



LEHIGH COUNTY AUTHORITY

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

Agendas & Minutes Posted:
www.lehighcountyauthority.org

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BOARD MEETING AGENDA – March 14, 2022 – 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

- *February 28, 2022 Board meeting minutes*

4. Public Comments

5. Action / Discussion Items:

FINANCE AND ADMINISTRATION

- *2022 Staffing Review & Budget Request (Discussion)*
- *Resolution 3-2022-1: Authorizing the Authority's Application for Grant Funding, Heidelberg Wastewater Rehabilitation Project (Approval) (**pink**) (digital Board packet, pages 8-9)*
- *Resolution 3-2022-2: Authorizing the Authority's Application for Grant Funding, Western Lehigh Interceptor Manhole Project (Approval) (**blue**) (digital Board packet, pages 10-11)*

WATER

WASTEWATER

- *Kline's Island Sewer System –Act 537 Planning Update (Discussion)*
- *Western Lehigh Service Area: 2022 Nighttime Weiring (with Budget Amendment request) (Approval) (**purple**) (digital Board packet, pages 12-20)*
- *Sanitary Sewer collection System: I&I Source Reduction Program Plan (Year 3) (Approval) (**salmon**) (digital Board packet, pages 21-29)*

6. Monthly Project Updates / Information Items (1st Board meeting per month) – **March report attached**
(digital Board packet, pages 30-37)
7. Monthly Financial Review (2nd Board meeting per month)
8. Monthly System Operations Overview (2nd Board meeting per month)
9. Staff Comments
10. Solicitor's Comments
11. Public Comments / Other Comments
12. Executive Sessions
13. Adjournment

UPCOMING BOARD MEETINGS		
March 28, 2022	April 11, 2022	April 25, 2022

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

February 28, 2022

The Regular Meeting of the Lehigh County Authority Board of Directors was called to order at 12:00 p.m. on Monday, February 28, 2022. Vice Chairman Scott Bieber 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. Vice Chairman Scott Bieber, Richard Bohner, Norma Cusick, Ted Lyons, Linda Rosenfeld, Jeff Morgan, and Amir Famili were present for the duration of the meeting.

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

REVIEW OF AGENDA

Liesel Gross announced that there will be an Executive Session after the regular meeting to discuss personnel. Ms. Gross announced that this is John Parsons' last meeting as he is retiring today. John Parsons thanked all Board members for the opportunity to work with all of them and wished them well. The Board thanked Mr. Parsons for his service.

APPROVAL OF MINUTES

February 14, 2022 Meeting Minutes

On a motion by Richard Bohner, seconded by Linda Rosenfeld, the Board approved the minutes of the February 14, 2022, Board meeting as presented (7-0).

Kevin Baker joined the meeting at 12:02 p.m.

PUBLIC COMMENTS

None.

ACTION AND DISCUSSION ITEMS

2020 Audit & Financial Statements

Ed Klein introduced Nate Swartz of Zelenkofske Axelrod LLC who performed the 2020 Audit and Financial Statements review. Mr. Swartz explained that the statements from the Pennsylvania Municipal Retirement System (PMRS) were very delayed. Because the PMRS statements are a major component of the Authority's audit, the completion of the Authority's audit was also delayed. Mr. Swartz thanked Ed Klein and his staff for providing the information to him in a timely manner. Mr. Swartz stated that the Authority was given an unqualified, or clean, opinion on the Authority's basic financial statements, which is the highest level of assurance provided. He also noted there were no uncorrected misstatements, no disagreements with management, no consulting with other accounting firms, and no control issues that needed to be brought before the Board.

Ted Lyons asked why PMRS is always so late with their reports. Mr. Swartz said that they had difficulty with their year-end reconciliation and high employee turnover over the past two years. Liesel Gross added that the Authority and other municipalities met with PMRS in 2021 to express their concerns. PMRS was aware of the issues and assured them that managing the fund performance and customer service were their priorities.

Amir Famili asked if it is a requirement to print the entire Annual Comprehensive Financial Report for the Board members. Because the Authority is environmentally conscious, Mr. Famili asked if the Board and staff would consider an alternative for next year. Some Board members said they would still like to receive printed copies of the Auditor's Opinion Letter and the Authority management's executive summary to be provided on paper. Liesel Gross said that it is a requirement to have the entire document available to the public, and it is posted on the Authority's website. The staff will make note of this for next year and discuss an alternative.

On a motion by Linda Rosenfeld, seconded by Amir Famili, the Board accepted the Audit and Financial Statements for the years ending December 31, 2020 and 2019 (8-0).

Liesel Gross noted for the record that Kevin Baker joined the meeting prior to the vote on the 2020 Audit & Financial Statements.

Ed Klein thanked Nate Swartz and his staff for their work on the audit. Amir Famili thanked Ed Klein and his team for their hard work on the audit.

Election of Officers

Scott Bieber asked for the nominating report from Norma Cusick, who served as the Nominating Committee. Ms. Cusick reported she had polled the Board members to determine their interest in serving as a Board officer. She then offered the following slate of nominations for 2022 officers:

Brian C. Nagle, Chair

Scott Bieber, Vice Chair

Richard H. Bohner, Secretary

Ted Lyons, Treasurer

Norma A. Cusick, Assistant Secretary

Scott Bieber asked if there were any other nominations, which there were not. On a motion by Richard Bohner, seconded by Linda Rosenfeld, the Board elected the officers for 2022 as nominated: Brian C. Nagle as Chair, Scott Bieber as Vice Chair, Richard H. Bohner as Secretary, Ted Lyons as Treasurer, and Norma A. Cusick as Assistant Secretary (8-0).

Allentown Division – Emergency Declaration – Water Main Break at 27th Street

Gerald Charvala reviewed the report on the Emergency Declaration that occurred on January 28, 2022, at the 200 block of N. 27th Street in Allentown. Due to the substantial road damage that occurred, the Authority's water distribution manager, Jason Gruber, recommended replacement of the full water main on 27th Street and repair of the roadway on an emergency basis. An interim emergency declaration was provided by the Chief Executive Officer, and the total cost of the repair is \$231,593.70. This cost includes final road restoration, which will be completed in the spring of 2022.

Amir Famili asked if the cause for the breakage is known. Mr. Charvala said the spun cast iron pipe was installed in 1952 and has exceeded its life expectancy. Scott Bieber asked if the Authority could expect more of these breaks to occur in the future. Mr. Gruber said that the pipes made of spun cast are a concern. The Allentown water system contains approximately 20 percent spun cast piping .

Each year, the water main replacement program addresses areas of the water system that contain spun cast iron water mains to continue making progress removing it from the system.

On a motion by Jeff Morgan, seconded by Amir Famili, the Board approved the retroactive Emergency Declaration in the amount of \$213,593.70 (8-0).

Kline's Island Sewer System – Regional Sewer Capacity & Wet-Weather Planning – Regional Act 537 Plan Preparation

Scott Bieber asked for a list of expenditures and consultant work that is involved in development the Act 537 Plan. Liesel Gross said that Phil DePoe can provide this at a later meeting. Jeff Morgan commented that that planning schedule for the Act 537 Plan seems to be very short and will be challenging to meet. He suggested that the Authority discuss the schedule with DEP and reevaluate the submission schedule for the plan. Ms. Gross stated that in December 2021, the Authority and City of Allentown met with DEP to discuss the schedule. Amir Famili asked if the Authority has prepared a planning schedule to illustrate the critical path for this project and requested a copy for the Board. Mr. DePoe stated the items requested by the Board can be compiled and provided at a future meeting. He noted that the plan is currently on schedule but there is no slack in the schedule, so all targets must be met to achieve the March 2025 deadline.

Mr. DePoe explained that this authorization request is for ARRO to develop the Final Act 537 Plan document for the Kline's Island Sewer System (KISS). The plan submission will include the planning module flow projections for the 2026-2050 timeframe for all 15 municipalities connected to the KISS. ARRO services include: attending various meetings with DEP, the Authority, and KISS signatories; develop a Task Activity Report (TAR) and submit it to DEP; coordinate with various consultants to incorporate alternatives and solutions; develop a draft plan following the DEP checklist; address and incorporate all comments from the public and the KISS municipal planning commissions; assemble and distribute hard copies of the final plan; facilitate final municipal approvals; and submit the final plan to DEP.

Scott Bieber asked that the Board receive a copy of the Task Activity Report (TAR). Mr. DePoe said the report can be shared with the Board at a future meeting.

Costs associated with the development of the Act 537 Plan will be paid by the City of Allentown and reimbursed through existing intermunicipal agreements and by City customers through the use of the Administrative Order fee.

On a motion by Ted Lyons, seconded by Linda Rosenfeld, the Board approved the Capital Plan Authorization for the Regional Act 537 Plan Preparation in the amount of \$234,705.00, which includes the Professional Services Authorization to ARRO for the Regional Act 537 Plan Preparation in the amount of \$184,705.00 (8-0).

Amir Famili asked about the three deliverables that are expected to be received from AECOM for the program management contract that was approved at the prior meeting. Mr. DePoe explained the three deliverables will be a report on the analysis of the Pretreatment Plant upgrade option, a memo and analysis of regulatory feedback received from the Delaware River Basin Commission, and a financial analysis of selected alternatives using the Revenue Planning Tool that was developed in 2021. Mr. Famili asked how AECOM would be held accountable for the opinions and analysis they are providing, and what happens if the projects outlined in the Act 537 Plan are not successful in solving the issues with the system. Liesel Gross explained that the Act 537 Plan will need to include detailed review of all alternatives, including the ability for the projects to be permitted by the

regulatory agencies, a review of project financing, and a review of constructability of the projects. If DEP approves the plan, then the next step is to move into design phase of the projects. It would be during the design phase that the technical details of the projects will be fully outlined and the design engineer would be accountable for project performance.

MONTHLY FINANCIAL REVIEW

Liesel Gross explained that next month the February financial report will be presented to get back on track with the monthly reports. Ed Klein gave an overview of the December 2021 report, highlighting the variances between actual expenses and budgeted or forecasted expenses.

Amir Famili asked if the variances in capital spending are due to timing or due to something unexpected happening. Ed Klein said there are four major projects that have driven the variances for 2021, and timing was the major contributing factor in each instance. Chuck Volk explained the Arcadia Water Tank replacement project overrun in 2021, stating that the project was actually ahead of schedule and more costs incurred in 2021 versus 2022. The Kohler Pump Station project was affected in 2020 by delays due to COVID-19 and outstanding punch list issues, so additional costs were incurred in 2021 versus 2020. As far as the Wynnewood Wastewater Treatment Plant project is concerned, the 2021 variance was also affected by COVID-19 and other equipment deliver delays in 2020. He noted the Pretreatment Plant capital budget was affected by additional unforeseen costs in rehabilitating the cryogenic plant in 2021. Phil DePoe noted that the Wastewater Capacity Program went over budget in 2021 due to timing issues related to consultant work that is spread out over several years.

MONTHLY SYSTEM OPERATIONS OVERVIEW

John Parsons prepared the report and Andrew Moore reviewed the January 2022 Monthly Systems Operations report, highlighting items of interest in the report.

Scott Bieber asked why the flow at the Kline's Island Wastewater Treatment Plant is lower in January. Phil DePoe stated the lower flows are due to lower groundwater levels and lower precipitation. Amir Famili asked about the injury on the Monthly Operations report. Andrew Moore explained that the injury was due to a broken tooth caused by an employee pulling on a hose that was stuck in the mud, which let loose and hit the employee in the face. Jeff Morgan asked about the Western Lehigh Interceptor siphon chambers and if they are jetted or cleaned on a quarterly or semi-annual basis, and asked which portions of the chambers are lined. Mr. Charvala said that because of the flow in the chambers, it is difficult to clean them on a regular basis, but they were lined from the chamber to the bench. The piping is not lined.

Liesel Gross asked the Board for any feedback regarding the current format of the report. Chris Moughan and Andrew Moore will be making changes to the report over the next few months and any Board feedback should be provided to Ms. Gross.

Scott Bieber asked what "level of service" means. Liesel Gross explained that it is a term to describe how an asset is performing in relation to the service provided to the customer or community. Mr. Bieber asked if the staff could provide a graph to show the level of wastewater in the manholes as an indication of level of service. Ms. Gross said the Authority has this data from the flow monitoring period completed in 2021, but the system does not have level sensors installed to show this information on an ongoing basis.

STAFF COMMENTS

Susan Sampson reported that the Authority was contacted by Treatment Plant Operator magazine wanting to do a story on the Kline's Island Wastewater Treatment Plant (KIWWTP). After interviews and a photo shoot at the facility, Gary Saunders, Plant Manager at the KIWWTP, was featured on the cover of the March 2022 TPO magazine. The article will be featured on the Authority's website and copies of the magazine will be distributed to the Board.

SOLICITOR'S COMMENTS

None.

PUBLIC COMMENTS / OTHER COMMENTS

Ted Lyons gave a special congratulations to John Parsons for a great career and for always being professional and straightforward when answering questions for the Board. He wished him well on his retirement.

EXECUTIVE SESSION

Scott Bieber announced there will be an Executive Session at 1:35 p.m. to discuss personnel.

ADJOURNMENT

There being no further business, the Chairman adjourned the meeting at 1:27 p.m.

Richard Bohner
Secretary

RESOLUTION NO. 3-2022-1

(Duly adopted 14 March, 2022)

AUTHORIZING THE SUBMISSION OF A PENNSYLVANIA STATEWIDE LOCAL SHARE ASSESSMENT GRANT REQUEST; DESIGNATING LEHIGH COUNTY AUTHORITY OFFICIALS AUTHORIZED TO EXECUTE ALL DOCUMENTS AND AGREEMENTS IN CONNECTION WITH THE REQUESTED GRANT AND ASSIST IN OBTAINING THE REQUESTED GRANT, AND PROVIDING FOR OTHER MISCELLANEOUS MATTERS.

WHEREAS, the Lehigh County Authority (the “Authority”) is a body corporate and politic, organized by the Board of County Commissioners of the County of Lehigh, Pennsylvania (the “County”) under the provisions of the Pennsylvania Municipality Authorities Act, 53 Pa. C.S. §5601 et seq., as amended (the “Act”); and

WHEREAS, the Authority owns, leases, and/or operates public water and sewer systems in the greater Lehigh Valley of Pennsylvania; and

WHEREAS, the Authority’s Board has determined to request a grant under the Pennsylvania Statewide Local Share Assessment Grant Program (the “LSA Grant Program”) for financial assistance for a project to repair and replace portions of the public sewer collection system located in the Heidelberg Heights system in Heidelberg Township (the “Project”); and

WHEREAS, in accordance with the LSA Grant Program requirements, the Board desires to declare its approval of the grant request for Project, and designate an Authority official(s) authorized to execute documents and agreements and assist in obtaining the requested grant.

NOW, THEREFORE, the Board of the Lehigh County Authority hereby resolves as follows:

SECTION 1. The Lehigh County Authority, of the County of Lehigh, Pennsylvania, hereby requests a Statewide Local Share Assessment grant of Four Hundred Fifty-Five Thousand Dollars (\$455,000) from the Commonwealth Financing Authority to be used for the Project.

SECTION 2. Liesel Gross, Authority Chief Executive Officer and Edward Klein, Authority Chief Financial Officer, individually and collectively, are hereby designated as the official(s) (the “Designated Officials”) to execute all documents and agreements between the Lehigh County Authority and the Commonwealth Financing Authority,

and any other related Commonwealth entities, to facilitate and assist in obtaining the requested grant.

SECTION 3. The Designated Officials, and other Authority officers, individually and collectively, are hereby authorized, empowered and directed on behalf of the Authority to execute any and all papers and documents, and to do and cause to be done any and all acts and things necessary, proper, or convenient, for the execution or carrying out purposes of this Resolution.

On motion of _____, seconded by _____, this resolution was adopted the 14th day of March 2022.

Tally of Votes: Yeas _____ Nays _____

☞ ☞

I, Michael A. Gaul, of the law firm of King, Spry, Herman, Freund & Faul, LLC, Solicitor to the Lehigh County Authority, do hereby certify that the foregoing is a true, correct and complete copy of a Resolution No. 3-2022-1 which was duly adopted by the Authority Board at a public meeting of the Authority Board held on March 14, 2022, after notice thereof had been duly given as required by law, at which meeting a quorum was present and voting, and which Resolution has been recorded in the Minutes and is now in full force and effect on the date of this certification.

Michael A. Gaul, Esquire Date
King, Spry, Herman, Freund & Faul, LLC
Lehigh County Authority Solicitor

(SEAL)

Attest:

Lisa J. Miller Date
Executive Administrative Support Specialist

RESOLUTION NO. 3-2022-2

(Duly adopted 14 March, 2022)

AUTHORIZING THE SUBMISSION OF A PENNSYLVANIA STATEWIDE LOCAL SHARE ASSESSMENT GRANT REQUEST; DESIGNATING LEHIGH COUNTY AUTHORITY OFFICIALS AUTHORIZED TO EXECUTE ALL DOCUMENTS AND AGREEMENTS IN CONNECTION WITH THE REQUESTED GRANT AND ASSIST IN OBTAINING THE REQUESTED GRANT, AND PROVIDING FOR OTHER MISCELLANEOUS MATTERS.

WHEREAS, the Lehigh County Authority (the “Authority”) is a body corporate and politic, organized by the Board of County Commissioners of the County of Lehigh, Pennsylvania (the “County”) under the provisions of the Pennsylvania Municipality Authorities Act, 53 Pa. C.S. §5601 et seq., as amended (the “Act”); and

WHEREAS, the Authority owns, leases, and/or operates public water and sewer systems in the greater Lehigh Valley of Pennsylvania; and

WHEREAS, the Authority’s Board has determined to request a grant under the Pennsylvania Statewide Local Share Assessment Grant Program (the “LSA Grant Program”) for financial assistance for a project to rehabilitate, upgrade and flood-proof approximately 130 manholes located in the Western Lehigh Interceptor system in various locations throughout the County of Lehigh (the “Project”); and

WHEREAS, in accordance with the LSA Grant Program requirements, the Board desires to declare its approval of the grant request for Project, and designate an Authority official(s) authorized to execute documents and agreements and assist in obtaining the requested grant.

NOW, THEREFORE, the Board of the Lehigh County Authority hereby resolves as follows:

SECTION 1. The Lehigh County Authority, of the County of Lehigh, Pennsylvania, hereby requests a Statewide Local Share Assessment grant of Six Hundred Fifteen Thousand Dollars (\$615,000) from the Commonwealth Financing Authority to be used for the Project.

SECTION 2. Liesel Gross, Authority Chief Executive Officer and Edward Klein, Authority Chief Financial Officer, individually and collectively, are hereby designated as the official(s) (the “Designated Officials”) to execute all documents and agreements between the Lehigh County Authority and the Commonwealth Financing Authority,

and any other related Commonwealth entities, to facilitate and assist in obtaining the requested grant.

SECTION 3. The Designated Officials, and other Authority officers, individually and collectively, are hereby authorized, empowered and directed on behalf of the Authority to execute any and all papers and documents, and to do and cause to be done any and all acts and things necessary, proper, or convenient, for the execution or carrying out purposes of this Resolution.

On motion of _____, seconded by _____, this resolution was adopted the 14th day of March 2022.

Tally of Votes: Yeas _____ Nays _____



I, Michael A. Gaul, of the law firm of King, Spry, Herman, Freund & Faul, LLC, Solicitor to the Lehigh County Authority, do hereby certify that the foregoing is a true, correct and complete copy of a Resolution No. 3-2022-2 which was duly adopted by the Authority Board at a public meeting of the Authority Board held on March 14, 2022, after notice thereof had been duly given as required by law, at which meeting a quorum was present and voting, and which Resolution has been recorded in the Minutes and is now in full force and effect on the date of this certification.

Michael A. Gaul, Esquire Date
King, Spry, Herman, Freund & Faul, LLC
Lehigh County Authority Solicitor

(SEAL)

Attest:

Lisa J. Miller Date
Executive Administrative Support Specialist

MEMORANDUM

Date: March 14, 2022

To: LCA Board of Directors
Liesel Gross, CEO

From: Phil DePoe, Senior Planning Engineer

Subject: Suburban Division – Western Lehigh Sewer Partners (WLSP): 2022 Nighttime Weiring

MOTIONS / APPROVALS REQUESTED:

No.	Item	Amount
1	Capital Project Authorization: Suburban Division – WLSP: Nighttime Weiring	\$298,000
1A*	Professional Services Authorization: Arcadis – 2022 Nighttime Weiring	\$268,000
2	Budget Amendment Request (addition) – Suburban Division Wastewater Capital Budget	\$298,000

**Included in the Capital Project Authorization*

1. Suburban Division – WLSP: 2022 Nighttime Weiring

AUTHORIZATION OVERVIEW:

As the municipalities in the Western Lehigh Service Area continue to work on inflow and infiltration source removal as part of the approved Interim Act 537 Plan, Arcadis will conduct a nighttime weiring study for approximately 240 miles of sanitary sewer pipe. This study will build upon prior Sanitary Sewer Evaluation Survey (SSES) activities. The study will occur in the Spring of 2022, providing a short window to prepare the necessary Source Reduction Plans (SRPs) by August of 2022.

See attached proposal for more detailed information.

FINANCIAL:

These ongoing support services are funded via the LCA Suburban Division. This work is being coordinated by LCA on behalf of the Western Lehigh municipalities and was therefore not included in the 2022 Budget. A budget amendment is requested to authorize funding for this work to be done on a sub-regional basis, with reimbursement from the municipalities through the normal sewer billing process.

See attached budget amendment request form.

CURRENT STATUS:

Pending Board approval for these 2022 nighttime weiring services.

THIS APPROVAL – 2022 NIGHTTIME WEIRING:

Lehigh County Authority (LCA) intends to retain the services of an engineering consulting firm to provide these nighttime weiring services. These services include, but are not limited to, the following:

Professional Services
<ul style="list-style-type: none">• Preparation of a detailed workplan and health and safety plan

<ul style="list-style-type: none"> • Primary weir location selection for areas to be measured
<ul style="list-style-type: none"> • Nighttime weiring activities
<ul style="list-style-type: none"> • Preparation of a weiring results spreadsheet and various GIS figures
<ul style="list-style-type: none"> • Miscellaneous LCA and WLSP meetings
<ul style="list-style-type: none"> • Delivery of a single written report of findings and recommendations

CONSULTANT SELECTION PROCESS:

Arcadis has been LCA's engineering consultant for annual ongoing sewer program support services.

SCHEDULE:

The weiring work occur in the Spring of 2022 and the analysis will be concluded by late May 2022. The SRPs per municipality are due by August 15, 2022.

FUTURE AUTHORIZATIONS:

None anticipated.

Mr. Philip DePoe
Capital Works Program Manager
Lehigh County Authority
1053 Spruce Road
Allentown, PA 18106-0348

Arcadis U.S., Inc.
1600 Market Street
Suite 1810
Philadelphia
Pennsylvania 19103
Tel 215 625 0850
www.arcadis.com

Subject:
Scope and Budget for 2022 Nighttime Weiring

Dear Mr. DePoe:

Arcadis is pleased to provide Lehigh County Authority and the Western Lehigh Sewer Partnership (WLSPP, or Partners) with this scope and budget for nighttime weiring investigations of the Partner's collector sewers located in Weisenburg Township, Lowhill Township, Lower Macungie Township, Upper Macungie Township, Macungie Borough, Upper Milford Township, and Borough of Alburtis. In the interest of timing, we have assumed all of the approximately 240 miles of collector pipes will be included in this investigation but recognize that the soon to be completed RDII Analyses may eliminate some areas from investigation.

Date:
February 28, 2022

Contact:

Jim Shelton

Phone:
302.723.1450

Email:

James.Shelton@arcadis.com

OBJECTIVES

Groundwater infiltration is a major contributor of flow in the sanitary sewers of Lehigh County Authority and its partners.

In 2010, the Partners individually conducted various SSES investigations to narrow their source reduction priority areas following the 2009 ADS flow study for the Western Lehigh Interceptor system. The four primary Partners focused their efforts on lining VCP sewer mains and reduced their original tap and lateral rehabilitation plans. As predicted by Arcadis, the 2017, 2019, 2020, and 2021 flow meter studies indicate that the reductions in rainfall derived inflow and infiltration (RDII), especially rainfall induced infiltration (RII), has dropped minimally because the mainline liners alone simply do not stop much leakage unless combined with holistic tap, riser, lateral, and 4x6 transition sealing too. Properly conducted and with wet ground

This proposal and its contents shall not be duplicated, used, or disclosed — in whole or in part — for any purpose other than to evaluate the proposal. This proposal is not intended to be binding or form the terms of a contract. The scope and price of this proposal will be superseded by the contract. If this proposal is accepted and a contract is awarded to Arcadis as a result of — or in connection with — the submission of this proposal, Arcadis and/or the client shall have the right to make appropriate revisions of its terms, including scope and price, for purposes of the contract. Further, client shall have the right to duplicate, use or disclose the data contained in this proposal only to the extent provided in the resulting contract.

arcadis.com

<https://Arcadiso365.Sharepoint.Com/Teams/LCA2021Model/Shared Documents/General/Proposals/WLSP Planning Scopes 2020-2025/2022 WLSP SSES Projects/WLSP Weiring 2022.Pro.Docx>

conditions, nighttime weiring is a highly effective way to locate those neighborhoods most impacted by RII.

As the majority of residential water usage stops during overnight hours (1:00 AM to 5:15 AM), flow measurements obtained during these hours represent groundwater infiltration. When conducted during high groundwater periods (i.e., during wet springs or the day(s) after rainfall), the sewer and lateral pipe bedding is flooded with percolating rainwater and the places it leaks into the system can be measured at a resolution of hundreds of feet rather than the 10-25 miles of pipe resolution provided by flow monitoring. Conducted during appropriate weather conditions, the rate of infiltration observed (per foot of mainline pipe) indicates how leaky the collection system is in that monitored area. The measurements are accomplished by entering a manhole and measuring the instantaneous flow (for a period of approximately 5 to 10 minutes per location) using a compound notched sharp-crested weir. Weir capacities generally limit this technique to pipe diameters 15" or less.

For the purposes of this scope and budget, we assume that 240 miles of sanitary sewer pipe will be part of the nighttime weiring study, with approximately 220 manholes entered and more than 500 individual pipe runs being measured, providing an average resolution of less than a ½ mile of sewer main for prioritizing source reduction program work. There will be approximately two months of field work. Weather permitting, the work will be completed in the spring of 2022, with the analysis available late spring 2022, providing the Partners with 2-3 months to complete their Source Reduction Program plans in time for the August 15 due date.

SCOPE OF WORK

Task 1 – Preparatory Work

Arcadis will prepare a detailed workplan and a health and safety plan, including confined space entry plan.

Arcadis will conduct primary weir location selection for the areas to be measured. Primary weir location selection will be based on:

- Immediately upstream of pump stations.
- Pipe diameters equal to or less than 15-inches.
- Manholes with two (2) or three (3) influent pipes are preferable to those with only one (1).

Primary weir locations will be given unique IDs. As part of the prep work, a weiring analysis spreadsheet will be created along with GIS-based field maps.

All primary weir locations will be field verified during the day to:

- Locate and open the manhole
- Confirm that all pipes are weirable (i.e., no controlled inside drops or lined

pipe)

- Verify flow directions
- Confirm atmospheric conditions
- Traffic Control Situation

Task 2 – Nighttime Weiring

Arcadis will conduct nighttime weiring when the pipe bedding is thought to be filled with water. Arcadis will perform work Monday through Friday from 0000 to 0600, with weiring being conducted between 0045 and 0515. Arcadis will provide three-person weiring teams of confined space entry trained staff to perform confined space entries into approximately 220 weir locations. Each weir location will be entered a minimum of two times and on different days. If flow measurements are not within 10% of each other, the weir location will be entered a third time on a subsequent night. The nighttime weiring work should take approximately two months to perform. Arcadis will provide all required confined space entry equipment, along with Thel-Mar portable volumetric weirs in sizes 15" or less. Work will not be performed when more than .5 inches of rain occurs within 12 hour of planned weiring, if more than 1" of rain has fallen within 24 hours of planned weiring, or if more than 2" of rain has fallen within 36 hours of planned weiring as recent significant rainfall skews weiring results. Arcadis will perform a tailgate health and safety meeting every evening prior to starting work for the night.

Task 3 – Weiring Results

The weiring data collected in the field will be entered into the weiring results spreadsheet. Infiltration in gallons per day per linear foot of sewer main will be calculated for each weiring segment and the data linked to GIS-based map reports.

DELIVERABLES

Arcadis will deliver the weiring analysis in the form of a spreadsheet and GIS figures and will meet with LCA and Partner staff to present the results and recommendations. Arcadis will provide a single written report of our findings and recommendations.

BUDGET ESTIMATE

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

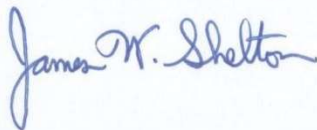
Task	Hours	Cost
Task 1 – Planning and Prep	388	\$62,000
Task 2 – Nighttime Weiring	1224	\$177,000
Task 3 – Weiring Analysis	104	\$29,000
Total	1716	\$268,000

We propose to complete these services on a time and materials basis in accordance with the Agreement between LCA and Malcolm Pirnie, Inc., and the current Summary of Standard Charges for Lehigh County Authority. Arcadis will track the costs associated with this work and report them to LCA monthly throughout the project; we will not exceed the authorized budget without written professional services authorization from LCA. Payment for services will be based upon the actual labor and expenses incurred. Invoicing will be completed monthly. The invoice will include the defined contract tasks listing the day by day personnel performing the task with hourly rate and hours worked. The invoice will provide total billed for month. Support documents will be provided if there are any expenses incurred.

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

Sincerely,

ARCADIS U.S., Inc.



James W. Shelton, PE
Vice President – Buried Infrastructure

Cc: Emily Sadowsky

Tony Dill

CAPITAL PROJECT AUTHORIZATION

PROJECT NO.:	SD-S-3	BUDGET FUND:	Suburban Div\Wastewater\Capital
PROJECT TITLE:	Suburban Division – Western Lehigh Sewer Partners (WLSP): 2022 Nighttime Weiring	PROJECT TYPE:	<input type="checkbox"/> Construction <input checked="" type="checkbox"/> Engineering Study <input type="checkbox"/> Equipment Purchase <input type="checkbox"/> Amendment
THIS AUTHORIZATION:	\$298,000		
TO DATE (W/ ABOVE)	\$298,000		

DESCRIPTION AND BENEFITS:

As the municipalities in the Western Lehigh Service Area continue to work on inflow and infiltration source removal as part of the approved Interim Act 537 Plan, Arcadis will conduct a nighttime weiring study for approximately 240 miles of sanitary sewer pipe. This study will build upon prior Sanitary Sewer Evaluation Survey (SSES) activities. The study will occur in the Spring of 2022, providing a short window to prepare the necessary Source Reduction Plans (SRPs) by August of 2022.

Prior Authorization: Nighttime weiring in the WLSP system last occurred in 2010. This work was done the Partners. Staffing levels and time commitments do not allow for internal resources to be used in 2022.

This Authorization: 2022 nighttime weiring. This work will occur in the Spring of 2022.

See attached Board Memo for further project details.

Authorization Status:

Requested This Authorization (2022 Nighttime Weiring)	
<i>Planning Phase</i>	
Staff	\$20,000
Contractor	\$0
Engineering Consultant	\$268,000
Contingency	\$10,000
Total This Authorization	\$298,000

Prior Authorizations	\$0
Subtotal	\$298,000
<i>Future Authorizations</i>	<i>\$0</i>

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: ARCADIS U.S., INC.
1600 Market Street, Suite 1810
Philadelphia, PA 19103

Date: March 14, 2022

Requested By: Phil DePoe

Approvals

Department Head: _____

Chief Executive _____

Officer: _____

Suburban Division – Western Lehigh Sewer Partners (WLSP): 2022 Nighttime Weiring

As the municipalities in the Western Lehigh Service Area continue to work on inflow and infiltration source removal as part of the approved Interim Act 537 Plan, Arcadis will conduct a nighttime weiring study for approximately 240 miles of sanitary sewer pipe. This study will build upon prior Sanitary Sewer Evaluation Survey (SSES) activities. The study will occur in the Spring of 2022, providing a short window to prepare the necessary Source Reduction Plans (SRPs) by August of 2022. These services include, but are not limited to, the following:

Professional Services ⁽¹⁾
1. Preparation of a detailed workplan and health and safety plan
2. Primary weir location selection for areas to be measured
3. Nighttime weiring activities
4. Preparation of a weiring results spreadsheet and various GIS figures
5. Miscellaneous LCA and WLSP meetings
6. Delivery of a single written report of findings and recommendations

(1) Please reference the cover Memo for additional information.

Prior Approval:

Amount: \$0

This Approval:

Amount: \$268,000

New Amended Amount (not to be exceeded without further authorization): \$268,000

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:** _____



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BUDGET AMENDMENT REQUEST Budget Year 2022

Date: March 14, 2022

Type: Transfer _____
 Addition X
 Deletion _____

Requested By: Phil DePoe
Approved By: _____

Budget: \$0

Amount: \$298,000

Item(s) Requested:

Western Lehigh Sewer
Partners (WLSP): 2022
Nighttime Weiring

Source(s) of Funds:

LCA Suburban Division

Project:

Central Lehigh County WW
Capacity Planning &
Expansion

2022 Forecast: \$698,000
2022 Budget: \$400,000
2022 Variance: (\$298,000)

Reason:

Upon authorization, these nighttime weiring services will be funded via the LCA Suburban Division. This work is being coordinated by LCA on behalf of the Western Lehigh municipalities and was therefore not included in the 2022 Budget. A budget amendment is requested to authorize funding for this work to be done on a sub-regional basis, with reimbursement from the municipalities through the normal sewer billing process.

This continued inflow and infiltration (I&I) work (and other related work) is a requirement of the ongoing Act 537 planning process.

MEMORANDUM

Date: March 14, 2022

To: LCA Board of Directors
Liesel Gross, C.E.O.
From: Phil DePoe, Senior Planning Engineer
Subject: Allentown Division: I&I Source Reduction Improvements – Construction Phase Year 3

MOTIONS / APPROVALS REQUESTED:

No.	Item	Amount
1	Capital Project Authorization – Construction: Vortex Services, LLC	\$945,772
1A*	Professional Services Authorization – Kleinfelder	\$162,200
1B*	Construction Contract - Vortex Services, LLC	\$753,572

**Included in the Capital Project Authorization*

PROJECT OVERVIEW:

The City's 2018 I&I Source Reduction Program identified specific improvements to be implemented each year of a five-year plan. As described in Kleinfelder's proposal dated May 1, 2019, the improvements to be implemented are the remaining I&I source reduction measures identified within the Primary and Secondary Basins, as well as additional areas identified by LCA and City staff during the ongoing CCTV program. Accordingly, Kleinfelder (KLF) recently completed the design documents for the pipes to be rehabilitated during Year 3 of the recently revised four-year plan, which includes heavy cleaning, grout sealing, and full cured-in-place-pipelining (CIPP). The last remaining project will occur in 2023, as the project in Year 5 has been absorbed into the prior projects. Beginning in 2024, future I&I project responsibility in the City shifts to LCA per the 2020 Lease Amendment.

FINANCIAL:

The project is an Administrative Order (AO) Project and it will be funded by the City. The terms of the concession lease agreement between LCA and the City specify that the City will directly fund projects associated with the AO, and LCA will collect fees from City customers to pay any associated debt service for these projects. The City determines the projects to be completed and directs LCA to complete the projects in the manner desired by the City.

PROJECT STATUS:

Pending Board approval of this I&I Source Reduction Improvement Project - Construction Phase Year 3.

BIDDING SUMMARY – CONSTRUCTION CONTRACT:

This project requires a General Construction contract. The project was advertised for bid on January 24, 2022. A mandatory prebid meeting was held virtually on February 8, 2022. Bids were received on February 24, 2022.

The bidding results are as follows:

Contractor	Base Bid
<i>Vortex Services, LLC</i>	\$753,572.00
Mobile Dredging & Video Pipe, Inc.	\$837,535.00
IPR Northeast, LLC	\$876,188.00
Standard Pipe Services, LLC	\$912,020.00
Mr. Rehab, LLC	\$923,540.88
Insituform Technologies, LLC	\$1,128,835.40

The base bid of this project is as follows:

- Heavy sewer main cleaning of 8” (4,496’), 10” (191’), 18” (293’), 20” (220’)
- Joint testing of 8” (2,019), 20” (18)
- Joint grout sealing of 8” (2,019), 20” (18)
- CIPP Sectional of 8” (150’), 18” (30’)
- CIPP Full of 8” (5,300’), 18” (293’), 20” (1,508’)
- Cutting of ductile iron lateral protrusions (20) of 8”, 10”, 18”

The location of this project is primarily in areas adjacent to both sides of the Lehigh River and was previously identified as a priority area.

Since LCA does not have any experience with the apparent low bidder, numerous references were checked. References confirmed their work was found to be satisfactory; therefore, we recommend awarding the General Construction contract to Vortex Services, LLC subject to receipt of the necessary Performance Bonds, insurance, and other required documentation.

PROFESSIONAL SERVICES – CONSTRUCTION PHASE:

The City has instructed LCA to utilize Kleinfelder for the construction administration phases of the project. Also, at the request of the City, Kleinfelder was asked to subcontract with Barry Isett & Associates (BIA) for the construction inspection services related to this project. BIA completed the construction inspection services of prior manhole rehabilitation projects in the City. BIA also completed the construction inspection services for the Year 1 and Year 2 project.

PROJECT SCHEDULE:

Assuming Board approval of the Construction Phase Year 3 at the March 14, 2022 meeting, Notice to Proceed will be issued by late April 2022 with an estimated completion date of early October 2022.

FUTURE AUTHORIZATIONS – CONSTRUCTION PHASE YEAR 4:

A Capital Project Authorization (CPA) will be presented to the Board in March of 2023 (Year 4) for approval of the last remaining construction phase. This will also include a professional services award, staff costs, and other related components. As mentioned in the Project Overview above, the responsibility of future City I&I projects shifts to LCA in 2024.



March 3, 2022

VIA EMAIL

Philip M. DePoe
Lehigh County Authority
P.O. Box 3348
1053 Spruce Street
Allentown, PA 18106

**RE: PROPOSAL FOR I&I SOURCE REDUCTION IMPROVEMENTS PROJECT – YEAR 3
CONSTRUCTION OBSERVATION AND CONTRACT ADMINISTRATION SERVICES**

Dear Mr. DePoe:

We have prepared this proposal for construction observation and contract administration services for the Lehigh County Authority (LCA) I&I Source Reduction Year 3 Project. Background information is presented below followed by the Scope of Work and Cost Proposal.

BACKGROUND

The City of Allentown's Source Reduction Plan is a key element of its Regional Flow Management Strategy which was accepted by the U.S. Environmental Protection Agency. The I&I Source Reduction Program identified specific improvements to be implemented each year of the original five-year plan. The improvements for Year 1 and Year 2 of the program have been successfully implemented. The I&I source reduction measures identified within the Primary and Secondary Basins for Year 3 are to be implemented. Accordingly, Kleinfelder (KLF) recently completed the design documents for the pipes to be rehabilitated during Year 3, which includes heavy cleaning, joint testing and grout sealing, sectional cured-in-place-pipelining (CIPP) and full length CIPP. Additionally, while the project was originally planned to be completed over five years, the project has progressed during Years 1 and 2, and now Year 3 to allow for pipes planned for later years to be completed earlier; therefore, the project is on track to be completed in Year 4.

This proposal for Year 3 Construction Observation and Administration Services includes the following:

- Conduct full-time inspection and monitor the rehabilitation actions such as: heavy cleaning operation, initial and final CCTV, testing of joints and grout sealing of joints, testing and installation of CIPP full length and sectional liners. All rehabilitation construction activities shall be monitored for conformance with the drawings and specifications.
- Review contractor submittals containing technical information on the materials the contractor proposes to procure for the project.
- Respond to contractor requests for clarification or interpretation.
- Attend and lead project meetings
- Review and evaluate the merits of potential change orders.
- Review, negotiate and recommend change orders.

- Assist and review procedures for testing and commissioning.
- Project management: review and make recommendations on payment applications, review and recommend substantial completion, and complete final project closeout.

SCOPE OF WORK

Kleinfelder's proposed Scope of Work consists of the following tasks.

- Task 1 – Inspection/Observation Services
- Task 2 – Submittal Review
- Task 3 – Clarifications and Interpretations
- Task 4 – Meetings
- Task 5 – Change Order Assistance
- Task 6 – System Testing and Commissioning
- Task 7 – Project Administration

The scope of each task is described below.

Task 1 – Inspection/Observation Services

KLF will subcontract the project inspection task to Barry Isset and Associates (BIA). Mr. Louis Stalsitz of BIA is very familiar with LCA procedures and provided full-time construction observation services for Year 1 and Year 2 of the project. Mr. Stalsitz will provide full-time observation services to monitor the contractor's compliance with the contract drawings and specifications, for an estimated 600 hours during construction. In addition to inspecting and monitoring activities, KLF will:

- Review contractor payment requests.
- Participate in the resolution of issues involving unforeseen field conditions.
- Compile punchlists of remaining work items.
- Evaluate substantial and final completion and issue certificates of substantial or final completion as appropriate.

It is assumed that BIA will be on site during pipe segment cleaning, preliminary CCTV inspection, joint testing and joint grout sealing, installation of the full length and sectional CIPP, testing, and final CCTV review. KLF will assist during specific events such as initiation of bypassing, testing, and initiation of operation.

In performing inspection/monitoring services, KLF and BIA will not be responsible for the contractor's means, methods, or techniques, or for the contractor's safety procedures or practices.

Task 2 – Submittal Review

The objective of this task is to review shop drawings and other submittals as required to evaluate that the materials the contractor proposes to purchase conform to the contract documents.

KLF will maintain a log of all submittals indicating the date received, date transmitted to the reviewer, date returned to the contractor and the action code. Review of submittals will generally be limited to fourteen (14) working days after receipt. Submittal review will be performed in

accordance with Section 01300 of the Specifications. Each submittal will be coded with one of the following action codes:

1. No exceptions taken.
2. Make corrections noted.
3. Amend and resubmit.
4. Rejected.
5. Noted – no action required.

For developing the level of effort required, the following number of initial and re-submittals have been assumed:

Specification Sections	Number of Initial Submittals	Number of Re-submittals
01005: Maintenance of Sanitary Sewer Operations	1	1
02130: Erosion, Sedimentation and Noise Controls	1	1
02670: Traffic Control	1	1
02760: Pipeline Cleaning and Internal Inspection	4	1
02761: Bypass Flow Handling	3	1
02763: Chemical Root Control of Sanitary Sewer System	1	
02767: CIPP-Full and Sectional (Cured-in-Place Pipelining)	3	1
02790: Joint Testing & Grout Sealing of Sewer Mains	2	1
Total Contract Submittals	16	7

The required effort to review submittals can vary depending upon a number of factors, such as the quality and thoroughness of the contractor's submittals, and the percentage of items that are by specified manufacturers versus "or equals."

Task 3 – Clarifications and Interpretations

KLF will review and provide written responses to contractor requests for information (RFIs), and will maintain a log of all RFIs, indicating the date received and the date of response. To estimate the corresponding level of effort, it has been assumed that a total of five (5) RFIs will require a written response. KLF will respond to contractor RFIs within five (5) working days following receipt.

Task 4 – Meetings

KLF will participate in and lead the following meetings which will be attended by KLF's Project Manager.

- Preconstruction conference
- Five (5) construction progress meetings

KLF will prepare an agenda for each meeting and will prepare and distribute minutes following each meeting.

Task 5 – Change Order Assistance

KLF will review potential change orders (PCOs) and negotiate and recommend final change orders. When advised of a PCO by the contractor, KLF will review and evaluate the issues surrounding the PCO and advise LCA of its merit. For the purposes of establishing a level of effort, it is assumed that a total of three (3) PCOs will be evaluated.

When LCA authorizes a change order, KLF will negotiate the cost and schedule impacts (if any) of the change order and prepare a Supplemental Agreement for execution by LCA and the Contractor. It is assumed that one (1) change order will be authorized.

Task 6 – System Testing and Commissioning

A representative from KLF will be on site for the initial testing and commissioning of the system, and to instruct LCA staff on the operation and routine testing of the system. A commissioning report will be prepared and submitted to LCA to present the test data and provide testing/monitoring instructions.

Task 7 – Project Administration

In this task, KLF will:

1. Provide general communication with LCA and the contractor throughout the duration of construction regarding such issues as progress, submittal status, construction challenges and their resolution.
2. Provide internal coordination between the team members and on-site representative regarding issues such as submittals, RFIs, and PCOs.
3. Perform the internal project administrative functions required to effectively manage the project.

It has been assumed that the effort required under this task will average five (5) hours per week for the duration of the construction contract.

COST PROPOSAL

KLF proposes to perform the Scope of Work described above on a time-charged-plus-expense basis. The estimated cost per task and resulting total cost are presented in the following table.

Task	Cost
1 – Inspection/Observation Services	\$77,400
2 – Submittal Review	\$20,400
3 – Clarifications and Interpretations	\$15,700
4 – Meetings	\$15,600
5 – Change Order Assistance	\$8,200
6 – System Testing and Commissioning	\$8,200
7 – Project Administration	\$16,700
Total	\$162,200

The total cost presented above will not be exceeded without prior approval of the LCA. The Scope of Work will be executed on a time-and-materials basis in accordance with our attached Client Professional Services Agreement and Kleinfelder's Standard Billing Rates. It is noted that the total amount for construction inspection and contract administration services is less than the budget previously estimated.

We look forward to assisting you with this important project. If you have any questions, please contact me at (609) 454-4568 or via email at FSCcontreras@Kleinfelder.com.

Sincerely,

A handwritten signature in black ink, appearing to read 'Felipe S. Contreras', with a stylized, cursive script.

Felipe S. Contreras, P.E.
Principal Engineer

Enclosures

CAPITAL PROJECT AUTHORIZATION

PROJECT NO.:	AD-S-11	BUDGET FUND:	Allentown Div\Wastewater\Capital
PROJECT TITLE:	Allentown Division: I&I Source Reduction Improvements - Construction Phase Year 3		PROJECT TYPE:
THIS AUTHORIZATION:	\$945,772	<input checked="" type="checkbox"/>	Construction
TO DATE (W/ ABOVE)	\$2,711,304	<input type="checkbox"/>	Engineering Study
		<input type="checkbox"/>	Equipment Purchase
		<input checked="" type="checkbox"/>	Amendment

DESCRIPTION AND BENEFITS:

The City's 2018 I&I Source Reduction Program identified specific improvements to be implemented each year of a five-year plan. As described in Kleinfelder's proposal dated May 1, 2019, the improvements to be implemented are the remaining I&I source reduction measures identified within the Primary and Secondary Basins, as well as additional areas identified by LCA and City staff during the ongoing CCTV program. Accordingly, Kleinfelder (KLF) recently completed the design documents for the pipes to be rehabilitated during Year 3 of the recently revised four-year plan, which includes heavy cleaning, grout sealing, and full cured-in-place-pipelining (CIPP). The last remaining project will occur in 2023, as the project in Year 5 has been absorbed into the prior projects. Beginning in 2024, future I&I project responsibility in the City shifts to LCA per the 2020 Lease Amendment.

Prior Authorizations: Year 1 was authorized in March 2020 and was completed by July 2020. Year 2 was authorized in March 2021 and was completed by January 2022.

This Authorization: Year 3 construction authorization. See attached Board Memo for further project details.

Authorization Status:

Requested This Authorization	
Construction Phase	
Staff	\$20,000
Construction Contractor	\$753,572
Engineering Consultant	\$162,200
Contingency	10,000
Total This Authorization	\$945,772

Prior Authorizations	\$1,765,532
Future Authorizations (Year 4)	TBD
Total Estimated Project (to date)	\$2,711,304

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
AMENDMENT NO. 7**

Professional: KLEINFELDER
150 College Road West, Suite 100
Princeton, NJ 08540

Date: March 14, 2022

Requested By: Phil DePoe

Approvals

Department Head: _____

Chief Executive

Officer: _____

Allentown Division: I&I Source Reduction Improvements – Construction Phase Year 3

The I&I Source Reduction Program identified specific improvements to be implemented each year of the five-year plan. As described in Kleinfelder's proposal dated May 1, 2019, the improvements to be implemented are the remaining I&I source reduction measures identified within the Primary and Secondary Basins, as well as additional areas identified by LCA and City staff during the ongoing CCTV program. Accordingly, Kleinfelder (KLF) recently completed the design documents for the pipes to be rehabilitated during Year 3 of the recently revised four-year plan, which includes heavy cleaning, joint testing, joint grout sealing, and cured-in-place-pipe lining (CIPP). This proposal includes the following construction observation and contract administration services:

Professional Service ^(*)
1. Inspection and Observation Services
2. Submittal Review
3. Clarifications and Interpretations
4. Meetings
5. Change Order Assistance
6. System Testing and Commissioning
7. Project Administration

() For Construction Phase Only.*

Please reference the cover Memo for additional information.

Design Phase Years 1-5 (Prior): \$173,300

Bid Phase + Construction Phase Year 1 (Prior): \$93,700

Bid Phase + Construction Phase Year 2 (Prior): \$174,300

Bid Phase Year 3 (Prior): \$13,000

Planning Year 4 (Prior): \$9,500

Construction Phase Year 3 (This Amendment): \$162,200

Cost Estimate (not to be exceeded without further authorization): \$626,000

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 – March 2022

Published: March 7, 2022

PART 1 – Upcoming Agenda Items – Action & Discussion Items

FINANCE & ADMINISTRATION

Project Title: 2022 Staffing Review & Budget Request

Division / Funding: n/a

Board Action Date: 3/14/2022

Status or Action Desired: Discussion

Project Phase: n/a

Project Notes: Through the development of the 2022 Budget, two staff additions were proposed to address specific needs outlined within the new LCA Strategic Plan - related to Process Improvement and Asset Management. The Board approved the 2022 Budget including these new positions, but requested a more detailed review of the roles and responsibilities of these positions prior to beginning the hiring process. At the March 14, 2022 meeting, LCA staff will present recommendations related to these positions for Board discussion. Staff Responsibility: Liesel Gross

Project Title: Resolution 3-2022-1: Authorizing the Authority's Application for Grant Funding, Heidelberg Wastewater Rehabilitation Project

Division / Funding: n/a

Board Action Date: 3/14/2022

Status or Action Desired: Approval

Project Phase: n/a

Project Notes: Through the Pennsylvania Statewide Local Share Assessment Grant Program and the Commonwealth Financing Authority, grant funding is available to municipalities and municipal authorities for a variety of project types that serve the public's interest, including infrastructure projects. The application deadline for this year's grants is March 15, 2022, and LCA will seek grant funding to support the upcoming phase(s) of the Heidelberg Heights Wastewater Collection System rehabilitation program. A Resolution authorizing the grant application is required, and the Board will be asked to approve Resolution 3-2022-1 at the March 14, 2022 Board meeting. Staff Responsibility: Chuck Volk

Project Title: Resolution 3-2022-2: Authorizing the Authority's Application for Grant Funding, Western Lehigh Interceptor Manhole Project

Division / Funding: n/a

Board Action Date: 3/14/2022

Status or Action Desired: Approval

Project Phase: n/a

Project Notes: Through the Pennsylvania Statewide Local Share Assessment Grant Program and the Commonwealth Financing Authority, grant funding is available to municipalities and municipal authorities for a variety of project types that serve the public's interest, including infrastructure projects. The application deadline for this year's grants is March 15, 2022, and LCA will seek grant funding to support the upcoming phase(s) of the Western Lehigh Interceptor manhole rehabilitation program. A Resolution authorizing the grant application is required, and the Board will be asked to approve Resolution 3-2022-2 at the March 14, 2022 Board meeting. Staff Responsibility: Chuck Volk

Project Title: Monthly Financial ReviewDivision / Funding: n/aStatus or Action Desired: DiscussionBoard Action Date: 3/28/2022Project Phase: n/aProject Notes: February 2022 monthly financial report will be presented. Staff Responsibility: Ed Klein**Project Title: 2023-2027 Capital Plan - Suburban Division & Administration - Preliminary Plan Presentation**Division / Funding: Suburban DivisionStatus or Action Desired: DiscussionBoard Action Date: 3/28/2022Project Phase: n/a

Project Notes: The preliminary 2023-2027 Suburban Division and Administration Capital Plan will be presented and distributed to the Board for review and comment. The preliminary Allentown Division plan will be presented in April.
Staff Responsibility: Chuck Volk & Ed Klein

SYSTEM OPERATIONS

Project Title: Monthly Operations ReportDivision / Funding: n/aStatus or Action Desired: DiscussionBoard Action Date: 3/28/2022Project Phase: n/a

Project Notes: February 2022 monthly operations report will be presented. Staff Responsibility: Andrew Moore & Chris Moughan

WATER PROJECTS

No upcoming action or discussion items.

WASTEWATER PROJECTS

Project Title: Kline's Island Sewer System - Act 537 Planning UpdateDivision / Funding: n/aStatus or Action Desired: DiscussionBoard Action Date: 3/14/2022Project Phase: n/a

Project Notes: Over the past several LCA Board meetings, many approvals have been requested to initiate additional engineering work to advance the regional Act 537 Plan development process. At the March 14, 2022 meeting, staff will present a general update to the Board to review project history and timeline, critical path items necessary to meet regulatory deadlines, and a review of past and current consultant authorizations. Staff Responsibility: Phil DePoe

Project Title: Western Lehigh Service Area: 2022 Nighttime Weiring & Budget AmendmentDivision / Funding: Suburban DivisionBoard Action Date: 3/14/2022Status or Action Desired: ApprovalProject Phase: Planning Phase

Project Notes: As part of the Final Act 537 Plan that is due to DEP by March 2025, all KISS signatories will have the opportunity in 2022 to prepare inflow and infiltration Source Reduction Plans (SRPs) for inclusion into the sewer model. These SRPs, if the municipality wishes to complete in 2022, are due by August 15, 2022. At that time, specific locations of future I&I remediation work need to be clearly identified for inclusion. Using the data from the recently completed 2021 flow characterization study, the Western Lehigh Sewer Partners are going to undertake this nighttime weiring activity in order to identify sources of groundwater infiltration. The field work will start in Spring of 2022 and will take approximately three months to complete. Board approval is being requested at the March 14, 2022 Board Meeting. The project will be funded by the LCA Suburban Division. This work is being coordinated by LCA on behalf of the Western Lehigh municipalities and was therefore not included in the 2022 Budget. A budget amendment will also be requested at the March 14, 2022 meeting to authorize funding for this work to be done on a sub-regional basis, with reimbursement from the municipalities through the normal sewer billing process. Staff Responsibility: Phil DePoe

Project Title: KIWWTP Primary Digester No. 1 CleaningDivision / Funding: Allentown DivisionBoard Action Date: 3/28/2022Status or Action Desired: ApprovalProject Phase: Construction Phase

Project Notes: Cleaning of digesters is performed on a 5-year cycle at KIWWTP and Primary Digester No. 1 is due for cleaning in 2022 by an outside contractor. Work includes removal of residual material, detwatering and transfer of residuals for LCA disposal, and internal cleaning via high pressure washing. Construction phase approval will be requested at the 3/28/2022 Board meeting. Staff Responsibility: Bryan Geissel

Project Title: Sanitary Sewer Collection System: I&I Source Reduction Program Plan (Year 3)Division / Funding: City of Allentown (AO)Board Action Date: 3/14/2022Status or Action Desired: ApprovalProject Phase: Construction Phase

Project Notes: In 2014, Video Pipe Services complete various CCTV inspections throughout twenty Primary and Secondary Basins. All pipe segments that called for complete pipe replacement have already been repaired. The remaining source reduction activities within the twenty Basins have been organized into a 5-Year Plan, with each year focusing on a different geographic region of the City's sewer collection system. Design has been approved for all five years, with the first project completed in 2020 and the last project finishing in 2023 (the Year 5 project has been incorporated into the Year 3 and Year 4 projects). The Year 1 and Year 2 projects have been successfully completed. Authorization for the Year 3 project will be requested at the March 14, 2022 Board Meeting. Construction is expected to start in May of 2022 and last until Q4 of 2022. This project is considered an AO expense under terms of the Lease and is City funded. Staff Responsibility: Phil DePoe

PART 2 – Project Updates – Information Items

WATER PROJECTS – ALLENTOWN DIVISION

Project Title: Water Filtration Plant: Filter Upgrade ProjectDivision / Funding: Allentown DivisionStatus or Action Desired: NEWBoard Action Date: n/aProject Phase: Preliminary Design

Project Notes: The filter underdrains and associated mechanical equipment are approximately 60 years old and have reached the end of their useful life. The near-term Master Plan project is intended to improve reliability, extend service life, enhance high level of service and maintain regulatory compliance. LCA has retained an engineer to perform preliminary engineering, which will be completed in Spring 2022. Following City conceptual design approval, design phase will commence and the project is anticipated to be bid in late 2022/early 2023. Staff Responsibility: Chuck Volk

WASTEWATER PROJECTS – KLINE’S ISLAND SEWER SYSTEM (KISS) ACT 537 PLANNING

Project Title: KISS System Modeling - Rain Derived Inflow and Infiltration (RDII) AnalysisDivision / Funding: Allentown DivisionStatus or Action Desired: UpdatedBoard Action Date: n/aProject Phase: Planning Phase

Project Notes: The main goal of this work (Signatory Systems only) is to conduct an RDII analysis of storm events during the flow monitoring period to determine the nature and extent of infiltration and inflow (I&I) leakage. Using hydrograph interpretation, this will help Signatories focus their rehabilitation work through Sanitary Sewer Evaluation Survey (SSES) investigations toward the sources contributing the leakage. Using this analysis, it can be identified where and what type of SSES work should be completed to allow successful targeted source reduction projects. Data from approximately 53 temporary flow meters and multiple rain gauges from the 2021 flow metering program will be used for this analysis. The analysis itself began in early 2022 and is nearing completion. Board authorization for this Signatory RDII Analysis was granted at the November 8, 2021 Meeting. A review of the results with the Signatories will occur throughout March 2022. Staff Responsibility: Phil DePoe

Project Title: Sanitary Sewer Collection System: Rain Derived Inflow and Infiltration (RDII) AnalysisDivision / Funding: City of Allentown (AO)Status or Action Desired: UpdatedBoard Action Date: n/aProject Phase: Planning Phase

Project Notes: The main goal of this work (City System only) is to conduct an RDII analysis of storm events during the flow monitoring period to determine the nature and extent of infiltration and inflow (I&I) leakage, and to use hydrograph interpretation to help the City focus their rehabilitation work (both secondary Sanitary Sewer Evaluation Survey (SSES) investigations and rehabilitation efforts) toward the sources contributing the leakage. It will also be determined where the flow meters should be installed for the next monitoring period and where SSES future work should be completed. On February 22, 2021, Board approval was granted for this project. Board authorization of a RDII analysis for the remaining 1981 Signatories was granted at the November 8, 2021 Meeting. Data from 39 temporary flow meters and five rain gauges from the 2021 flow metering program is being used for this analysis. The analysis began late 2021 and was concluded at the end of February 2022. Review of the results with the City will be conducted in March 2022. Staff Responsibility: Phil DePoe

Project Title: KIWWTP - Wet Weather Treatment OptionsDivision / Funding: City of Allentown (AO)Board Action Date: n/aStatus or Action Desired: UpdatedProject Phase: Planning Phase

Project Notes: As part of the final Act 537 Plan that is due to DEP by March 2025, three separate alternatives are being evaluated to address current and future wet weather events at the Kline's Island WWTP. One original alternative involves equalization tanks to store wet weather flow; a second new alternative involves internal plumbing modifications to temporarily re-route flow to ensure secondary treatment for all wet weather flow; and a third new alternative involves the construction of a high-rate wet weather treatment system known as "BioActiflo." Three rounds of bench scale testing for BioActiflo occurred in 2021 for proof-of-concept validation. The next step is a full-scale pilot facility. An authorization request for this pilot facility is expected in the third quarter of 2022. Funding for these analyses are a combination of the City AO funds and the LCA Allentown Division. Staff Responsibility: Phil DePoe

PART 3 – Open Project List – No Updates

Project Category	Project Title	Division / Funding	Project Phase	Staff Responsibility
System Operations	36" DI Water Main Condition Assessment	Allentown Division	Ongoing	Jason Gruber
System Operations	Watershed Monitoring Program	Suburban Division	Ongoing	Andrew Moore
System Operations	Lynn Township Corrective Action Plan	Suburban Division	Ongoing	Jason Peters
System Operations	Heidelberg Heights Consent Order & Agreement	Suburban Division	Ongoing	Chuck Volk
Water - Suburban	Upper System Pump Station and Main Extension	Suburban Division	Design Phase	Ed Hoyle
Water - Suburban	Far View Farms Pump Station Demolition	Suburban Division	Design Phase	Ed Hoyle
Water - Suburban	Central Lehigh and North Whitehall Systems – Water Supply Study	Suburban Division	Planning Phase	Phil DePoe
Water - Suburban	Arcadia West Water Storage Tank Replacement	Suburban Division	Construction Phase	Amy Kunkel
Water - Suburban	Fixed Base Meter Reading Stations	Suburban Division	Planning Phase	Amy Kunkel
Water - Suburban	Water Main Replacement Program Cycle 6	Suburban Division	Design Phase	Jason Peters
Water - Suburban	Buss Acres Pump Station Replacement	Suburban Division	Project Closeout	Amy Kunkel
Water - Allentown	Water Main Replacement Program Cycle 5	Allentown Division	Project Closeout	Jason Peters
Water - Allentown	Water Main Replacement Program Cycle 6	Allentown Division	Design Phase	Jason Peters
Water - Allentown	Water Filtration Plant: High Lift Pump VFD Replacements	Allentown Division	Construction Phase	Chuck Volk
Water - Allentown	Water Filtration Plant: 2021 Indenture Upgrades	Allentown Division	Construction Phase	Bryan Geissel

Project Category	Project Title	Division / Funding	Project Phase	Staff Responsibility
Water - Allentown	Water Filtration Plant & System Master Plan	Allentown Division	Planning Phase	Phil DePoe
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	KISS System Modeling - 2021 Flow Data QA/QC	City of Allentown (AO)	Project Closeout	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	KISS System Modeling - 2021 Model Expansion and Calibration	City of Allentown (AO)	Planning Phase	Phil DePoe
Sewer - Act 537	Kline's Island WWTP: Max Monthly Flow Capacity Evaluation	City of Allentown (AO)	Project Closeout	Phil DePoe
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: 2020 Sewer Modeling	Suburban Division	Planning Phase	Phil DePoe
Sewer - Act 537	Western Lehigh Service Area - Engineering & Program Support	Suburban Division	Planning Phase	Phil DePoe
Sewer - Act 537	Industrial Pretreatment Plant Master Plan	Suburban Division	Planning Phase	Phil DePoe
Sewer - Suburban	Western Lehigh Manhole Rehabilitation Project - Phase 3	Suburban Division	Design Phase	Jason Peters
Sewer - Suburban	Park Pump Station Phase 2 Upgrade	Suburban Division	Design Phase	Chuck Volk
Sewer - Suburban	Heidelberg Heights 2021 and 2022 Sanitary Sewer Replacement Project	Suburban Division	Construction Phase	Jason Peters
Sewer - Allentown	Kline's Island WWTP: Sludge Thickener Tank No. 3 Mechanical Upgrade	Allentown Division	Construction Phase	Bryan Geissel

Project Category	Project Title	Division / Funding	Project Phase	Staff Responsibility
Sewer - Allentown	Kline's Island WWTP: Dechlorination System Pilot Program	Allentown Division	Preliminary Design	Bryan Geissel
Sewer - Allentown	Kline's Island WWTP: Sodium Hypochlorite System Installation Project	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	Kline's Island WWTP: Solids Process Boiler and HVAC System Upgrade Project	Allentown Division	Design Phase	Bryan Geissel
Sewer - Allentown	Kline's Island WWTP: 2021 Indenture Upgrades	Allentown Division	Construction Phase	Bryan Geissel
Sewer - Allentown	Lehigh Street (Rte. 145) Water and Sewer Main Relocation Project	Allentown Division	Construction Phase	Jason Peters