



## LEHIGH COUNTY AUTHORITY

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

**Agendas & Minutes Posted:**  
[www.lehighcountyauthority.org](http://www.lehighcountyauthority.org)

Published: April 6, 2020

### BOARD MEETING AGENDA – April 13, 2020

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](http://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

3. Approval of Minutes

- *March 19, 2020 Emergency Board meeting minutes*
- *March 23, 2020 Board meeting minutes*

4. Public Comments

5. Action / Discussion Items:

**FINANCE AND ADMINISTRATION**

- *2021-2025 Capital Plan (Approval)*

**WATER**

**WASTEWATER**

- *Suburban Division – Heidelberg Heights Sanitary Sewer Rehabilitation Program Construction Phase Bid Rejection (yellow)*
- *Suburban Division – Park Pump Station Upgrade Electrical Contract Change Order No. 2 (Approval) (green)*

6. Monthly Project Updates / Information Items (1<sup>st</sup> Board meeting per month) – **April report attached**

7. Monthly Financial Review (2<sup>nd</sup> Board meeting per month)

8. Monthly System Operations Overview (2<sup>nd</sup> Board meeting per month)

9. Staff Comments

10. Solicitor's Comments

11. Public Comments / Other Comments

12. Executive Sessions

13. Adjournment

**UPCOMING BOARD MEETINGS**

*Meetings begin at Noon at LCA's Main Office, unless noted otherwise below.*

April 27, 2020

May 11, 2020

May 18, 2020

**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.

## **EMERGENCY MEETING MINUTES**

### **March 19, 2020**

---

An Emergency Teleconference Meeting of the Lehigh County Authority Board of Directors was called to order at 9:04 a.m. on Thursday, March 19, 2020, Chairman Brian Nagle presiding. A roll call of Board members present was taken. Norma Cusick, Ted Lyons, Linda Rosenfeld, Jeff Morgan, Amir Famili, and Kevin Baker were present on the teleconference for the duration of the meeting. Liesel Gross and Solicitor Michael Gaul were also on the teleconference.

Each Board member, and other attendee of the meeting, was able hear each other attendee, and be heard by each other attendee. The public could participate in the meeting through in-person attendance in the Authority's public meeting room, which was also connected to the teleconference.

Chairman Nagle reviewed the agenda and explained the meeting was called on an emergency basis to discuss matters of importance related to the national emergency and COVID-19 pandemic, and specifically the personnel adjustments that have been required to maintain operations during this situation.

An Executive Session was held at 9:07 a.m. to discuss matters of personnel.

The Executive Session ended at 9:44 a.m.

On a motion by Norma Cusick, seconded by Linda Rosenfeld, the Board authorized the Staff to implement any and all necessary measures to comply with Federal, State or Local emergency declarations and orders, including any personnel, financial and other emergency operational actions that may be required, with the purpose of ensuring a continuous supply of safe drinking water and effective wastewater treatment for all customers, and protecting the health of LCA's employees who are charged with these responsibilities (7-0).

There was some discussion regarding the planned meeting format for the March 23, 2020 meeting. Liesel Gross explained that Board members will be given instructions to call into the meeting remotely, and the main conference room will be set up to allow public participation with proper social distancing and sanitation measures in place.

### **ADJOURNMENT**

There being no further business, the Chairman adjourned the meeting at 9:50 a.m.

---

Norma Cusick  
Asst. Secretary

## **REGULAR MEETING MINUTES**

### **March 23, 2020**

---

The Regular Meeting of the Lehigh County Authority Board of Directors was called to order at 12:04 p.m. on Monday, March 23, 2020, Chairman Brian Nagle presiding. The meeting was held via video and audio advanced communication technology ("ACT"), using the ZOOM internet application, due to the national COVID-19 pandemic emergency. Each Board member, and other attendee of the meeting, was able hear each other attendee, and be heard by each other attendee. The public could participate in the meeting through in-person attendance in the Authority's public meeting room, which was also connected to the ACT. A Roll Call of Board members present was taken. Norma Cusick, Ted Lyons, Linda Rosenfeld, Jeff Morgan, Amir Famili, and Kevin Baker were present through ACT for the duration of the meeting.

Solicitor Michael Gaul was also present via ACT. Authority Staff present via ACT were Liesel Gross, Ed Klein, Todd Marion and Susan Sampson. Staff members Lisa Miller and Chris Moughan were present in the Authority's public meeting room.

Chairman Nagle announced that today's Board meeting is being videotaped and streaming live and recordings will be posted to the Authority's website.

#### **REVIEW OF AGENDA**

Liesel Gross stated there are no changes to the agenda.

#### **APPROVAL OF MINUTES**

##### **March 9, 2020 Regular Meeting Minutes**

On a motion by Norma Cusick, seconded by Linda Rosenfeld, the Board approved the minutes of the March 9, 2020 Board meeting as published (7-0).

Chairman Nagle announced that the Board conducted an emergency meeting on March 19, 2020 regarding the national COVID-19 pandemic emergency. The Board took action to authorize the Staff to implement any and all necessary measures to comply with Federal, State or Local emergency declarations and orders, including any personnel, financial and other emergency operational actions that may be required, with the purpose of ensuring a continuous supply of safe drinking water and effective wastewater treatment for all customers, and protecting the health of LCA's employees who are charged with these responsibilities. The action was unanimously approved by the Board.

#### **PUBLIC COMMENTS**

None.

#### **ACTION AND DISCUSSION ITEMS**

##### **Emergency Declaration – COVID-19 Pandemic Response**

Liesel Gross updated the Board on the current operational changes and policy updates that have been implemented to ensure uninterrupted service of safe water and sewer to the community while protecting the health and well-being of its employees. An internal Pandemic Response Team has been organized to review the Pandemic Response / Depleted Workforce plan and implement any additional provisions and plans that may be needed. Some specific details implemented under

Phase 3 of the Authority's Pandemic Response Plan were outlined and discussed in the memorandum provided. If the need for quarantine of employees arises or further staff reduction is experienced, the staff will be putting together plans for that later in the week. Supplies of food and cots have already been delivered to LCA buildings.

Ms. Gross said that she and Ed Klein have been discussing the financial impact on the Authority and are very concerned about the financial impact to our customers who may be unemployed as a result of this emergency. To help customers through the hardship, the Authority has taken action to suspend water service termination due to non-payment and to waive late fees until further notice. A few cost reduction measures will take place, including some capital projects that will not proceed as normal.

Jeff Morgan questioned if our large industrial customers are still operating during the pandemic. Liesel Gross said yes, the Governor's Business Closure Order still permits many of the Authority's larger customers to continue to operate, as they are food and beverages manufacturers or operate other essential logistics activities. Brian Nagle asked if the Authority is keeping a separate accounting of COVID-19 expenses so that, if federal funding becomes available, the expense can be easily tracked. Ms. Gross responded that accounting codes have been established to track costs. An internal decision tree, that follows CDC guidelines, is currently being developed to assist managers if an employee comes in contact with someone who is sick, or if an employee becomes sick. Amir Famili asked if there will be a public notification regarding the waiving of late fees. Ms. Gross explained that the fees will be waived across the board, and Susan Sampson will provide a notification on our public website, along with all updates and other notifications regarding COVID-19. Susan Sampson also reported that a comprehensive notification was drafted informing the public of measures that are being taken to protect the public as well as employees. It will be posted by the end of the day.

Liesel Gross also noted there are other information items posted to the website. For example, a notice was recently posted reminding customers not to flush anything other than toilet paper so avoid clogging the sewer system.

In furtherance of the motion that was approved at the emergency meeting on March 19, 2020, Solicitor Mike Gaul requested that the Board adopt a motion specifically declaring an emergency.

On a motion by Linda Rosenfeld, seconded by Norma Cusick the Board approved a formal Declaration of Emergency in response to the national COVID-19 pandemic emergency and directed Authority staff to implement the LCA Emergency Response Plan, retroactive to March 16, 2020 (7-0).

Solicitor Gaul also commented on the new federal guidelines that are being issued regarding employee wages and paid leave requirements. He will work with Authority staff on implementation of any new requirements.

Liesel Gross stated she will continue to keep the Board updated as new policies and procedures are being developed. The Board commended Ms. Gross and the staff for their hard work and effort during this hardship, and gave their full support for decisions and approaches implemented to date.

### **MONTHLY FINANCIAL REVIEW**

Ed Klein presented the January and February reports that were distributed to the Board agenda packet and also the February 2020 financial presentation file that was sent separately. Mr. Klein

reported that the forecast and cash flows are positive at this point, but expects forecasting to become more difficult to complete, as the national COVID-19 pandemic emergency will impact the Authority in ways that are not yet known.

### **MONTHLY SYSTEM OPERATIONS OVERVIEW**

The February 2020 report was included in the Board agenda packet, and there were no questions from the Board regarding the information presented.

### **STAFF COMMENTS**

Liesel Gross commented that she appreciates everyone's patience and flexibility as the Authority adjusts to changes in operational and communication protocols under this emergency declaration.

### **SOLICITOR'S COMMENTS**

None.

### **PUBLIC COMMENTS / OTHER COMMENTS**

None.

### **EXECUTIVE SESSION**

None.

### **ADJOURNMENT**

There being no further business, the Chairman adjourned the meeting at 12:40 p.m.

---

Norma Cusick  
Assistant Secretary



1053 SPRUCE ROAD \* P.O. BOX 3348 \* ALLENTOWN, PA 18106-0348  
610-398-2503 \* FAX 610-398-8413 \* [www.lehighcountyauthority.org](http://www.lehighcountyauthority.org)  
email: [service@lehighcountyauthority.org](mailto:service@lehighcountyauthority.org)

## MEMORANDUM

---

**TO:** LCA Board of Directors  
**FROM:** Liesel Gross, CEO  
**DATE:** April 6, 2020  
**RE:** Final Draft Capital Plan (2020-2024) – All Divisions

In February 2020, Lehigh County Authority staff presented the draft Capital Plan for the years 2021-2025. The plans were also distributed to various external stakeholders including municipalities within LCA's service area, the Lehigh County Board of Commissioners, Lehigh Valley Planning Commission, and the City of Allentown. This memo summarizes the comments received and provides an overview of the Final Draft Capital Plan, for Board consideration for approval at the April 13, 2020 meeting.

It is important to note that approval of the plan by LCA's Board does not indicate authorization for plan funding. Such authorization occurs through several other mechanisms including:

- **Annual Budget** – The LCA Board approves the capital budget for the upcoming calendar year as part of the annual budget process that is completed in October each year. This approval provides authorization for routine/recurring capital expenses that fall within LCA's purchasing guidelines.
- **Project Authorizations** – The LCA Board approves individual capital projects and expenditures at the time they are more concretely developed with a full project scope, project budget, cost justification and alternatives analysis if required.
- **Project Financing** – The LCA Board approves all new debt issuances including new loans or grant applications that may be secured to fund the capital program.

At each of these approval stages, the LCA staff and Board may discuss and adjust project scope and prioritization. However, this Capital Plan should be viewed as the guiding document for moving forward on system improvements that are required for the provision of safe and reliable service to the communities we serve.

The 2021-2025 Capital Plan also includes financial analysis of the impacts to revenue requirements that will drive annual rate-making decisions. This analysis includes a review of funding sources for all projects, movement toward self-funding annual and recurring asset rehabilitation via operating revenues, expected inflation of operating expenses, and achievement of key financial metrics including debt service coverage ratio and operating cash reserve requirements.

Final Draft Capital Plan (2021-2025) – All Divisions: Board members should refer to the draft plan documents presented previously. If acceptable, Board approval on March 25, 2019 is requested.

## Plan Summary

---

While the presentation and publication of the LCA Capital Plan is divided into budgetary categories of Administrative, Suburban Water, Suburban Wastewater and Allentown Division, implementation is viewed holistically in the summary below to illustrate the categories and breadth of investment required to maintain and enhance the large regional water and sewer system that LCA operates.

<b><u>Investment Category</u></b>	<b><u>Estimate</u></b>
Technology Upgrades / Cyber Security / Automation	\$ 2,025,000
Water Supply & Sewer Capacity Management - Studies	2,800,000
Small Water / Sewer Systems (Satellite Systems) Upgrades	3,993,000
Metering Upgrades	5,032,000
Allentown Water Filtration Plant Upgrades (projects >\$1,000,000)	11,400,000
Allentown Wastewater Treatment Plant Upgrades (projects >\$1,000,000)	12,400,000
Regional Sewer System Upgrades / Wet Weather Management	21,155,000
Water Main Replacements (14 Miles)	28,600,000
Small Projects, Capital Purchases & Equipment Upgrades (projects <\$1,000,000)	41,948,500
<b>Total Capital Improvements – Estimated Cost (2021-2025)</b>	<b>\$129,353,500</b>

### **Project Highlights:**

**Water Supply & Sewer Capacity Management** → \$2,050,000 included to develop a regional Act 537 Plan to address future sewage facility plans for regional system to address current and future capacity needs, plus wet-weather flows.

**Small Water / Sewer Systems (Satellite Systems) Upgrades** → Eight important projects to upgrade small developer-built systems that LCA has acquired in poor condition over the past several decades. Small systems range in size from 35 to 1,000 customers. These are important upgrades to address environmental and regulatory compliance issues in these under-served areas of the County.

**Allentown Water Filtration Plant Upgrades** → Largest project is a \$6,000,000 upgrade to the filters at the plant, which are about 60 years old. Approximately 50% of the project is expected to be completed in the next five years, and an additional \$6,000,000 will be needed to complete the full scope of the project by 2029.

**Allentown Wastewater Treatment Plant Upgrades** → Three significant electrical and pump improvement projects are estimated to cost \$9,100,000 over the next five years. This work is required to replace equipment and other components dating from the 1960s that have become difficult to maintain but provide critical service, especially during periods of peak flows due to wet weather.

**Regional Sewer System Upgrades / Wet Weather Management** → While the region develops its first regional Act 537 Sewage Facilities Plan between now and 2025, significant projects will be completed to address inflow and infiltration into the system and to relieve current hydraulic restrictions (bottlenecks) in the system. The largest project is a \$14,300,000 improvement in the Trexlertown area which is a portion of the system that is currently overloaded. A feasibility study is currently under way to develop



preliminary alternatives to address this problem, with design work kicking off in 2020 and construction within the next five years.

### **Capital Financing:**

In 2019, LCA made an important adjustment to its capital financing strategy to reflect the realities of an aging utility with significant ongoing system rehabilitation work that will be required for the foreseeable future. The updated philosophy embraced by LCA’s Board of Directors includes the following elements:

1. **Annual / Recurring Projects & System Rehabilitation** – Projects in this category, including regular water main replacements, ongoing system rehab and equipment purchases, should be funded directly through annual revenues or existing operating reserves.
2. **One-Time Projects or Capacity-Development to Meet Future Demand** – Borrowing would be limited to those larger projects that include full-scale replacement or significant asset rehab that is not expected to be repeated for many years (decades) or large investments needed to develop water or sewer capacity to meet future customer requirements.
3. **Allentown System Projects** – Due to ongoing negotiations and discussions between LCA and the City of Allentown to resolve legal and financial challenges associated with the 2013 Concession Lease Agreement, funding for major system upgrades remains undetermined. Allentown and LCA continue to work toward resolution to these matters and we will share more information when we are able to do so.
4. **Forecast of Revenue Requirements & Financial Metrics** – To balance these funding strategies, a forecast of future revenue requirements is presented annually to ensure the plan goals can be met and community conversations can take place regarding the impact of these important infrastructure investments. These revenue requirements are balanced with LCA’s financial goals of ensuring debt service coverage ratio of at least 1.20 and having 180 days (6 months) of operating cash in reserves.

Sources of funding planned to support the 2021-2025 Capital Plan are:

<b><u>Project Category</u></b>	<b><u>Funding Source</u></b>	<b><u>Estimate</u></b>
Annual / Ongoing Rehabilitation	Operating Revenues / Reserves	\$ 53,496,500
Large-Scale Projects / Capacity Development	New Borrowing	20,982,000
Allentown System Projects	To be determined	54,875,000
<b>Total Capital Improvements Cost (2021-2025)</b>		<b>\$129,353,500</b>

To complete the projects included in the draft 2021-2025 Capital Plan in accordance with the financial strategy described above, the following annual revenue increases will be required:

LCA's Suburban Water systems → 6.5% per year

LCA's Suburban Wastewater systems → 2.5% per year

LCA's Allentown Division water and sewer systems → to be determined.

*Current lease rates increase by inflation (CPI-U) plus 2.5%.*

***Important Note!*** *The annual revenue increases shown above are not the same as rate increases to our customers! LCA evaluates rate increases annually during the preparation of the following year's budget and includes a review of factors such as customer growth, tapping fees paid in the prior year, changes in sales volume (water sales, sewer flows) and other economic factors prior to determining the actual rate increases needed in each calendar year.*

#### **Public Comments Received**

---

City of Allentown: City officials review the Allentown Division capital plan annually and provide comments, primarily on upcoming projects that may have an impact on user rates. The City's letter for LCA's draft 2021-2025 capital plan is attached noting areas of agreement on cost recovery and projects for which additional discussion will be required.

Lehigh Valley Planning Commission: The planning commission reviews LCA's plan annually and provides comment. The Commission's letter for LCA's draft 2021-2025 capital plan is attached noting that the new projects included in the plan are consistent with the regional comprehensive plan.



**Craig W Messinger**  
**Director of Public Works**  
Department of Public Works  
641 S 10<sup>th</sup> Street, 3<sup>rd</sup> Floor  
Allentown, PA 18103  
610.437.7587 ext.2275  
[Craig.Messinger@allentownpa.gov](mailto:Craig.Messinger@allentownpa.gov)  
[www.AllentownPA.gov](http://www.AllentownPA.gov)

March 10, 2020

Charles Volk, P.E.  
Chief Capital Works Officer  
Lehigh County Authority  
P.O. Box 3348  
1053 Spruce Street  
Allentown, PA 18106-0348

RE: Draft 5-Year Capital Plan, Allentown Division, 2021-2025

Dear Mr. Volk,

Pursuant to Article 4 of the Concession and Lease Agreement (Lease), the City of Allentown (City) is responding to your *Draft 5-Year Capital Plan, Allentown Division, 2021-2025 (Plan)* received 2/10/2020. City's comments are on those projects which the summary spreadsheets in LCA's Plan show are underway or will be in 2021.

### **WATER**

#### **AD-W-7 Water Main Replacements**

Based on ongoing discussion, once defined, the project will need to be submitted through the MCIP process to be reviewed for possible Capital Cost Recovery approval

#### **AD-W-15 Itron/AMR Meter Project**

This project was previously approved and is ongoing.

#### **AD-W-24 High Lift VFD Pump Replacements**

The City approved the Conceptual Design of the project September 17, 2019 and authorized LCA to proceed with the design of the project. No further comment is necessary.

### **WASTEWATER**

#### **AD-S-5A WWTP Electrical Substation Replacement Phase 2**

This project was included in the originally approved AD-S-5 project which was not pursued due to funding constraints. This Phase 2 project will need to be submitted through the MCIP process to be reviewed for possible capital cost recovery approval.

#### **AD-S-11 Administrative Order Improvements**

This project was previously approved and is underway. No further comment is necessary.

**AD-S- 16 Interim Blending Pumping System**

This project was previously approved, but no action should be taken until there is a response to the NPDES permit renewal by Pennsylvania Department of Environmental Protection.

**AD-S- 20 WWTP Solids Processing Boiler and Heating Systems Replacement and Upgrade  
(resubmitted 3/2/20)**

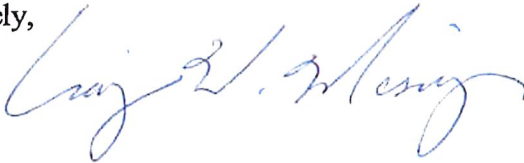
After discussion with LCA's Capital Team (2/25/20), project has been revised, retitled, and refocused to reflect the urgency of replacing the solids process boilers.

The project will need to be submitted through the MCIP process to be reviewed for possible capital cost recovery approval.

As prior practice, the City will anticipate LCA's response to these comments and after receipt of which the City may request meeting to review the comments and positions of LCA and the City.

Thank you for providing your proposed program and for your continued cooperation. If you have any questions or require additional information, please do not hesitate to contact the Office of Compliance.

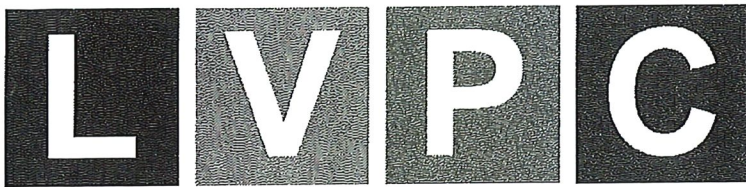
Sincerely,

A handwritten signature in blue ink, appearing to read "Craig Messinger".

Craig Messinger  
Director of Public Works

CC: Brian Nagle, LCA Board of Directors  
Liesel Gross, LCA  
Ed Klein, LCA  
Daniel Koplish, COA  
Office of Compliance, COA

RECEIVED MAR 03 2020



## Lehigh Valley Planning Commission

GREG ZEBROWSKI  
Chair

STEVEN GLICKMAN  
Vice Chair

PAMELA PEARSON  
Treasurer

BECKY A. BRADLEY, AICP  
Executive Director

February 28, 2020

Mr. Charles Volk, PE  
Chief Capital Works Officer  
Lehigh County Authority  
P.O. Box 3348  
Allentown, Pennsylvania 18106-0348

***Re: LCA Preliminary Capital Plans - Allentown and Suburban Divisions 2021-2025***

Dear Mr. Volk:

The Lehigh Valley Planning Commission (LVPC), at its regular monthly meeting on February 27, 2020, reviewed the above-referenced plans and offer the following comments. The comments, as shown on the attached page, are provided for both water and wastewater projects appearing for the first time and significantly modified projects from previous Capital Plans. No new projects or significantly modified projects were identified in the Allentown Division Plan. The Suburban Division Plan includes four new projects and one significantly modified project for which comments are provided.

Please call me if you have any questions.

Sincerely,

Susan L. Rockwell  
Senior Environmental Planner

Attachment

cc: Lehigh County Commissioners



Environment Committee		LVPC PROJECT REVIEW SUMMARY SHEET		Date: February 2020
TITLE	BRIEF DESCRIPTION	LVPC COMMENT		
1. Lehigh County Authority (LCA) Preliminary Capital Plans (2021-2025)	<p><b>Suburban Division</b> New Projects:</p> <p><u>Water</u></p> <ul style="list-style-type: none"> <li>• Fixed Base Meter Reading System               <ul style="list-style-type: none"> <li>- Development of a fixed base system for meter reading. Five antennas are anticipated to provide coverage for Suburban area.</li> </ul> </li> <li>• North Whitehall Division Study               <ul style="list-style-type: none"> <li>- Project consists of an engineering study to identify improvements in system reliability. Future phase will include an improvements project.</li> </ul> </li> <li>• Arcadia Water Tank Replacement               <ul style="list-style-type: none"> <li>- Construct new concrete storage tank to replace existing tank at Arcadia West Industrial Park. Existing tank has developed numerous leaks and interior/exterior coating systems have reached the end of their useful life.</li> </ul> </li> <li>• Water Meter Replacement Program               <ul style="list-style-type: none"> <li>- Replace 6,183 aging water meters with new meters having radio-read capability.</li> </ul> </li> </ul> <p>Significantly Modified Project:</p> <p><u>Sewer</u></p> <ul style="list-style-type: none"> <li>• Western Lehigh Interceptor - Trexlerstown Area Storage Facility               <ul style="list-style-type: none"> <li>- Modification involves completion of a study to identify a short-term alternative to address wet weather capacity issues. Project could involve a storage facility, a combination of storage and conveyance or some other alternative technology. A long-term solution to be identified as part of the Act 537 planning process.</li> </ul> </li> </ul>	<p>Improvements/studies that will result in more efficient, safe and reliable sewer and water service are consistent with the County Comprehensive Plan.</p>		

---

## MEMORANDUM

---

**Date:** April 13, 2020

**To:** Authority Board  
**From:** Charles Volk  
**Subject:** Suburban Division – Heidelberg Heights Sanitary Sewer Rehabilitation  
(Phase 3) – Construction Phase

**MOTIONS / APPROVALS REQUESTED:**

Rejection of Bids.

**BACKGROUND**

This project is part of the Heidelberg Heights Sanitary Sewer System Corrective Action Plan (“CAP”), which was submitted to DEP in May 2019 and commits LCA to eliminating hydraulic overloads and bypasses at the Heidelberg Heights Wastewater Treatment Plant, caused by wet weather inflow and infiltration into the sanitary sewage collection system.

DEP directed that the CAP include the replacement of all original vitrified clay pipe (VCP) sewer main and laterals in the system. The CAP implementation schedule indicates the replacement of original sewer main and lateral pipe to be performed in phases as annual projects.

**PROJECT OVERVIEW**

This project is the third phase of annual sewer main and lateral replacement, and involves the replacement of approximately 1,200 feet of 8-inch VCP sewer main and 29 residential sewer laterals in the Heidelberg Heights sanitary sewage system. Sewer laterals will be replaced to the property line with a cleanout assembly installed on each one. Existing manhole structures will be re-used and new frames and covers retrofitted, watertight manhole chimney wrap will be installed, and new watertight gaskets will be installed at manhole pipe connections. The contractor will be responsible for temporary measures, including bypass pumping, in order to minimize sanitary sewer service disruption. Roadway and lawn area restoration is included.

**FUNDING**

The Project will ultimately be funded by the LCA Suburban Division

**BUDGET AMENDMENT**

Not required

**PROJECT STATUS**

Board authorization of rejection of bids.

**THIS APPROVAL – CONSTRUCTION PHASE BID REJECTION**

**BIDDING SUMMARY**

This project consists of one contract. The project was advertised for bid via PennBid in February 2020, a pre-bid meeting was held on March 12, 2020 and bids were opened on March 24, 2020. Bids results are follows:

<b>General Construction</b>
-----------------------------

Bidder	Bid Amount
<b>B.P. Paterson, Inc.</b>	<b>\$383,305</b>
<b>Joao &amp; Bradley Co., Inc.</b>	<b>\$433,440</b>
<b>Ankiewicz Enterprises, Inc.</b>	<b>\$442,950</b>
<b>R-III Construction Corp.</b>	<b>\$474,400</b>
<b>Eastern Branch Demolition</b>	<b>\$507,705</b>
<b>Doli Construction Corporation</b>	<b>\$589,200</b>
<b>Wexcon, Inc.</b>	<b>\$793,400</b>

The low bid cost exceeds the construction phase budget of \$275,000 and the significant range of bid prices may be a reflection the current pandemic crisis, which has led to uncertainties regarding material pricing and availability. Capital Works recommends rejection of all bids and re-bidding a reduced scope project.

**PROFESSIONAL SERVICES**

N/A.

**PROJECT SCHEDULE**

Based on board rejection of bids at the April 13, 2020 board meeting, the project will be reduced in scope and re-advertised for bid within 30 days.

**FUTURE AUTHORIZATIONS**

To be re-bid





**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](mailto:service@lehighcountyauthority.org)

---

**MEMORANDUM**

---

**Date:** April 13, 2020

**To:** Authority Board

**From:** Charles Volk, P.E., Chief Capital Works Officer

**Subject:** Suburban Division – Park Pump Station Upgrade Electrical  
Contract Change Order No. 2

**MOTIONS /APPROVALS REQUESTED:**

No.	Item	Amount
1	<u>Capital Project Authorization – Amendment No. 2</u>	\$45,544.87
2	<u>Construction Change Order – Electrical Contract</u> <u>Shannon A. Smith, Inc.</u>	\$45,544.87

**PROJECT BACKGROUND**

The Park Pump Station Upgrade Project purpose is to restore the station to its design capacity (level of service), extend the service life, and enhance/improve station reliability. The scope of work includes the replacement of extended shaft type pumps with dry pit submersible type pumps, replacement of the electrical controls (which feature antiquated rheostat drives) with modern controls and variable frequency drives, upgrade/replacement of the HVAC system, roof replacement, replacement of wet well level control system, replacement of influent slide gate, installation of new hoist system and related structural members, construction of new floor opening and larger hatch to facilitate removal of dry well equipment, electrical service upgrade, electrical Code upgrades, SCADA system upgrade, new instrumentation, and replacement of all internal piping, valves and fittings. The above work represents a comprehensive structural/mechanical/electrical upgrade to the station.

**CHANGE ORDER SCOPE AND OBJECTIVE**

This is a final electrical contract Change Order for additional electrical work, electrical hardware, and support services provided at Park Pump Station. Value-added services and value added components were provided to enhance station operations, improve monitoring capabilities and communication, prevent generator overload (when on generator power), and provide

additional alarms. A significant amount of the work was performed during the extended station startup and performance testing period, and as such it was not feasible to delay contractor work in order to draw up change order paperwork and obtain board approval. The electrical contract Change Order No. 2 includes the following items:

- 1) Lights in Parkway transformer: disconnect, relocate, and reconnect city transformer.
- 2) E-stop replacement: remove and replace 2 existing corroded E-stops (emergency shutoffs) and associated GRC raceway and replace with new materials for pre-existing comminutors.
- 3) Additional City of Allentown permitting costs: in excess of \$10,000 permit allowance item for electrical permits and inspections.
- 4) Start-up operational changes, re-programming, added alarms and added hardware: Numerous electrical modifications including instrumentation modifications, programming and SCADA changes were made during start-up operations based on input from Operations to supplement various operating protocols in order to improve systems monitoring and wet weather performance. A significant amount of this work was performed by the SCADA integration subcontractor, ACC, and was documented by LCA's inspector. Work included resetting of wet well floats and added float with additional float alarms, conduit runs, and programming; troubleshooting existing comminutor problems and adding wiring, relays and programming for PLC control of units based on influent sluice gate position; added relays for VFD interlocks; pulling additional signal wires for pump relays from each VFD to PLC to enable pre-set speed operation on generator power; dialup communication system with KIWWTP consisting of additional wiring for analog signal and related programming.
- 5) Existing generator programming: Based on late 2019 generator load testing by outside contractor, additional programming and logic was required to scale pump speed and pump sequencing in accordance with maximum generator output, and alarms were added for existing generator fault conditions.
- 6) Security system repairs: The electrical contractor performed repairs to LCA security system, including running new conduit and wire.

#### **FINANCIAL**

The Project is being funded by the LCA Suburban Division.

#### **PROJECT STATUS**

The project was declared Substantially Complete in January 2020. Final completion work is being wrapped up and contract closeout is in progress. Final project completion and contract closeout should be by the end of April 2020.

#### **THIS APPROVAL:**

Electrical Contract Change Order No. 2 (final)

#### **FUTURE AUTHORIZATIONS**

None anticipated.

# CAPITAL PROJECT AUTHORIZATION

## Amendment No. 2

<b>PROJECT NO.:</b>	<u>SD-S-15</u>	<b>BUDGET FUND:</b>	<u>Suburban Div\Wastewater\Capital</u>
<b>PROJECT TITLE:</b>	<u>Park Pump Station Upgrade – Electrical Contract Change Order No. 2</u>	<b>PROJECT TYPE:</b>	<input checked="" type="checkbox"/> Construction <input type="checkbox"/> Engineering Design <input type="checkbox"/> Equipment Purchase <input type="checkbox"/> Amendment
<b>THIS AUTHORIZATION:</b>	<u>\$ 45,544.87</u>		
<b>TO DATE (W/ ABOVE)</b>	<u>\$ 4,841,642.87</u>		

**DESCRIPTION AND BENEFITS:****Pump Station Rehabilitation/Improvements – Electrical Contract Change Order No. 2 (Final):**

This final Change Order for the Electrical Contract consists of the following major items:

- 1) Lights in Parkway transformer: disconnect, relocate, and reconnect city transformer
- 2) E-stop and raceway replacement for pre-existing comminutors
- 3) Additional City of Allentown permitting costs
- 4) Start-up operational changes, re-programming and SCADA changes, added alarms and added hardware
- 5) Existing generator additional programming, logic, and alarms
- 6) Security system repairs

Previous Authorizations	
Design Phase + Construction Phase	\$4,796,098

REQUESTED THIS AUTHORIZATION	
Construction Phase	
E.C. Contract Change Order - Shannon A. Smith, Inc.	\$45,544.87
<b>Total This Authorization</b>	<b>\$45,544.87</b>

Future Authorization	
None anticipated	

Total Estimated Project	\$4,841,643
-------------------------	-------------

**REVIEW AND APPROVALS:**

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

## **FINANCE & ADMINISTRATION**

### **ACTION ITEMS**

#### **1. Approval of 2021-2025 Capital Plan – April 13, 2020**

The status of the 2021-2025 Capital Plan will be reviewed with the Board by Staff and Board Approval of the Capital plan will be requested by Staff.

### **DISCUSSION ITEMS**

### **INFORMATION ITEMS**

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

<b>CERTIFICATES OF DEPOSIT</b>						
31-Jan-20						
Fund	Bank	Location	Gross Amount	Date of Purchase	Date Due	Net Rate %
WW Capac	Morgan Stanley Private Bank	Purchase, NY	245,000.00	1/16/20	1/18/22	1.750
WW Capac	Morgan Stanley Bank	Salt Lake City, UT	245,000.00	1/16/20	1/18/22	1.750
WW Capac	Wells Fargo National Bank West	Las Vegas, NV	245,000.00	1/17/20	1/18/22	1.800

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

#### **2. Developments**

Water system construction is occurring in the following developments:

5354 Hamilton Blvd., 1 commercial lot, LMT  
 8615/8783 Congdon Hill Drive, 2 industrial lots with warehouses, LMT  
 Fields at Indian Creek, Phases 4 & 5, 86 residential units (sfd), water and sewer, UMiIT & Emmaus  
 Kohler Tract, 123 residential lots (sfa), water and sewer, UMiIT  
 Lehigh Hills, Lot 5, Phase 1, 273 apartments & clubhouse, UMT  
 Ridings at Parkland, 53 residential units (sfd), NWT-NEW

Water system plans are being reviewed for the following developments:

749 Route 100, 1 industrial lot with warehouse, UMT  
 1047 Cetronia Road, 8 unit apartment building, UMT  
 5329-5347-5357 Hamilton Blvd., 1 commercial lot, LMT  
 5374/5392 Hamilton Blvd., 1 commercial lot, LMT  
 5420 Crackersport Road, 1 commercial lot, UMT  
 8323/8449 Congdon Hill Drive, 2 industrial lots with warehouses, LMT

ATAS International, 1 industrial lot, UMT  
Cedarbrook Road Industrial Park, 2 industrial lots, LMT  
Estates at Maple Ridge, 30 residential units (sfd), UMiIT  
Jaindl Commercial Park North, 1 commercial lot, LMT  
Laurel Field, Phase 5, 25 townhouses, UMT  
Madison Village at Penn's View, 66 manufactured homes, 1 lot, water and sewer, LynnT  
Mill Creek Hotel, 1 commercial lot with 205 room hotel & restaurant, UMT  
Mountain View Estates, 27 residential units (sfd), LMT  
Ridings at Parkland – Phase 2, 38 residential units (sfd), NWT  
Schoeneck Road, Lot 1, 1 lot warehouse, LMT  
Towneplace Suites by Marriott, 91-room hotel, UMT  
Weilers Road Twins, 82 residential lots (sfa), UMT

Sewage Planning Modules Reviewed in Prior Month:

Planet Fitness Allentown Relocation, SWT, 3,200 gpd.  
3434 N Front St Subdivision, Whitehall, 860 gpd.  
3614 Lehigh St Warehouse, Whitehall, 215 gpd.  
The Waterfront Phase II, Allentown, 129,317 gpd.  
Laurel Field Phase 5, UMT, 5,575 gpd.  
St Luke's Mother Baby Pavilion, Allentown, 10,200 gpd.  
1110 N Sherman Street, Allentown, 579 gpd.

## WATER

### **ACTION ITEM**

---

1. **Arcadia West Division – Water Storage Tank Replacement Design Phase – April 27, 2020**

The Arcadia West water storage tank has had several leaks in recent years and the coating has reached the end of its useful life. An engineering evaluation of rehabilitation and replacement options was done in 2019 and the most economically feasible option selected by LCA was to replace the tank with a new concrete reservoir. Engineering design proposals were received on March 27, 2020. Design phase authorization is to be requested at the April 27, 2020 Board meeting. This project will be funded by the LCA Suburban Division.

### **DISCUSSION ITEMS**

---

### **INFORMATION ITEMS**

---

1. **Allentown Division – Hamilton Street Cedar Creek Bridge Water Main Relocation Project**

As part of the Pennsylvania Rapid Bridge Replacement Program, the replacement of the Cedar Creek Bridge on Hamilton Street has required the relocation of approximately 500 linear feet of water main. The design phase was approved at the December 2016 Board meeting and the construction phase at the January 2018 meeting. As of February 22, 2018, the contractor completed a majority of the relocation work for LCA's facilities; however, they were pulled off the site due to construction conflicts. As of March 22, 2019 the original LCA water line relocation scope of work was completed, however an additional relocation of a LCA sanitary sewer line was added to the original scope and agreement as of April 15, 2019 with an anticipated completion of April 26, 2019. LCA anticipates submitting all final paper work to the state for reimbursement in the very near future when the project has reached 100% completion. As of November 27, 2019 the project is still under construction due to delays caused by environmental timelines to preserve the high quality clear water fishery. It is anticipated that this work will be reimbursed 100% by the state and that the construction related activities. As of February 2020, the LCA utility relocation portion of this project is 100% complete; total project is approximately 75% complete. **(No Change)**

2. **Allentown Division – Water Main Replacement Program Cycle 5**

The project is for the replacement of 2-miles of aged and/or failing cast iron water main in multiple locations throughout the City, in accordance with the lease requirement, and using our engineer's risk prioritization protocol. The design engineer (Gannett Fleming) halted work on Cycle 5 following main replacement prioritization identification and preliminary project scoping until funds become available. Construction is not anticipated in 2020. **(No Change)**

3. **Allentown Division – Water Filtration Plant: SCADA System Replacement**

The project consists of the replacement of the existing SCADA System at the Water Filtration Plant. The purchase and installation of new servers, new control panel cabinets, new cabling, and new programming software will encompass this project. Board approval to purchase this equipment was granted at the August 27, 2018 Board Meeting. Replacement will be completed by early 2020. Construction is 95% complete. This project will be funded by LCA Allentown Division. **On hold temporarily based on current situation.**

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

The Water Filtration Plan (WFP) supplies water to residential and commercial customers in the City of Allentown, as well as wholesale water to surrounding communities. One of the critical elements at the WFP is the High Service Pumping System (HSPS), which is the primary means of conveying treated water into the distribution system. The HSPS has experienced regular

failures of aging electrical components. The July 2017 Allentown Water Master Plan categorizes the pump variable frequency drives (VFDs) in very poor condition and notes that the VFDs are no longer supported by the manufacturer. This project will replace two of the existing VFDs and add a third VFD. This project is currently unfunded, but may be supported through a PENNVEST loan pending ongoing discussion with the City of Allentown. Board approval was granted at the 8/12/19 Meeting for the design phase of this project to ensure loan application timelines can be met - in the event an agreement can be reached. Contract drawings representing 90% design were received in mid-November. Since an agreement was not reached by the 2/5/20 PennVEST application deadline, the project is on hold. The next PennVEST application deadline is 5/6/20. **(No Change)**

5. **Allentown Division – Water Filtration Plant: Raw Water Pump Room Painting Construction Phase**

Since 2015, the piping and appurtenances of the high lift pump station (Phase 1) and the filter gallery (Phase 2) have been painted. It is the intent of Phase 3 to paint the piping and associated appurtenances in and around the raw water pump room, as the coatings are in poor condition. The project was advertised for bid in late December and bids were received mid-January. Construction phase Board approval was approved at the 2/10/20 Board meeting. The pre-construction meeting was held on 2/12/20 and construction began in March and will be completed by May 2020. **(No Change)**

6. **Suburban Division – Mechanical Asset Management Upgrade Project**

This third phase of Suburban Division Asset Management upgrade program will again focus on mechanical components, and will replace components that were deferred due to budget limitations in 2019. Design phase commenced in Q4 of 2019, and the project will be bid in Spring 2020. The upgrade locations were determined from asset management data collected by LCA's engineer consultant and from internal interviews conducted by Capital Works with senior Operations staff, and based on risk consequence ratings. **(No Change)**

7. **Suburban Division – CLD Auxiliary Pump Station Project**

The project consists of installation of a new booster pumping station with SCADA and water main extension to pump water from the Lower Pressure System to the Upper Pressure System. The LCA Suburban Division will fund the project. Bids for the project were received on 6/29/18. Board approval for the construction phase of the project was granted at the 7/23/18 meeting. A preconstruction meeting was held on 8/28/19. Construction will be substantially completed in February 2020. Current status is addressing items not completed during start-up testing – construction is 99% complete. **(No Change)**

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

The project will feature the installation of a new booster pumping station and water main extension to interconnect the Central Lehigh Division (CLD) with the Upper Milford Division (UMD) allowing the abandonment of the UMD water supply facilities, and to provide water service to the proposed 123-lot Kohler Tract subdivision in Upper Milford Township. Costs are being shared between the LCA Suburban Division and the developer of the Kohler Tract. Pumping station bids were opened on 4/25/19. Board approval for the construction phase of the project was granted at the 5/13/19 meeting and a preconstruction meeting was held on 6/25/19. The NPDES permit was finally issued on 3/9/20 and a premobilization teleconference was held on 3/19/20. Awaiting approval from Upper Milford Township to start construction. Construction should be completed in October of 2020 – construction is 0% complete.

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

The project will include setting up a surface water flow-monitoring network for the Little Lehigh Creek. The work is in response to the Watershed Monitoring Plan that was developed and

reported to LCA by Al Guiseppe (SSM, Inc.) in 2017. In 2018, USGS selected the Delaware River Basin to pilot the National Next Generation Integrated Water Observing System (NGWOS). The Little Lehigh Watershed was picked as a targeted area of the NGWOS Project and additional surface water and ground water monitoring stations will be developed. USGS and LCA met on 11/19/2019 to discuss the proposed monitoring stations and the program in general. A follow up meeting was held on 12/16/2019. USGS and LCA have now found all three GW monitoring wells, LE860, LE 861 and LE862, whose usage had all been discontinued decades ago and their locations were presently unknown. USGS is now checking the viability of using them again. USGS has now completed the installation of (3) new SW Gauging Stations in the Little Lehigh Watershed and all (3) are collecting data. Additional SW flow monitoring stations are within the installation process. All six (6) Fybr sites are currently collecting flow data and the calibration process is expected to last several months. **(No Change)**

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

This Project addresses the needs of three satellite water systems that currently are operating on one source of supply and have no redundant water supply. The Clear View Farms system long operated on one well, and in 2019 Well No. 2 was successfully rehabilitated to restore diminished well capacity for use as a secondary source. The Madison Park North system has only one well, and an additional well is planned to be developed and constructed. An engineer has been retained to assist with the development of a second well for Madison Park North. An agreement is in place with an adjoining property owner to Madison Park North to drill a test well on their property, in coordination with DEP guidelines. The "step drawdown test" was performed on 3/26/19 and indicated that the test well is a viable backup source to Well 1. A Pre-Drilling and Aquifer Test Plan was conditionally approved by DEP in late September of 2019. The reconstruction of the test well was completed in mid-January of 2020. The next item to be completed will be a 72 hour sustained pump test, scheduled for this spring. If the test is successful, we will need to obtain approval from the Agricultural Lands Condemnation Approval Board prior to permitting and construction of the new well facilities. Permanent facilities design is 0% complete. **(No Change)**

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

The project consists of the consolidation and replacement of two well stations with a single new pump station and a new water storage tank to replace two antiquated hydropneumatic pump stations. The new station will be a variable frequency drive controlled double pumping system with full SCADA control. The design will include radon reduction elements and also accommodate the future installation of additional radon removal equipment, to be implemented upon DEP's mandate of a regulatory limit. The project is in construction phase. The Notice to Proceed was issued to the contractors on 9/24/19. Construction began in February 2020 and is approximately 5% complete. **(No Change)**

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

LCA's capital program includes the replacement of 20,000 transceiver units, and 10,000 units will be replaced in 2019 with the remaining to be replaced in 2020 under separate authorization. The new units have a 20-year battery life and are compatible with the new meter reading software purchased in 2017. This project will replace 100% of the remaining old style radio units over a two-year period. Construction phase services for the first round of 10,000 units was approved at the 5/13/19 Board meeting. Construction began in July 2019 and a change order was issued to the contractor for the installation of the remaining transceiver units that were originally scheduled for replacement in 2020, in order to expedite the completion of the work under the program and take advantage of favorable contract unit pricing. The project is substantially complete. This project is funded by the LCA Suburban Division.



**WASTEWATER****ACTION ITEMS**

---

**1. Suburban Division - Heidelberg Heights Sanitary Sewer Rehabilitation Program Construction Phase Bid Rejection – April 13, 2020**

High wet-weather flows caused by excessive inflow and infiltration into the sewage collection system have challenged the Heidelberg Heights sanitary sewage system and has been the cause of numerous wastewater treatment plant bypasses over the past two years. In 2019, the second phase of the sewer main replacement program was completed and involved the replacement of approximately 1,100 lf of VCP sewer main and 26 residential sewer laterals to address a high priority area of the system was completed. The third phase of the sewer main replacement program consists for approximately 1,200 lf of original VCP sewer main and 29 sewer laterals to replace. The project was advertised for bid in late February 2020, a pre-bid meeting was held on 3/12/2020 and bids were opened on 3/27/2020. Bids came in significantly over budget, likely a reflection of the current national pandemic emergency, and staff recommends rejection of bids. The project will be scaled down and re-advertised for bid in late April for construction by the end of 2020 in accordance with the Corrective Action Plan.

**2. Suburban Division – Park Pump Station Upgrade Electrical Contract Change Order No. 2 – April 13, 2020**

The Park Pump Station Upgrade Project is in final completion phase and contracts are being prepared for closeout. A final change order request has been prepared for the electrical contract for additional hardware and services provided. The majority of the additional services were provided during the extended start-up phase, and required close coordination with LCA operations personnel. The additional work includes the following major items: City Lights in the Parkway transformer relocation; emergency stop system replacement; additional City electrical permitting costs; start-up operational changes, re-programming, added alarms, added relays and signal wiring and additional SCADA related services; existing generator programming; and security system repairs. LCA staff considers most of this work as value-added services and the resulting final project provides LCA greater operational flexibility, enhanced performance, and better contingency plan with an improved alarm system. Board approval of the electrical contract final change order will be requested at the 4/13/2020 meeting.

**3. Allentown Division – Kline’s Island WWTP: Sodium Hypochlorite Disinfection Project Construction Phase Authorization – April 27, 2020**

This project involves the replacement of the existing gas chlorination system at the wastewater treatment plant (WWTP). The use of gaseous chlorine for sewage disinfection, while reliable, is outdated and contains inherent safety risks. In addition, the existing equipment has reached the end of its useful life. Switching to sodium hypochlorite was also identified in the 2018 WWTP Master Plan. The design started in March of 2019. The construction phase of the project will begin the second quarter of 2020 and will be completed by the end of 2020. The project was advertised for bid in late February 2020 and the pre-bid meeting was held at the WWTP on 3/12/2020. Bids are to be opened on 4/14/2020 and the construction phase approval will be requested at the 4/27/2020 Board meeting. The project will be funded by the LCA Allentown Division.

**4. Kline’s Island Sewer System – Regional Sewer Capacity & Wet-Weather Planning – Sewage Billing Meter QA/QC Data Analytics and 2021 Flow Metering Preparation – April 27, 2020**

As part of the Interim Act 537 Plan, the municipalities served by the Kline’s Island Sewer System have committed to completing a flow metering and modeling project beginning in 2021. The flow metering data will be used to prepare modeling and identify the capital improvements needed to

meet the future sewage capacity needs of the region through 2050. The flow metering will include a mix of temporary meters and the existing sewage billing meters. Data delivery and storage procedures, quality assurance, and flow analytics need implemented in 2020 for these sewage billing meters. Without this meter development program, the data cannot be used from these meters. Therefore, to prepare for 2021 flow metering, a consulting engineer has been preliminarily retained, and approval of their full Professional Service proposal is requested at the April 27, 2020 Board meeting. Costs associated with the development of the QAQC data analytics and the 2021 flow metering preparation will be paid by the City of Allentown and reimbursed through existing intermunicipal agreements and by City customers through the use of the Administrative Order Fee.

## DISCUSSION ITEMS

---

## INFORMATION ITEMS

---

### 1. **Allentown Division – Kline’s Island WWTP: Phase 1 AO Design Improvements**

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

### 2. **Allentown Division – Kline’s Island WWTP: Max Monthly Flow Capacity Evaluation**

DEP has noted that the KIWWTP has been performing at a high level and meeting its permitted effluent quality limits during a period of prolonged wet weather since early 2018. This study will provide the basis for confirming the plant’s maximum monthly average that can be sustained during prolonged periods of wet weather – while remaining in full compliance with effluent quality requirements of the plant’s permit. Approval of the study was granted at the 8/26/19 Board Meeting. The study was completed in mid-October 2019 and a Part II Permit was sent to DEP on 10/18/19. The permit will be resubmitted in late 2020 or early 2021 upon action by DEP on the Interim Act 537 Plan (to be submitted in September 2020). Therefore, the original permit submission is 100% completed – awaiting Revision #1. This project is considered an AO expense under terms of the Lease and is City funded. **(No Change)**

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

As part of the Pennsylvania Rapid Bridge Replacement Program, the proposed replacement of the Lehigh Street Bridge near the intersection with MLK Boulevard has required the relocation of existing City water and sewer lines that are located within the PennDOT right of way. Because the bridge is owned by Lehigh County and not the Commonwealth, the normal PennDOT relocation reimbursement schedules do not apply. Therefore, the County and LCA have executed an agreement on cost reimbursement on similar terms. LCA’s engineer is working on behalf of LCA on a final sewer relocation design that minimizes the extent of the relocation. There will be less water infrastructure relocation work required since the existing water main is attached under the bridge and will be reattached after the new bridge is constructed. Construction will commence in 2021. **(No Change)**

### 5. **Allentown Division – Sanitary Sewer Collection System: I&I Source Reduction Program Plan (Year 1)**

This project includes the design of the City of Allentown’s I&I Source Reduction Program Plan. In 2014, Video Pipe Services complete various CCTV inspections throughout twenty Primary and

Secondary Basins. All pipe segments that called for complete pipe replacement have already been repaired. The remaining source reduction activities within the twenty Basins have been organized into a 5-Year Plan, with each year focusing on a different geographic region of the City's sewer collection system. Design has been approved for all five years, with the first project commencing in 2020 and the last project finishing in 2024. Board approval for the construction phase of the "Year 1 Project" was granted at the March 9, 2020 Board Meeting. This project is now on temporary hold pending the pandemic restrictions being lifted. This project is considered an AO expense under terms of the Lease and is City funded.

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

Following several months of discussion with the Pennsylvania Department of Environmental Protection (PA-DEP), all municipalities flowing into the Kline's Island Wastewater Treatment Plant have agreed to complete an Interim Act 537 Plan ("Interim Plan") by September 2020. This Interim Plan will primarily consist of projecting new connections to the regional sewer system from 2021 through 2025 and outlining steps to be taken during this timeframe to prepare a full Regional (Long-Term) Act 537 Plan ("Regional Plan"). This two-step planning process has been developed to allow all municipalities to work cooperatively toward a Regional Plan to meet future sewer capacity needs of the region, and to provide proper regulatory oversight and control of new connections to the system while the Interim Plan is in force from 2021 to 2025. To begin the process of compiling the Interim Plan, a consulting engineer has been preliminarily retained, and approval of their full Professional Service proposal was granted at the February 10, 2020 Board meeting. Costs associated with the development of the Interim 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. As of late March 2020, the Interim 537 Draft is 100% completed and was delivered to sixteen planning commissions on 3/16/2020.

7. **Suburban Division – Western Lehigh Service Area – 2020 Flow Metering Program**

Future flow metering work is anticipated over the next several years for both the Western Lehigh service area as well as the entire regional Kline's Island Sewer System. In 2020, the Western Lehigh group will conduct flow metering for a period of eight months to gather additional data on inflow and infiltration and the impact of prior rehabilitation work. It is anticipated that more extensive flow metering will be required in 2021 and 2022 to develop a Regional Plan. Approval of a Professional Services Authorization and three-year contract with Flow Assessment Services was granted at the February 10, 2020 Board meeting. Also on February 10, 2020, the Board approved a Professional Services Authorization for Arcadis to provide quality assurance and data analysis services for the 2020 flow monitoring program. As of late March 2020, all temporary flow meters and rain gauges for the 2020 program have been installed (data collection is 15% completed).

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

The Park Pump Station and Force Main line were constructed in 1980 to provide wet weather relief to the Little Lehigh Creek Interceptor, which conveys wastewater from ten municipalities from outlying areas to the Kline's Island Wastewater Treatment Plant (KIWWTP). The force main consists of 8,715 linear feet of prestressed concrete cylinder pipe (PCCP) of various sizes (2,615' of 24"; 2,695' of 30"; and 3,405' of 36"), and connects with the 54" sanitary sewer interceptor that runs to KIWWTP. PCCP is particularly sensitive to deterioration due to hydrogen sulfide gas from wastewater, and corrosion of exposed reinforcing steel can result in structural degradation and pipe failure. An internal investigation of the pipe is required to assess the condition of the PCCP pipe and identify damage areas, in order to determine the locations and extent of rehabilitation needed to restore the level of service, prolong service life, and mitigate the risk of failure. Capital Works is planning a limited manned inspection of the force main pipe at 5 air release valve (ARV) locations, 100 feet in both directions from the ARV

manhole, which will be used as the initial evaluation of the representative condition of the pipe. Using this data, the need for performing a complete pipeline condition assessment will be determined, possibly utilizing a new electromagnetic technology for performing an internal pipe condition assessment that entails minimal interruption of operation of the pump station and force main. Commencement of this work will follow the return of “normal” dry weather flows, and also following the completion of the Park Pump Station upgrade construction. **(No Change)**

9. **Suburban Division – Park Pump Station Upgrade**

The Park Pump Station is to be upgraded to address mitigate risk of failure, restore station capacity, and prolong the service life of this critical facility. Design was completed in December 2017. The Park Pump Station Upgrade was advertised for bid in December 2017, pre-bid meeting was held on 1/4/2018, and bids were opened 2/1/2018. Construction phase was authorized at the 2/12/2018 Board meeting. Notice to proceed for the construction contracts was issued dated 3/26/2018. A pre-construction meeting was conducted in early April 2018, and construction was substantially completed in January 2020. Start-up and performance testing of the new mechanical and electrical equipment was successfully performed in January 2020, and the project is approximately 98% complete. Final project completion and final restoration will be completed in Spring 2020. **(No Change)**

10. **Suburban Division – Wynnewood WWTP Upgrade Project**

Wynnewood Terrace WWTP was constructed in 1980 by the developer to serve the Wynnewood Terrace subdivision, located in the Laury's Station area in North Whitehall Township. Sewer service is provided to approximately 217 residential and 2 commercial properties. LCA acquired the system in 2003.

The plant, while meeting effluent limits, has reached the end of its useful life. The plant is constructed of in-ground steel tanks that are in poor condition, with areas of corrosion and loss of structural integrity. The mechanical and electrical systems are also at the end of their service life and in need of replacement. The proposed project includes replacement of the existing treatment facility in entirety with new technology and concrete tanks appropriate for the wastewater flows and loading characteristics. The new facility shall meet the effluent limits criteria established in the respective DEP and DRBC permits, including new or additional limits that may be imposed during the permitting process. Design phase was authorized in February 2017 and was concluded in late Summer 2018. The DEP Part 2 Water Quality Management Permit was received in March 2018. The project was advertised for bid in August 2018, bids were opened in September 2018, and bids were authorized for award at the October 22, 2018 Board meeting. Construction work mobilized in early 2019 and is anticipated to finish in Spring 2020. Construction is approximately 80% complete. **(No Change)**

11. **Suburban Division - Lynn Township Corrective Action Plan**

Excessive inflow and infiltration (I&I) and high wet-weather flows into the Lynn Township sewer system has been ongoing and increasingly challenging to address. As noted in LCA's monthly operations reports, treatment plant bypasses and sanitary sewer overflows have occurred in this system and must be addressed. On 6/4/19 a meeting was held with DEP, Lynn Township and LCA representatives as a result of a hydraulic overload at the wastewater treatment plant, based on 2018 Chapter 94 Report monthly plant flows. At the meeting, DEP directed LCA to submit an amendment to the pre-existing Corrective Action Plan (originally submitted by Lynn Township Sewer Authority) to include an updated system condition assessment and an outline of steps to be taken to mitigate I/I flows and maintain NPDES permit compliance. The Corrective Action Plan (CAP) includes structural and non-structural initiatives and involves coordination with the host municipality. The framework for the CAP was shared with the Board in February 2019. A meeting was held at Lynn Township with DEP in June 2019 to discuss the Lynn Township CAP and Township sewer planning/growth issues, and DEP directed LCA to submit a CAP Amendment by the end of summer 2019. The CAP Amendment contained an updated sewer

system condition assessment and a corrective plan to further mitigate I/I flows. Updated CCTV work of the entire system was substantially completed in August 2019, and the inspection data was summarized in the CAP Amendment and is being used to scope a capital repair project. The Lynn Township Board of Supervisors adopted a sewer system rules and regulations ordinance on 9/12/19, which gives LCA the authority to inspect private laterals and facilities for illegal connections and perform follow-up enforcement. A meeting with DEP and Lynn Township representatives was held on 1/15/20 to discuss the CAP Amendment and plan moving forward. A letter is forthcoming from DEP to grant 55 EDUs of sewer allocation relief in 2020. **(No Change)**

**12. Suburban Division - Heidelberg Heights Corrective Action Plan**

On 2/11/19, DEP submitted a notice of violation to LCA regarding bypasses and permit exceedances at the Heidelberg Heights wastewater treatment plant. As discussed with the LCA Board during several meetings in 2018, this small satellite system has been challenged by high groundwater levels and significant infiltration and inflow (I&I) of clear water into the sewer system during rain events. LCA staff met with DEP officials on March 6, 2019 to discuss the problems and, as a result, LCA prepared a comprehensive Corrective Action Plan (CAP) and submitted DEP on 5/5/19. A draft of the plan was attached for Board review at the 4/22/19 Board meeting. The final CAP was submitted to DEP on 4/29/19. The Heidelberg Heights Board of Supervisors approved the advertisement for adoption of a sewer system rules and regulations ordinance on 9/19/19, which gives LCA the authority to inspect private laterals and facilities for illegal connections and perform follow-up enforcement. The ordinance was adopted by the township in October 2019. **(No Change)**

**13. Suburban Division – Sand Spring WWTP Upgrade Project Construction**

The Sand Spring WWTP was constructed in 1972 by the developer to serve the Sand Spring development, located in the Schnecksville area in North Whitehall Township. Sewer service is provided to approximately 248 apartment units, 8 commercial properties, and an elementary school. Lehigh County Authority (LCA) acquired the system in 2005.

The plant, while meeting effluent limits, has reached the end of its useful life. The plant is constructed of in-ground steel tanks that are in poor condition, with areas of corrosion and loss of structural integrity. The mechanical and electrical systems are also at the end of their service life and in need of replacement. The proposed project includes replacement of the existing treatment facility in entirety with new technology and concrete tanks appropriate for the wastewater flows and loading characteristics. The new facility shall meet the effluent limits criteria established in the respective DEP and DRBC permits, including new or additional limits that may be imposed during the permitting process. Design phase was authorized in February 2017 and final design was delayed due to DEP Part 2 Water Quality Management and NPDES permitting issues. DEP approval of the Water Quality Management Permit was received in late December 2018, the design was finalized in late Spring 2019, and the project was advertised for bid in July 2019. Bids were opened on 8/13/19 and construction phase authorization was approved at the 8/26/19 Board meeting. A pre-construction meeting was held on 11/1/19 following execution of contract documents. Construction of structures is temporarily on hold pending Conditional Use Approval from North Whitehall Township. Construction mobilization for site work occurred in late winter 2020. **(No Change)**

**14. Suburban Division - Trexlertown Wastewater Storage Facility**

As part of the Western Lehigh service area's Sewer Capacity Assurance & Rehabilitation Program (SCARP), a conveyance capacity "bottleneck" was identified in the Trexlertown area of the Western Lehigh Interceptor, and this area was assigned a high priority due to occurrence of sanitary sewer overflows and basement backups in the vicinity. A parallel interceptor was originally conceived to run approximately from Cetronia Rd to Spring Creek Rd. The concept

was modified to focus on providing storage capacity in the system for this area, due to concerns about downstream hydraulic impacts. This project is an interim solution to address local impacts of the system bottleneck, and will become part of the future long-term solution to alleviate regional conveyance capacity challenges. A pre-design feasibility study is being performed to evaluate various engineering alternatives, including an “in-line” parallel storage tank, conventional concrete tank (flow equalization basin), or other options. Award of the pre-design feasibility study to HDR was authorized at the 10/21/2019 Board meeting. The study is on hold until modeling data is received from Arcadis. **(No Change)**

**15. Suburban Division – Western Lehigh Manhole Rehabilitation Project**

Currently as of March 24, 2020, a manhole rehabilitation project is being evaluated for the design of flood proofing and sealing of manholes along the Western Lehigh Interceptor. The purpose of the project is to eliminate wet weather floodwater inundation and inflow into the system. It is projected that the project scope will include approximately 50 manholes, which will be rehabilitated in 2020. LCA anticipates the project will be advertised for bid in April 2020 and construction will be completed by December 2020. Design is approximately 60% complete. **(No Change)**