown Division ☒Suburban Water ☐Suburban Wastewater ☐Internal Service / Admin

**Current Project Phase:** ☐N/A (skip to Description) ☐Planning ☐Conceptual Design ☐Design / Bid ☒Construction

**Prior Authorization(s):**

| Date | Phase | Description | Amount Authorized |
|---|---|---|---|
| | | | $ |
| | | | $ |
| | | | $ |
| | | **Total Prior Authorizations:** | **$** |

**Current Authorization Requested:**

| Description | Amount Requested |
|---|---|
| CONTRACT 1 – PROCUREMENT AND INSTALLATION OF METERS – CORE & MAIN, LLC | $552,043 |
| | $ |
| STAFF | $20,000 |
| | $ |
| CONTINGENCY | $20,000 |
| | $ |
| | $ |
| **Total Amount Requested (this authorization):** | **$592,043** |

**Future Authorizations:**

| Phase | Note / Description | Estimated Cost |
|---|---|---|
| | None. | $ |
| | | $ |
| | **Estimated Total Project Cost:** | **$592,043** |

**Short Description:** *(please attach supporting documentation, proposals, memos, etc.)*

This Authorization is for the replacement of approximately 1679 5/8" through 1" water meters and miscellaneous incidental equipment. This authorization takes the project through construction phase.

**Purchasing Procedure:** ☐Formal Bid ☐Request for Proposal ☒Cooperative Purchasing Group / CoStars ☐N/A - Emergency

**Motion:** _____ **Second:** _____ **Approved?** _____ **Certified by:** _____

# MEMORANDUM

**Date:** August 25, 2025

**To:** Lehigh County Authority Board of Directors
**From:** Amy Rohrbach, Project Manager
**Subject:** Allentown Division – KIWWTP 100MGD Wet Weather Treatment Projects Amendment 1 – Final Design & Bidding Phase Services

**MOTIONS / APPROVALS REQUESTED:**

| No. | Item | Amount |
|---|---|---|
| 1 | Professional Services Authorization – Amendment – Kleinfelder, Inc. (1) | $253,090 |

*(1) Does not include construction phase services*

**PROJECT BACKGROUND**

As part of the plan to increase peak wet-weather flow capacity at the Kline's Island Wastewater Treatment Plant (KIWWTP), upgrades are needed at three areas of the plant. These projects include (1) improvements to the Main and Auxiliary pump stations, (2) improvements to the primary effluent pumping system located in the Intermediate Pump Station (IPS) and (3) implementation of tertiary bypass capacity improvements. These upgrades will increase wet weather capacity from approximately 87 million gallons per day (mgd) to 100 mgd, thereby reducing the frequency of Outfall 003 activations during extreme wet-weather events. While these three project areas had separate preliminary engineering design authorizations, LCA staff recommended consolidating them into one wet-weather project. This will leverage economy of scale rather than remaining as three separate projects.

Improvements to the Main Pump Station (MPS) include four new 250 hp vertical turbine pumps, wet well hydraulic improvements, replacement of station valves, replacement of 20-inch suction and 20-inch discharge piping; installation of VFDs for two of the new pumps (two will remain constant speed); modifications to existing MCCs; Structural and building modifications including concrete platform for MPS pumps, discharge piping, and VFDs; New overhead crane; and Electrical and HVAC upgrades.

Improvements in the Auxiliary Pump Station (APS) will include two new 450 hp pumps; replacement of VFDs; replacement of obsolete MCCs with current generation MCC equipment within a separate modular power zone building; Electrical and HVAC upgrades; and a new 8-ton monorail for new larger size pumps and motors. Physical modeling will also be completed to evaluate the impacts to the APS wet well due to the flow from the future KISS Relief Interceptor. Any necessary hydraulic improvements identified from this modeling will be included in the design of the APS improvements.

Improvements in the Intermediate Pump Station (IPS) include new primary effluent pumps with larger impellers and larger motors with increased design capacity of 15,000 gpm, new VFDs on

three of the five pumps (two will remain constant speed), upgrades to the MCC and feeders, and HVAC upgrades.

Improvements for the tertiary bypass to increase peak flow capacity include installation of a new 48-inch butterfly valve and approximately 300 feet of 48-inch pipe, new ultrasonic flow meters at each Intermediate Settling Tank influent weir, new actuator and valve in valve pit for existing knife gate valve near the rock media trickling filters, connection to the existing flange tee connections, miscellaneous fittings, and SCADA integration. These modifications will enable temporary diversion of biologically treated flow around the KIWWTP's tertiary treatment system during severe wet weather events.

Minor modifications at the aerated grit chambers and primary sludge distribution chamber are also proposed to prevent splashing that is created from the higher peak flows during wet weather events. The City of Allentown has determined that these specific improvements do not meet the Major Capital Improvement project definition and have been estimated separately from the remaining work to ensure these charges remain separate from the Capital Cost Recovery Charge calculations for the remainder of the project.

**PROJECT STATUS**

In June 2024 Board Authorization was given for design phase services with Kleinfelder, Inc. On April 23, 2025, the City of Allentown issued substantially complete design approval for the KIWWTP 100 MGD Wet Weather Improvements. During design, it was determined that additional services would be necessary due to requests from LCA and information encountered during the design. Also, shortly after receiving substantially design approval from the City of Allentown, it was discovered that the main influent gates do not seal properly and need replacement. The City agreed that the replacement of the influent gates could be added to the project, therefore additional design phase services are needed. The additional services requiring authorization include the following tasks:

1. Risk Based Replacement of PLCs
   - As part of the LCA risk management assessment performed at KIWWTP, several assets were identified to need replacement as part of the 100 mgd wet weather improvements project. Some improvements were minor and could easily be incorporated into the project. However, the improvement of replacing two PLCs required additional design effort performed by Kleinfelder's electrical sub-consultant, Keystone Engineering Group, and an additional fee is being requested for this task.

2. Test Pit Survey
   - The initial design plan was to direct the contractor to perform test pits at the start of construction. LCA requested that these test pits be performed during design to better identify underground utilities and reduce the risk of potential change orders during construction. LCA contracted directly for the excavation, and Kleinfelder contracted with a local surveyor to perform the necessary survey of these areas so underground utilities could be clearly defined on the design documents.

3. Screen Chamber Concrete Repairs
   - During design, plant staff identified areas in the influent screening chamber where structural repairs to concrete and grating support members were needed. It was decided that addressing these repairs during the Main Pump Station construction was most practical. Additional site visits by the Kleinfelder structural engineer were

needed as well as additional design effort to generate repair details for the bid documents.

4. Bridge Crane Manufacturer CAD file
   - Due to the additional weight of the new main influent pumps, the existing 4-ton bridge crane needs to be replaced with a 10-ton bridge crane. To ensure the bridge crane would fit in the available space, the manufacturer needed to prepare a highly dimensioned CAD Drawing of the proposed bridge crane with detailed dimensions for Kleinfelder to integrate into the design drawings. To provide this CAD file, the manufacturer requested a fee from Kleinfelder. This additional detail will ensure adequate fit for the bridge crane and eliminate a potentially costly change order during construction due to any conflicts with the existing features.

5. Evaluation of Multiple Routes for Trickling Filter Parallel Line
   - After additional site investigation at the start of the detailed design phase, it was determined that the original parallel line route would not be feasible due to the discovery of additional underground pipes. Due to the constructability concerns and number of pipe crossings for the original design, an alternate design had to be evaluated. This evaluation resulted in the need to consult with a third-party contractor to review constructability and ultimately an alternatives analysis was performed resulting in an optimized design that is constructable. This effort was above the original anticipated scope and required additional effort by Kleinfelder.

6. Soil Erosion and Control Permit Application
   - At the time of final design proposal, it was assumed the area of disturbed earth would be less than 5,000 SF and submission to the Lehigh County Conservation District (LCCD) would not be required. As the design progressed it was determined additional duct banks would be required, resulting in a site disturbance in excess of 5,000 SF. This task will include coordination with the LCCD, preparation of an Erosion and Sedimentation Pollution Control (E&SPC) report, preparation of E&SPC plans and submission to the LCCD.

7. Pre-Purchase Equipment Procurement Assistance
   - As design progressed, the vendor lead times on major equipment was discovered to be in excess of 12 months for much of the equipment. LCA requested Kleinfelder to assist in preparing Procurement specifications and assistance in a bid for pre-purchasing the major equipment. The equipment that will be included in the bid are the Motor Control Centers, Variable Frequency Drives, and motor Soft Starts. Each pump location (Main Pump Station, Auxiliary Pump Station, and Intermediate Pump Station) only has one manufacturer capable of meeting the specifications; therefore, as the two pump suppliers are licensed through the COSTARS program, it is LCA's intent to purchase the pumps through the State COSTARS Purchasing Cooperative as the conventional bidding process will not be required and would not result in any cost savings.

8. Influent Gate Replacement Design
   - After the Substantial Design approval was received from the City of Allentown, it was discovered that the main influent gates, originally installed in the late 1960s, have significant leaking which will prevent the isolation of each wet well. These gates are essential for the isolation needed to perform the improvements to the Main

and Auxiliary Pump stations. A discussion with the City of Allentown regarding including this additional scope resulted in permission being given to add the replacement of these gates to the project, provided an updated Capital Cost Recovery Calculation is completed and submitted once the design is completed, and an engineer's estimate of probable cost is provided. This task will include the design of the replacement gates, updates to the current Maintenance of Plant Operations specifications, and evaluation of bypass pumping needs so plant flows can be bypassed during construction so a contractor can install the new gates. To maintain plant flows at KIWWTP, extensive bypass pumping will be required during construction. Two bypass pumping options will be evaluated with one possible solution requiring a new manhole on the existing 60" influent line to allow for access for the bypass pumps. Due to the depth of this line and the existing utilities in the area, a complex structure would be required which will involve detailed structural engineering analysis. The logistics of the bypass pumping operation must also be carefully thought out to ensure adequate capacity during the replacement of the influent gates. Discussions with plant operations will occur throughout the design to ensure operations are maintained during this critical upgrade.

**FINANCIAL**

This Project will be funded by the LCA Allentown Division and has received substantially complete design approval from the City and is considered a Major Capital Improvement project. An updated Capital Cost Recovery Calculation will be provided to the City upon completion of the engineer's opinion of probable cost for the Influent Gate replacement. A small component of the project, related to splash protection, is not eligible for Capital Cost Recovery and will be funded through the KIWWTP capital budget.

**THIS APPROVAL – FINAL DESIGN AND BIDDING PHASE SERVICES**

Lehigh County Authority (LCA) has an existing agreement with Kleinfelder, Inc. to provide the final design and bidding services and they will perform these additional tasks. The following table summarizes the additional tasks to be performed under this approval:

| Task | Cost |
|---|---|
| Risk Based Replacement of PLCs | $26,590 |
| Test Pit Survey | $23,410 |
| Screen Chamber Concrete Repairs | $14,040 |
| Bridge Crane Manufacturer CAD file | $3,280 |
| Evaluation of Multiple Routes for Trickling Filter Parallel Line | $21,920 |
| Soil Erosion and Control Permit Application | $9,270 |
| Pre-purchase Equipment Procurement Assistance | $43,390 |
| Influent Gate Replacement Design | $111,190 |
| **TOTAL** | **$253,090** |

**PROJECT SCHEDULE**

It is anticipated that the design and bidding phase services will be completed by December 31, 2025.

**FUTURE AUTHORIZATIONS – CONSTRUCTION PHASE**

Following Detailed Design and Bidding services, Capital Project Authorizations will be requested from the Board for equipment procurement, and construction phase services for all construction contracts and construction administration services PSA.

Lehigh County Authority

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# REQUEST FOR BOARD AUTHORIZATION

| | |
|---|---|
| Board of Directors Meeting Date: | August 25, 2025 |
| Staff Member Requesting Authorization: | Amy Rohrbach |
| Department: | Capital Works |
| Short Description / Title of Project / Purchase: | KIWWTP 100 MGD Wet Weather Improvements – Design Amendment 1 |
| Project Number (if applicable): | AD-S-23 – Munis Account # 50629 |

**Capital Expense:** *(check all that apply)*
- ☒Capital Project >$250,000
  - ☐Construction / Other Contract(s)
  - ☒Professional Services Authorization
  - ☐Initial Authorization
  - ☒Amended Authorization
- ☐Professional Services Authorization >$100,000
- ☐Equipment Purchase >$250,000
- ☐Upsizing / Extension >$250,000
- ☒Aggregate Change Order >10% of contract and >$100,000
- ☐Stand-Alone Change Order >$50,000

**Operations Expense:**
- ☐Construction / Other Contract >$250,000
- ☐Professional Services Authorization >$100,000
- ☐Equipment / Other Individual Item >$250,000
- ☐Emergency Authorization >$50,000
- ☐Aggregate Change Order >10% of contract and >$100,000
- ☐Stand-Alone Change Order >$50,000

**LCA Enterprise Fund:** ☒Allentown Division ☐Suburban Water ☐Suburban Wastewater ☐Internal Service / Admin

**Current Project Phase:** ☐N/A (skip to Description) ☐Planning ☐Conceptual Design ☒Design / Bid ☐Construction

**Prior Authorization(s):**

| Date | Phase | Description | Amount Authorized |
|---|---|---|---|
| 6/10/24 | Design | KIWWTP 100 MGD Wet Weather Improvements, Design & Bid Phase Services – Kleinfelder, Inc. | $994,450 |
| | | | |
| | | **Total Prior Authorizations:** | **$994,450** |

**Current Authorization Requested:**

| Description | Amount Requested |
|---|---|
| KIWWTP 100 MGD Wet Weather Improvements Design & Bid Phase Amendment 1, Kleinfelder, Inc. | $253,090 |
| | |
| **Total Amount Requested (this authorization):** | **$253,090** |

**Future Authorizations:**

| Phase | Note / Description | Estimated Cost |
|---|---|---|
| Construction | Estimated Construction Phase Costs (equipment procurement, construction contracts, and Construction Administration PSA) | $21,200,000 |
| | | |
| | **Estimated Total Project Cost:** | **$22,447,540** |

**Short Description:** *(please attach supporting documentation, cost justification, trade-in values, proposals, memos, etc.)*

This request is for an amendment to the existing contract with Kleinfelder, Inc., for the design and bid phase services on the KIWWTP 100 MGD Wet Weather Improvements project. This amendment includes additional design effort as well as the addition of the scope to include design and bid phase services for the replacement of the influent gates. These changes are due to additional services requested by LCA and various changes that came about during the design process.

**Purchasing Procedure:** ☐Formal Bid ☒Request for Proposal ☐Cooperative Purchasing Group / CoStars ☐N/A - Emergency

**Motion:** _____ **Second:** _____ **Approved?** _____ **Certified by:** _____

August 8, 2025

VIA Email

Amy Rohrbach
Project Manager
Lehigh County Authority
LCA Wastewater Treatment Plant
112 Union Street
Allentown, PA 18102

**RE: KIWWTP 100 MGD PEAK WET-WEATHER FLOW IMPROVEMENTS PROJECT AMENDMENT REQUEST**

Dear Amy:

As discussed, Kleinfelder has prepared this Amendment request for additional unanticipated scope that was not included in the original project scope of work.

The additional scope items are listed below and are further described in the Amendment scope of work section of this Amendment request letter.

1. Risk Based Replacement of PLCs
2. Test Pit Survey
3. Screening Chamber Concrete Repairs
4. Bridge Crane Manufacturer CAD file
5. Need to Evaluate Multiple Routes for the TF Paralleling Line
6. Soil Erosion Control Permit Application
7. Pre-purchase Equipment Procurement Assistance
8. Influent Gates Replacement Design

## Amendment Scope of Work

### Task 1 – Risk Based Replacement PLCs

LCA conducted a risk assessment of its existing assets which identified several assets that should be replaced as part of the 100 mgd wet-weather improvements project. Some of the risk-based improvements were minor and could be integrated into the project without significant additional cost. However, the risk-based improvement of replacing two (2) PLCs was significant enough to request an amendment to address this additional scope item. The additional scope was performed by Keystone which resulted in the need to prepare additional drawings, additional site visits to evaluate existing conditions of the existing PLC cabinets, programming efforts to download the existing PLC programs and evaluate the existing control logic and I/O points, and the design of new control panels and development of related specifications. As with each of the additional scope items listed above, the corresponding level of effort and cost is presented in the

attached cost spreadsheet, which is summarized in the Amendment cost proposal section of this letter.

**Task 2 – Test Pits Survey**

Kleinfelder's design documents directed the contractor to perform test pits. However, LCA preferred to have the test pits performed prior to construction to reduce the likelihood of a change order during construction.

LCA engaged a contractor to excavate the test pits, and Kleinfelder engaged a surveyor – Arthur Swallow and Associates - to perform surveying of the test pits. Kleinfelder prepared a test pit site plan and coordinated with the surveyor and contractor. Because a surveyor was on site, and some uncertainties had developed in the existing drawings regarding the exact location of the Bridge Crane, Kleinfelder also directed the surveyor to accurately locate the top elevation of the Bridge Crane in other locations. Kleinfelder also reviewed the data from the test pit surveys and had follow up discussions with the surveyor regarding the identified pipe material and other issues. Kleinfelder also obtained pipe shop drawings to further verify pipe material. Kleinfelder integrated the topographic data into the contract drawings.

**Task 3 – Screening Chamber Concrete Repairs**

LCA requested that Kleinfelder inspect the concrete condition of the screening chamber and subsequently prepare design documents to address the need for concrete repair of the screening chamber. This improvement was not included in the original scope of services. This work involved an initial site visit and discussion with LCA, followed by review of existing drawings, and a second site visit to conduct a detailed condition assessment and identification of defect types and corresponding pair recommendations, followed by development of drawings depicting the required repairs, which are currently 95% complete.

**Task 4 – Bridge Crane Manufacturer CAD File**

Due to the significant additional weight of the new main influent pumps, the existing 4-ton Bridge Crane must be replaced with a 10-ton Bridge Crane. Due to the very tight space for a larger Bridge Crane, it was essential that accurate dimensions of the Bridge Crane be known and integrated into the design. The Bridge Crane manufacturer did not have prepared dimensions for each of the crane types that it manufacturers. Rather, its standard approach is to provide detailed dimensions after an order is placed, which was not a viable option for the project. As a result, the manufacturer requested a fee of ^$1,600 to prepare a CAD file with detailed dimensions of the Bridge Crane. Kleinfelder subsequently received the CAD file from the Bridge Crane manufacturer and integrated it into the design. As a result, LCA can be confident that there will be no coordination issues related to replacement of the Bridge Crane that could otherwise result in a significant construction change order.

**Task 5 – Need to Evaluate Multiple Tricking Filter Paralleling Line Routes**

During the prior preliminary design phase of the project, the route for the TF paralleling was selected and served as the basis for design for the trickling filter paralleling line (TFPL). The route was selected based on a preliminary design level of design investigation and served as design basis route for the final design phase of the project. As the first step in the detailed final design phase of the project, Kleinfelder performed a detailed site investigation, and a constructability review related to cost estimating. However, the detailed site investigation led to the finding of

some additional underground pipes along the route and constructability challenges related to supporting the existing pipes as during installation of the TF paralleling line. In summary, there were seven (7) major pipe crossings (≥54" dia.) and 17 minor pipe crossings (≤8" dia.). It was then necessary to determine a feasible method of construction (open trench or other) and evaluate the means of supporting Kleinfelder to perform the following unexpected unanticipated activities to avoid a potentially significant construction change order during construction:

Consulted with a highly experienced third-party contractor regarding constructability of the design basis route. Following the meeting resulted in the following conclusions:

- Construction via open trench is likely infeasible due to location and depth of major pipe crossings and inability to support them during excavation. To make construction via open trench feasible, the TFPL would need to be revised such that it is installed shallow and above major pipe crossings.
- Construction via jack and bore is likely infeasible for the preliminary TFPL design due to limited space available on site for bore pits.
- Construction via micro tunneling is likely feasible for the preliminary TFPL design but would require revisions to the TFPL alignment and robust geotechnical evaluation, and it would add significant cost to the project.
- Analyzed design alternative for construction via micro tunneling by performing the following tasks:

    - Prepared conceptual micro tunneling plan illustrating revised TFPL alignment and preliminary location of entry and exit pits.
    - Consulted knowledgeable third-party contractor regarding feasibility of preliminary micro tunneling plan.
    - Consulted internal geotechnical engineer to evaluate level of effort that would be required for geotechnical investigation and preliminary costs.

- Analyzed design alternative for construction via open trench by performing the following tasks:

    - Evaluated alternative TFPL alignments utilizing parallel pipes installed shallow and above major pipe crossings to resolve constructability issues and provide equivalent or greater capacity as (1) 48" dia. circular pipe.
    - Evaluated alternative TFPL alignments utilizing non-circular pipes installed shallow and above major pipe crossings to resolve constructability issues and provide equivalent or greater capacity as (1) circular 48" dia. pipe.
    - Evaluated alternative TFPL alignments utilizing (1) 48" dia. pipe installed shallow and connecting at different start and end points than originally proposed to eliminate challenging pipe crossings.

The additional effort expended on this constructability evaluation and alternatives analysis ultimately resulted in an optimized and constructable design consisting of approximately 45 LF of 48" dia. circular Ductile Iron (DI) piping that eliminates major crossing pipe concerns. Due to the shorter length of pipe and easier construction, the construction cost for the TF paralleling line is also reduced.

**Task 6 – Soil Erosion Control Permit Application**

A soil erosion control permit is required if site disturbance exceeds 5,000 SF. During preparation of the proposal for final design of the project, Kleinfelder estimated that the site disturbance would not exceed 5,000 SF and as a result, preparation of a soil erosion control permit was not included in the proposal scope. However, due to the unanticipated site disturbance related to several new electrical duct banks, the site disturbance will exceed 5,000 SF, resulting in the need for a soil erosion control permit.

The scope of this unanticipated additional permit application consists of the following:

1.1 Coordination with Lehigh County Conservation District and Municipality to confirm the reviewing agency.
1.2 Preparation of written narrative/report compliant with PADEP Erosion and Sediment Pollution Control Program Manual and local requirements.
1.3 Preparation of plan drawings compliant with PADEP Erosion and Sediment Pollution Control Program Manual and local requirements.
1.4 Preparation of required application forms.

Also included is one (1) round of revisions addressing comments from regulatory authority. The draft application documents will be submitted in draft form to LCA for review. A meeting will be held with LCA, and Kleinfelder will then address LCA comments and prepare the final permit application for the Lehigh County Soil Conservation District. We assumed that LCA will pay any application fees.

**Task 7 – Pre-purchase Equipment Procurement Assistance**

Due to the significant lead time to procure the major electrical and pumping equipment, LCA has decided to pre-purchase the major electrical equipment (MCCs, VFDs and soft starters) and pumping equipment (Main pumps, Auxiliary pumps and Primary effluent pumps) which was not anticipated in the original final design proposal. LCA has requested the following pre-purchase equipment support which is not currently in the project scope of work. LCA has indicated that the pumping equipment will be pre-purchased through the Costars program which does not require public bidding, and the electrical equipment will be pre-purchased through public bidding utilizing the PennBid program. The Kleinfelder team's assistance will consist of the following:

1. Prepare draft pre-bid specifications for the major electrical equipment and submit it to LCA for review.
2. Meeting with LCA to discuss.
3. Address LCA comments and prepare final pre-bid electrical specifications.
4. Prepare draft front-end specifications for bidding and the pre-purchased electrical equipment and submit to LCA for review.
5. A meeting with LCA to discuss comments on the draft front-end documents.
6. Address LCA comments and prepare the final front-end documents.
7. Coordinate with LCA regarding potential modifications related to the pump specifications for Costars procurement. Particularly whether Costars procurement can include manufacturer support services during construction.
8. Modification of the front end, general and technical specifications to coordinate with the pre-purchase of electrical and pumping equipment.
9. Coordinating the bidding of the pre-purchased electrical equipment via PennBid.

10. Addressing bidder questions and preparation of addenda as required [one (1) addendum is assumed].
11. Assistance in addressing questions that arise through the Costars program for pumping equipment pre-purchase.
12. Assistance in reviewing bid proposals for the pre-purchased electrical equipment and assistance in reviewing bids from the Costars program.

**Task 8 – Influent Gates Replacement Design**

Due to failure of the existing influent gates, LCA recently requested that replacement of the influent gates be added to the 100 mgd peak flow improvements project. Replacement influent gates will require an evaluation options for temporary bypass pumping, and to integrate this design into the design documents for the 100 mgd peak flow wet-weather project. The design activities for adding the replacement of influent gates to the projects are listed in items (1) through (10) below.

(1) Confirm routing and location of the 60-inch and 36-inch underground pipes via ground penetrating radar and other methods and perform topographic survey to accurately establish surface elevations along the two (2) routes. This task is recommended because the existing routes are not well defined, and significant space will be required for bypass pumping, resulting in the need to accurately establish pipe location.

The two (2) pipe routes are as follows: For 60” pipe, it will be from the overflow structure (outfall 003) to the screening facility and for 36” pipe, from the MH on the driveway to the screening facility. Arthur Swallow Associates will perform the topographic survey, and his subcontractor Peak Utility Locators will identify the location of the buried pipes.

As part of this task, Kleinfelder will obtain and review all available information on the influent gates and 60-inch diameter and 36-inch diameter pipes. And will perform initial interaction with manufacturers and suppliers.

(2) Evaluate bypass pumping options and size and select the pumps for bypass pumping for a total of 87 mgd.

It is assumed that LCA can provide information on the flow split between the 60-inch and 36-inch pipes from the collection system hydraulic model. The sizing and selection of pumps will be specific to the bypass pumping options. For the 60-inch diameter pipe, two (2) alternatives will be evaluated. The first alternative is to construct a manhole/structure around 60-inch pipe, cut the pipe, install plug at downstream and install bypass pumps at grade and pump to the aerated girt chambers. The second option is to install line stop on the 60” line with bypass tap. Install temporary pumping on the new tap and pump to the aerated grit chambers. The evaluation of alternatives will consider the impact on the required number of bypass pumps, space requirements, layout and estimated construction cost and construction risk. For the 36-inch pipe, pipe install bypass pumping at upstream manhole after plugging the MH effluent line. Bypass pumping can either be to APS wet well or aerated grit chambers. CHA will evaluate the estimated cost for the new manhole option for the 60-inch diameter pipe and has included a cost proposal for structural design of the doghouse manhole if it is the selected option. If this option is selected, a geotechnical investigation will be required. The geotechnical investigation has not been included but can be readily added to the scope if the doghouse manhole is the selected option.

(3) Quality review of bypass pumping alternatives by a Kleinfelder Technical Expert. Following the quality review, all comments will be addressed.

(4) Meeting with LCA. The objective of this meeting is to build consensus on the recommended approach for bypass pumping.

(5) Prepare draft drawings, specifications and construction cost estimate. The activities in this task consist of the following:

- Prepare demolition drawings for the existing gates and prepare drawings for installation of the new gates.
- Prepare layout drawings for the bypass pumping systems. Prepare technical specifications for the new gates and for the new gate actuators (this assumes that LCA does not want to use the existing actuators with the new gates).
- CHA will prepare structural drawings and specifications if the manhole option is selected following Task 4. If the manhole option is selected, a soil boring will be required which has not been included in this proposal but can be added.
- Prepare MOPO specification.
- Prepare construction cost estimate. CHA will prepare the construction cost estimate for the new manhole if the manhole option is selected for the 60-inch diameter pipe.

(6) Kleinfelder quality review of design documents and construction cost estimate.

(7) Kleinfelder addresses quality review comments.

(8) LCA review of the design documents and construction cost estimate.

(9) Kleinfelder addresses LCA review comments.

(10) Integrate design documents into the 100 mgd project documents, including demolition and influent gate drawings, bypass pumping layout drawings, and manhole structural drawing if the manhole option is selected for the 60-inch pipe option.

Update Drawing list.
Update Summary of Work.
Update bid form.
Update electrical drawings to show emergency generator connection to new gate actuators.
Update the project MOPO specification to include MOPO for influent gate replacement.
Update the project structural drawings and specifications if the doghouse manhole is the selected alternative.

Regarding the schedule to add the influent gates replacement to the project, Kleinfelder anticipates activity (1) through (4) will be completed in three (3) weeks and activities (5) – (10) will

be completed in five (5) weeks. Therefore, the overall schedule for the design is anticipated to be eight (8) weeks, assuming that additional design complications do not arise.

**Amendment Cost Proposal**

Kleinfelder's estimated cost to execute the scope of services described above is summarized in the table below. A detailed cost breakdown by labor category, hourly rate, hours and reimbursable expenses is attached, and for ease of review, consists of two (2) spreadsheets, the first for Tasks 1 through 7 described above, and the second for subtasks (1) through (10) of Task 8 for the influent gates replacement design.

| TASK | DESCRIPTION | COST |
|---|---|---|
| 1 | Risk Based Replacement of PLCs | $26,590 |
| 2 | Test Pit Survey | $23,410 |
| 3 | Screening Chamber Concrete Repairs | $14,040 |
| 4 | Bridge Crane Manufacturer CAD File | $3,280 |
| 5 | Need to Evaluate Multiple Routes for the TF Paralleling Line | $21,920 |
| 6 | Soil Erosion Control Permit Application | $9,270 |
| 7 | Pre-purchase Equipment Procurement Assistance | $43,390 |
| 8 | Influent Gates Replacement Design | $111,190 |
| | **TOTAL** | **$253,090** |

The total Amendment cost of $253,090 will not be exceeded without a change in scope and LCA's prior approval.

This cost will be administered as an amendment to the 100 mgd peaks flow project.

Please contact me with any questions.

Sincerely,

Timothy D. Bradley, P.E.
Vice President

08-Aug-25

**KIWWTP 100 mgd Project Amendment - Tasks 1 Through 7**

| Rate, $/hour | $295 | $245 | $250 | $231 | $150 | $295 | $120 | $208 | $110 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Project Director (Bradley) | Principal Engineer (Tushar) | Tech Review Cost Engineer (Nexon) | Sr. Project Engineer (Ferguson) | Sr. Staff Civil Engineer (Strang) | Technical Expert (O'Leary) | Staff Engineer (Nettuno) | Structural Engineer (Beard) | Tech Assistant (Taylor) | | Total Hours | Labor Fee | Expense Fee | Swallow Associates Topo | Crane Tech | Keystone Electrical | Sub Markup 0.10 | Total Fee | Rounded Fee |
| | | | | | | | o | | | | | | | | | | | $0 | |
| **Task 1 - Risk Based Replacement of PLCs** | 1 | 1 | 3 | 0 | 0 | 0 | 0 | o | 0 | | | $1,290 | $0 | $0 | $0 | $23,000 | $2,300 | $26,590 | $26,590 |
| **Task 2 - Test Pit Survey** | 2 | 4 | | | 40 | 0 | 0 | 0 | 0 | | | $7,570 | $0 | $14,400 | | $0 | $1,440 | $23,410 | $23,410 |
| **Task 3 - Screening Chamber Concrete Repairs** | 3 | 12 | 0 | 0 | 0 | | 4 | 45 | 0 | | 64 | $13,665 | $370 | | $0 | | $0 | $14,035 | $14,040 |
| **Task 4 - Bridge Crane Manufacturer CAD File** | 1 | 4 | 0 | 0 | 0 | 0 | 2 | | 0 | | 7 | $1,515 | $0 | | $1,600 | | $160 | $3,275 | $3,280 |
| **Task 5 - Need to Evaluate Multiple Routes for the TFPL** | 2 | 6 | 12 | o | 80 | 12 | | | 12 | | 124 | $21,920 | $0 | | $0 | | $0 | $21,920 | $21,920 |
| **Task 6 - Soil Erosion Control Permit Application** | 2 | 0 | 0 | 0 | 52 | 0 | 0 | 0 | 8 | | 62 | $9,270 | $0 | | | | $0 | $9,270 | $9,270 |
| **Task 7 - Pre-Purchase Equipment Procurement Assist.** | 18 | 20 | 0 | 82 | 16 | 0 | 4 | | 24 | | 164 | $34,672 | $0 | | | $7,927 | $793 | $43,392 | $43,390 |
| **Task 8 - N/A** | | | | | | | | | | | 0 | $0 | | | | | | | |
| **Task 9 - N/A** | | | | | | | | | | | 0 | | | | | | | | |
| **Task 10 - N/A** | | | | | | | | | | | | | | | | | | | |
| ***TOTAL*** | ***29*** | ***47*** | ***15*** | ***82*** | ***188*** | ***12*** | ***10*** | ***45*** | ***44*** | ***0*** | ***421*** | ***89,902*** | ***370*** | ***14,400*** | ***1,600*** | ***30,927*** | ***45,058*** | ***141,892*** | ***141,900*** |

**100 mgd Amendment Task 8 Influent Gates Replacement Design - subtasks**

| Rate, $/hour | $295 | $245 | $250 | $231 | $150 | $295 | $120 | $120 | $110 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Influent Gates Replacement Design* | Project Director (Bradley) | Principal Engineer (Tushar) | Tech Review Cost Engineer (Nexon) | Sr. Project Engineer (Ferguson) | Sr Staff Civil Engineer (Strang) | Technical Expert (O'Leary) | Staff Engineer (Nettuno) | Tech Assistant (Jenkins) | Tech Assistant (Taylor) | | Total Hours | Labor Fee | Expense Fee | Swallow plus Peak Topo and GPR | CHA Structural | Keystone Electrical | Sub Markup 0.10 | Total Fee | Rounded Fee |
| ***Task 8 subtasks*** | | | | | | | | | | | | | | | | | | | |
| **Task 1 - Topographic and GPR surveys** | 1 | 4 | | | 8 | | | | | | | $2,475 | | $6,900 | $0 | $0 | $690 | $13,100 | $19,227 |
| **Task 2 - Evaluate bypass alternatives and select pumps** | 4 | 28 | | | 4 | | 16 | | | | | $10,560 | $50 | $0 | $3,036 | $0 | $304 | $13,950 | $13,950 |
| **Task 3 - Quality review by KLF expert** | 0 | 2 | | | | 8 | | | | | 10 | $2,850 | $50 | $0 | $0 | $0 | $0 | $2,900 | $2,900 |
| **Task 4 - Meeting with LCA to build consensus on bypass** | 2 | 2 | | 1 | 1 | | 1 | | 0 | | 7 | $1,581 | $0 | $0 | $1,500 | $0 | $150 | $3,231 | $3,230 |
| **Task 5 - Prepare draft drawings, specs and cost estimate** | 4 | 24 | 6 | 24 | 12 | | 36 | | 12 | | 118 | $21,544 | $100 | $0 | $16,555 | $4,305 | $2,086 | $44,590 | $44,590 |
| **Task 6 - KLF quality review of docs** | | | 10 | | | | | | 0 | | 10 | $2,500 | $50 | $0 | | $0 | $0 | $2,550 | $2,550 |
| **Task 7 - KLF addresses quality review comments** | 1 | 4 | | 4 | 2 | | | 0 | 12 | | 23 | $3,819 | $0 | $0 | $1,000 | $1,000 | $200 | $6,019 | $6,020 |
| **Task 8 - LCA review of design documents** | 0 | o | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | $0 | $150 | $0 | $1,459 | $0 | $146 | $1,755 | $1,750 |
| **Task 9 - KLF to address LCA review comments** | 1 | 4 | | 6 | 2 | | 12 | | 8 | | 33 | $5,281 | | $0 | $1,500 | $0 | $150 | $6,931 | $6,930 |
| **Task 10 - Integrate documents into 100 mgd project** | 1 | 4 | | 8 | 4 | | 12 | | | | 29 | $5,163 | $200 | $0 | $950 | $3,305 | $426 | $10,044 | $10,040 |
| ***TOTAL*** | ***14*** | ***72*** | ***16*** | ***43*** | ***33*** | ***8*** | ***77*** | ***0*** | ***32*** | ***0*** | ***230*** | ***55,773*** | ***600*** | ***6,900*** | ***26,000*** | ***8,610*** | ***45,058*** | ***105,069*** | ***111,187*** |

Lehigh County Authority
System Operations Review - July 2025
Presented: August 25, 2025

| | | Jul-25 | 2025 Totals*** | 2024 Totals | 2023 Totals |
|---|---|---|---|---|---|
| Recordable Safety Incidents* | Total LCA | 1 | 4 | 2 | 33 |
| Non-Recordable Safety Incidents | Total LCA | 1 | 2 | 25 | [redacted] |
| Incident Types ** | Injuries | 2 | 6 | 15 | [redacted] |
| | Property Damage | 1 | 3 | 11 | [redacted] |
| | Near Miss | 0 | 0 | 1 | [redacted] |

***Numbers adjusted to match current tracking methodology

* Recordable Safety Incidents are those that result in death, days away from work, restricted duty, medical treatment beyond first aid.

** Safety incidents may be categorized in more than one incident type.

| Year To Date Safety Incidents | Root Cause Analysis Completed | Corrective Actions Indentified | Corrective Actions Completed |
|---|---|---|---|
| [redacted] | 2 | 4 | 0 |

Current Month Incidents

| Description | Date | Type | Root Cause(s) | Corrective Action(s) |
|---|---|---|---|---|
| On July 17, 2025, an employee sustained an injury to their right hand and wrist while attempting to start a concrete saw. The saw's pull cord was seized and would not pull freely. After several attempts, the cord suddenly released with force, causing an immediate "popping" sensation and pain in the employee's hand. The immediate cause was the sudden release of stored energy in the stuck recoil starter. The root cause was identified as equipment failure due to a lack of a formal pre-use function check and inadequate preventative maintenance, which allowed a faulty tool to remain in service. | 7/17/2025 | Recordable with Restricted Days | Inadequate equipment maintenance and inspection program. This systemic issue allowed a mechanically failed tool to remain in the field, and the lack of a required pre-use function check meant the hazard was not identified before an injury occurred. | 1.Develop and implement a formal Pre-Use Inspection Checklist for high-risk small equipment. This checklist must include a slow, controlled test pull of the starter cord to ensure smooth operation. |

| | | | | |
|---|---|---|---|---|
| On July 23, 2025, an employee sustained a crush injury to their right ring finger while working in the back of a service truck. The employee was preparing to change a fire hydrant and was manipulating a heavy pipe when their finger became caught in a pinch point. The immediate cause was the employee's hand being in a hazardous location during the movement of a heavy, unstable object. | 7/29/2025 | Non-Recordable | The primary root cause of this incident is the absence of a formal Job Safety Analysis (JSA) and associated safe work procedure. This failure to proactively analyze the task led to a predictable situation where an employee was required to manually handle a heavy, unstable load without proper controls, exposing them to severe pinch | 1. Evaluate and equip service trucks with appropriate material handling aids (e.g., pipe clamps, straps, portable hoists) identified as necessary in the JSA.<br>2. Train all affected employees on the new JSA and SOP. No employee may perform this task until they have been trained and signed off on the new procedure. |
| Between July 25 and July 30, 2025, a tree fell onto the company's perimeter fence, causing significant damage to multiple sections. The damage was discovered on July 30th. There were no injuries. The direct cause of the damage was the impact from the fallen tree. | 7/30/2025 | Property Damage | | Develop and implement a formal Vegetation Management Plan. This plan will include a schedule for periodic inspections and a protocol for the removal or trimming of identified hazardous trees. |

Lehigh County Authority

System Operations Review - July 2025

Presented: August 25, 2025



| Critical Activities | System | Description | Jul-25 | 2025 Totals | 2024 Totals | Permit |
|---|---|---|---|---|---|---|
| | | | Daily Avg (MGD) | Daily Avg (MGD) | Daily Avg (MGD) | Daily Max (MGD) |
| Water Production | Allentown | Total | 24.42 | 22.91 | 22.39 | 39.0 |
| | | Schantz Spring | 6.84 | 6.71 | 6.82 | 9.0 |
| | | Crystal Spring | 3.92 | 3.88 | 3.87 | 4.0 |
| | | Little Lehigh Creek | 13.13 | 11.43 | 11.47 | 30.0 |
| | | Lehigh River | 0.54 | 0.90 | 0.23 | 28.0 |
| | Central Lehigh | Total | 12.32 | 11.51 | 11.49 | 19.04 MGD Avg |
| | | Feed from Allentown | 7.50 | 7.18 | 6.88 | 7.0 MGD Avg 10.5 MGD Max |
| | | Well Production (CLD) | 4.85 | 4.39 | 4.60 | 8.54 MGD Avg |
| | | Sum of all (12) other Suburban Water Systems | 0.17 | 0.16 | 0.15 | 1.71 Sum of all wells |
| Wastewater Treatment | | Kline's Island | 32.77 | 32.62 | 34.04 | 40.0 |
| | | Pretreatment Plant | 4.72 | 4.77 | 4.98 | 5.75 (design capacity) |
| | | Sum of all (5) other Suburban WW Systems | 0.17 | 0.19 | 0.19 | 0.36 |

| | | Jul-25 | 2025 Totals | 2024 Totals | 2023 Totals |
|---|---|---|---|---|---|
| Precipitation Totals (inches) | | 3.93 | 26.70 | 41.88 | 46.38 |
| Compliance Reports Submitted to Allentown | | 29 | 187 | 278 | 280 |
| Notices of Violation (NOVs) | (Allentown + Suburban) | 1 | 4 | 5 | 3 |
| Sanitary Sewer Overflows (SSOs)/Bypasses | (Allentown + Suburban) | 0 | 8 | 17 | 24 |
| Main Breaks Repaired | Allentown | 1 | 9 | 27 | 8 |
| | Suburban | 1 | 6 | 14 | 12 |
| Customer Service Phone Inquiries | (Allentown + Suburban) | 881 | 7886 | 16,690 | 11,221 |
| Water Shutoffs for Non-Payment | (Allentown + Suburban) | 200 | 1200 | 2,010 | 1,995 |
| Injury Accidents | (Allentown + Suburban) | 1 | 4 | 15 | 19 |
| Emergency Declarations | Allentown | 1 | 1 @ 15,373 | 2 @ 228,181.55 | 2 |
| | Suburban | 0 | 1 @ $318,754 | 1 @ 56, 662.50 | 0 |

**Significant Repairs/Upgrades**:

**Description of Non-Compliance Events:**

A NOV was received on July 30, 2025, from the City of Allentown Office of Compliance. At this time a response has not been submitted but will be included in the August board report.
On July 22, 2025, a main break occurred in the parking lot of the water filtration plant. An emergency repair was made by JOAO Bradley due to the depth and proximity to the flood wall. A boil water advisory was issued for three customers, which was lifted after two consecutive days of coliform sampling.

**Other**:

| Critical Activities | System | Description | Jul-25 | 2025 Totals | 2024 Totals |
|---|---|---|---|---|---|
| **Wastewater Compliance** | Allentown | Bypass | 0 | 2 | 3 |
| | | Bypass Volume | 0 | 111,496 | 1,713,644 |
| | | Permit Exceedances | 0 | 0 | 0 |
| | | Sanitary Sewer Overflows | 0 | 4 | 5 |
| | | COA Issued NOVs | 1 | 1 | 0 |
| | | Regulatory Agency issued NOVs | 0 | 2 | 0 |
| | Arcadia | Bypass | 0 | 0 | 0 |
| | | Bypass Volume | 0 | 0 | 0 |
| | | Permit Exceedances | 0 | 0 | 1 |
| | | Sanitary Sewer Overflows | 0 | 0 | 0 |
| | | NOVs | 0 | 0 | 1 |
| | Heidelberg Heights | Bypass | 0 | 2 | 4 |
| | | Bypass Volume | 0 | 271,192 | 2,125,696 |
| | | Permit Exceedances | 0 | 1 | 9 |
| | | Sanitary Sewer Overflows | 0 | 0 | 0 |
| | | NOVs | 0 | 0 | 0 |
| | Lynn | Bypass | 0 | 0 | 2 |
| | | Bypass Volume | 0 | 0 | 1,010,000 |
| | | Permit Exceedances | 0 | 0 | 2 |
| | | Sanitary Sewer Overflows | 0 | 0 | 0 |
| | | NOVs | 0 | 0 | 0 |
| | Sand Spring | Bypass | 0 | 0 | 0 |
| | | Bypass Volume | 0 | 0 | 0 |
| | | Permit Exceedances | 0 | 16 | 44 |
| | | Sanitary Sewer Overflows | 0 | 0 | 0 |
| | | NOVs | 0 | 0 | 1 |
| | Wynnewood | Bypass | 0 | 0 | 0 |
| | | Bypass Volume | 0 | 0 | 0 |
| | | Permit Exceedances | 0 | 0 | 9 |
| | | Sanitary Sewer Overflows | 0 | 0 | 3 |
| | | NOVs | 0 | 0 | 1 |
| **Water Compliance** | Allentown | Boil Water Advisories | 1 | 1 | 0 |
| | Central Lehigh | Boil Water Advisories | 0 | 0 | 0 |
| | Suburban Water Systems | Boil Water Advisories | 0 | 1 | 1 |

**City of Allentown**
Office of Compliance
Department of Public Works
641 South 10th Street, 3rd Floor
Allentown, PA 18103
(610) 437-7587

July 30, 2025

Ms. Liesel Gross
Chief Executive Officer
Lehigh County Authority
1053 Spruce Street
P.O. Box 3348
Allentown, PA 18106

RE: NOTIFICATION OF VIOLATION

Dear Ms. Gross,

Lehigh County Authority (LCA) failed to comply with State and Federal regulations, the Amended and Restated Concession Lease Agreement (CLA), and Operating Standards (OS) concerning the sanitary sewer overflows (SSO) at Outfall 003 that occurred April 22, 2025, and June 9, 2025.

**OS.B.1.1 General Operation and Maintenance Requirements**

"The Concessionaire will be fully responsible for the operation, maintenance, and management of the Wastewater Treatment Plant (WWTP), wastewater collection and conveyance systems, and all other components of the Sewer System. The Concessionaire shall operate, maintain, and manage the Sewer System in accordance with the Agreement and applicable laws, regulations, and ordinances, as well as requirements of the City of Allentown (City)…."

"The Concessionaire shall, at all times, keep the Sewer System in good repair and working order and shall operate, maintain, and manage the Sewer System in a professional, efficient, and economical manner. Operational decision making shall always be based on the following overall objectives:"

- "Protection of the environment."
- "Compliance with all Pennsylvania Department of Environmental Protection (PADEP), United States Environmental Protection Agency (USEPA), Delaware River Basin Commission (DRBC), the City, and other applicable regulations and requirements of these and other agencies with jurisdiction."

SSOs are violations of the NPDES permit and the Clean Water Act.

"The Concessionaire shall be obligated, pursuant to the Agreement and as permitted by law, to fulfill all of the requirements of all such permits maintained by the City and/or the Concessionaire subject to the terms of the Agreement."

“The Operator shall be responsible for complying with all applicable federal, State, and local laws and regulations pertaining to the Sewer System and shall comply with all approvals, licenses, permits, and certifications governing the performance of its Services hereunder issued for or with respect to the System.”

“Regardless of the origination of operating procedures, the Concessionaire shall be responsible for determining such specific activities and performing all necessary operation, maintenance, and management activities to meet the requirements defined herein, applicable laws and regulations, and maintain the condition and performance of the Sewer System.”

**OS.B.2.0 Standard Operating Procedures (SOP)**

“The Concessionaire shall maintain the existing or develop and implement SOPs relating to all aspects of Sewer System operation”

a. “Operation and Maintenance of the Influent Screens.”

**OS.B.3.1 Regulatory Requirements**

“Wastewater treatment plant operation and performance are governed by State and federal regulations. The Concessionaire must comply with all applicable regulations. Statutes and regulations promulgated by the Commonwealth of Pennsylvania relating to wastewater treatment and sludge management which may be applicable include the following:”

2. “Chapter 92a - NPDES Permitting, Monitoring, and Compliance”

**OS.B.3.7 Operator Training**

“The Concessionaire is responsible for safety and health training for existing and newly hired employees. Process training will include familiarization with the SOPs and other operating protocols.”

**OS.B.8.6 Internal Annual Performance Review**

“The Review will include an examination of all SOPs related to process operations and maintenance and will identify deficiencies and corrective measures taken to mitigate the deficiencies.”

**SHOULD THERE BE A REOCCURRENCE OR REGULATORY ACTION**

**CLA Section 6.4. Liquidated Damages**

“As provided in the Operating Standards, the City may assess Operational Liquidated Damages for each Operational Breach and may assess additional Operational Liquidated Damages for multiple Operational Breaches by filing a written notice with the Concessionaire setting forth the nature of the Operational Breach. The Concessionaire shall pay the Operational Liquidated Damages assessed with respect to an Operational Breach within 30 days following the filing of the written notice by the City. The City may assess Operational Liquidated Damages for an Operational Breach of the water quality standards at any time. With respect to all other Operational Breaches, the Concessionaire shall have a transition period beginning on the Closing Date and ending on the 183rd day next following the Closing Date to bring its operations into compliance with the Operating Standards without assessment of any Operational Liquidated Damages.”

**OS.B.3.2.2 NPDES Permit Discharge Limits Operational Liquidated Damages**

"Also, the Concessionaire will be responsible for any fines or penalties, and/or any enforcement action assessed by a regulatory agency for noncompliance with any NPDES permit requirement."

**RESPONSE TO NOV**

LCA has already indicated the need for corrective and preventative measures, therefore LCA will provide a response to include:

1. Provide detailed and specific information relative to those measures.
2. Provide procedures that will be put in place and maintained to review and update SOPs on at least an annual basis.
3. Provide all newly updated/revised SOPs developed as a result of this Notification of Violation and/or the SSOs.
4. Provide information on improvements in training, coverage, and communications and periodic re-training on equipment and procedures associated with the operation and control of headworks operations.
5. LCA will specifically and directly impress upon employees that SSOs at outfall 003 are to be prevented/eliminated if possible as they are a violation of the NPDES permit, the Clean Water Act, and the Lease Operating Standards. In addition, they jeopardize the system wide Act 537 planning and commitments and could result in regulatory actions like the Administrative Orders.
6. In the near-term provide corrective and preventive measures, along with an implementation schedule. Progress of actions taken during the reporting year as well as any planned future corrective and preventive actions are to be included in the Internal Annual Performance Review Report (Report). Also, as required in the Report, all revised SOPs must be included.

LCA has the right to appeal the Notice of Violation within seven (7) days of receipt.

If you have any questions regarding this matter, please contact me.

Sincerely,

Brian Chamberlain
Compliance Auditor

Enclosures:
04222025 Bypass Report
06092025 Bypass Report

# Pennsylvania of Dept. of Environmental Protection Sanitary Sewer WWTP Bypass Report

Permittee Name / owner of Collection system: Lehigh County Authority / City of Allentown

NPDES Permit Number: PA-0026000

Municipality of Permittee: City of Allentown

County of Permittee: Lehigh

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| 1 | Date, Name, Phone # of Person completing this report | Date: April 27, 2025<br>Name: Andrew Moore<br>Signature:  |
| 2 | Your facility / Organization name and address | Facillity: Lehigh County Authority - Kline's Island Wastewater Treatment Plant<br>Address: 112 W Union Street, Allentown, PA 18102 |
| 3 | Date found and **specific** location of Bypass | April 22, 2025 - Outfall 003 - Kline's Island Wastewater Treatment Plant |
| 4 | How was the Bypass discovered? By who? | How: The operator on duty returned to the control room from his sampling round and discovered alarms on SCADA<br>Who : Charles Nonemaker, Treatment Plant Operator II |
| 5 | Start and end time of Bypass? (Actual or estimated) | Start: April 22, 2025 @ 1528<br>End: April 23, 2025 @ 1608 |
| 6 | Date, time, name of person notifying and who at DEP was contacted? | Date and Time: April 22, 2025 ~1700 - Notified Northeast Regional Emergency Hotline - Scott Confer notified via email at 1741<br>Person Making Notification: Gary Saunders, Plant Manager & Andrew Moore, Director of Plant Operations<br>DEP Representative Contacted: Scott Confer; Northeast Emergency Hotline |
| 7 | Description of Bypass flow: (Actual or estimated) | Bypass description: Wastewater Plant Influent through Bypass Outfall 003<br>Actual Volume: ~22,215 gallons |
| 8 | Where precisely did the SSO go? (land, roadway, basement, swale, storm sewer, creek, etc.) | Headworks Plant Bypass - Outfall 003 discharges to the Little Lehigh Creek which is a tributary to the Lehigh River |
| 9 | What caused the SSO? (rainfall estimates) | Shortly before 1400, the operator on duty left the control room to complete daily rounds, primarily focused on the effluent hypochlorite system located at the opposite end of the facility. At the time of departure and during the early part of the incident, the influent wet well levels were normal. However, just before 1400, the bar screen became clogged with rags, causing the bar screen level to rise.<br>At 1358, a SCADA alarm was triggered, indicating that the bar screen level had reached 10 feet. As the operator continued rounds, the level rose to approximately 12 feet, which is the threshold where flow begins to divert to Outfall 003. The operator returned to the control room around 1600, observed the bar screen alarms, and immediately responded to the area. Upon arrival, the operator placed the second bar screen into operation, relieving the blockage and allowing normal flow into the wet well. This action effectively ended the bypass event. |
| 10 | Describe extent of contamination and how it was cleaned up. | Samples were not able to be collected due to the short nature of the bypass<br>Clean up: Any solids and debris were removed from the outfall. |

**Pennsylvania of Dept. of Environmental Protection Sanitary Sewer WWTP Bypass Report**

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| 11 | Was sampling of Bypass initiated? | No |
| 12 | What actions will be taken to prevent a re-occurrence? | Following the end of the bypass, an unusual noise was reported coming from the bar screen. It is suspected that a rock or other large piece of debris became lodged in the screen, preventing the traveling arms from properly removing accumulated rags. The maintenance team was unsucessful at lowering the bar rack level on their first attempt to reach the necessary conditions for inspection. The inspection is scheduled for the week of April 28.<br><br>Additionally, the facility is currently undergoing a SCADA upgrade project. The new system will enable operators to carry iPads or similar mobile devices, allowing them to receive alarms and monitor plant conditions remotely in real-time. |
| Any additional information: | | |

# Pennsylvania of Dept. of Environmental Protection Sanitary Sewer WWTP Bypass Report

Permittee Name / owner of Collection system: Lehigh County Authority / City of Allentown

NPDES Permit Number: PA-0026000

Municipality of Permittee: City of Allentown

County of Permittee: Lehigh

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|---|---|---|
| 1 | Date, Name, Phone # of Person completing this report | Date: 06/13/25<br>Name: Andrew Moore<br>Signature: |
| 2 | Your facility / Organization name and address | Facillity: Lehigh County Authority - Kline's Island Wastewater Treatment Plant<br>Address: 112 Union Street, Allentown, PA 18102 |
| 3 | Date found and **specific** location of Bypass | June 9, 2025 - Outfall 003 - Kline's Island Wastewater Treatment Plant |
| 4 | How was the Bypass discovered? By who? | How: The bypass was discovered when the bypass flow meter began to indicate flow through 003.<br>Who :Jamie Eckman, Treatment Plant Operator II |
| 5 | Start and end time of Bypass? (Actual or estimated) | Start: June 9, 2025 @ 9:15 p.m.<br>End: June 9, 2025 @ 10:28 p.m - See additional comments |
| 6 | Date, time, name of person notifying and who at DEP was contacted? | Date and Time: 6/9/2025 - 10:41 p.m. - Notified Scott Confer text and email - DEP. The DEP emergency operator was also notified at 11:01 PM<br>Person Making Notification: Gary Saunders, Plant Manager<br>DEP Representative Contacted: Scott Confer & DEP emergency line |
| 7 | Description of Bypass flow: (Actual or estimated) | Bypass description: Wastewater Plant Influent through Bypass Outfall 003<br>Actual Volume: 6/9/2025 9:15pm - 10:28p.m - 89,281 gallons |
| 8 | Where precisely did the SSO go? (land, roadway, basement, swale, storm sewer, creek, etc.) | Headworks Plant Bypass - Outfall 003 discharges to the Little Lehigh Creek which is a tributary to the Lehigh River |
| 9 | What caused the SSO? (rainfall estimates) | The bypass occurred due to a failure of the climber screen to operate as intended. Preliminary investigation suggests that the failure may have been caused by malfunctioning differential level sensors. As a result, the bar screen became obstructed with rags, preventing normal flow through the screen. This led to elevated levels in the influent channel upstream, ultimately causing flow to discharge through outfall 003.<br>Multiple alarms related to the high level were generated in the SCADA system; however, these alarms were not acknowledged or investigated in a timely manner. |
| 10 | Describe extent of contamination and how it was cleaned up. | Samples are being analyzed and will be submitted in a future report |
| | | Clean up: No debris visible at outfall |
| 11 | Was sampling of Bypass initiated? | Grab samples for analysis of NPDES permit parameters were taken. |

## Pennsylvania of Dept. of Environmental Protection Sanitary Sewer WWTP Bypass Report

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| 12 | What actions will be taken to prevent a re-occurrence? | Corrective and preventive measures are being implemented to address both the equipment malfunction and the failure to respond to alarms. The differential level sensors associated with the climber screen are scheduled for replacement. Standard operating procedures will be reviewed with staff to ensure consistant actions.<br><br>Additionally, we are evaluating the installation of a secondary float-based alarm system that will function independently of the climber screen controls and SCADA cabinet. This system will include both audible and visual alerts triggered by abnormally high wet well levels. The purpose of this redundancy is to provide an added layer of operational awareness and early warning. |
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