



LEHIGH COUNTY AUTHORITY

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Agendas & Minutes Posted:
www.lehighcountyauthority.org

Published: September 6, 2016

BOARD MEETING AGENDA – September 12, 2016

1. Call to Order
 - *Public Participation Sign-In Request*
2. Review of Agenda / Executive Sessions
3. Approval of Minutes
 - *August 8, 2016 Board meeting minutes*
4. Public Comments
5. Action / Discussion Items:

FINANCE AND ADMINISTRATION

- *2015 Audit & Financial Statements – Acceptance*
- *2017-2021 Capital Plan – Presentation, Discussion & Approval (blue)*
- *Emergency Declarations – WL20 Pump Repair & City Division Sewer Repair (green)*
- *2017 Budget Assumptions – Discussion only (tan)*

WATER

- *Suburban Division – Capece Tract, WL #20 and Res #3 Improvements (yellow)*
- *Suburban Division – Pine Lakes Pumping Station Improvements (pink)*

WASTEWATER

- *Wastewater Pretreatment Plant – Operations Report & Discussion of Contract Extension – Presentation & Discussion only*

6. Monthly Project Updates / Information Items (1st Board meeting per month)
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

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

September 26, 2016

October 10, 2016

October 24, 2016

October 31, 2016 Special meeting to be held only if needed to complete 2017 budget approval process

PUBLIC PARTICIPATION POLICY

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

REGULAR MEETING MINUTES
August 8, 2016

The Regular Meeting of the Lehigh County Authority was called to order at 12:15 p.m. on Monday, August 8, 2016, Chairman Brian Nagle presiding. Other Members present at the commencement of the meeting were: Linda Rosenfeld, Kevin Baker, Richard Bohner, Norma Cusick, Scott Bieber, Ted Lyons and Deana Zosky. Authority Staff present were Liesel Gross, Ed Klein, Pat Mandes, Frank Leist, Brad Landon, Phil DePoe and Lisa Miller.

REVIEW OF AGENDA

Liesel Gross stated that there will be one item under Staff Comments and two items under Executive Session. One regarding potential litigation and one regarding real estate acquisition.

APPROVAL OF MINUTES

July 11, 2016 Regular Meeting Minutes

The Board asked that the July 11 Minutes reflect that Ted Lyons was unable to vote because he was not on the phone for the duration of the meeting.

On a motion by Richard Bohner, seconded by Linda Rosenfeld, the Board approved the Minutes of the July 11, 2016 Regular meeting as corrected (7-0).

PUBLIC COMMENTS

None.

ACTION AND DISCUSSION ITEMS

2017-2021 Capital Plan

Frank Leist presented the draft 2017-2021 Suburban Division, Allentown Division, and Administrative Capital Plans to the Board for their review. Questions and concerns will be addressed at the August 22, 2016 meeting, with final approval requested at the September 12, 2016 meeting. The plans are being mailed to the City of Allentown, Lehigh Valley Planning Commission and the Lehigh County Board of Commissioners for comments. Any comments received will be distributed to the Board for their consideration. Mr. Leist noted that the format of the project detail sheets has been changed giving much more detail of the projects. A glossary has also been added to the plans.

Deana Zosky asked if a process overview memo was included explaining what changes were made to the process. Liesel Gross said that a process overview can be prepared and distributed to the Board prior to the next meeting.

Mr. Leist noted the following projects that require special attention: Upper Milford Central Division - replacement of two existing well stations with a new well station; City Division - emergency generation at the water filtration plant and the change in disinfectant at the Kline's Island wastewater treatment plant.

The Board will review the draft Capital Plans and discuss in more detail at the August 22, 2016 meeting.

2015 Audit & Financial Statement

Ed Klein reported that the 2015 Comprehensive Annual Financial Report (CAFR) was sent out on July 29, 2016. He also reported that the Finance Committee met on August 3, 2016 to review the audit and the audit process. Mr. Klein also reported that there are no issues with the statements. He recommended the Board review the Management Discussion and Analysis (MDA) which is an introduction to the Authority's basic financial statements. He gave a brief overview of the net position and income statements. The Board stated their concerns regarding understanding of the Audit and financial statements and would like to see a

summary or dashboard for clarification. The Auditors will be attending the August 22, 2016 meeting to address any questions from the Board.

Rainstorm Ready – Administrative Order Planning

Liesel Gross said the purpose of today's discussion is to provide more information on the flow credit process, to update the Board on how the municipal meetings are going, and to request feedback on any additional topics or information the Board would like to discuss at future meetings. Pat Mandes presented a PowerPoint presentation regarding the flow credit process. Ms. Mandes explained how new connections to the system are allowed as measurable reductions in wet-weather flows are achieved. Some discussion followed. The Board requested a copy of the chapter in report to the Department of Environmental Protection that explains the flow credit process in detail.

Liesel Gross gave an overview of the municipal meetings that have been taking place. The purpose of the meetings is to give communities a more focused look at costs for their Administrative Order work. Some general comments included EPA's authority for the Administrative Order and how some of the common projects costs will be shared amongst municipalities. There were a lot of questions about future cost allocations and how they will work. In general, the municipalities are committed to moving forward with the work.

Ed Klein explained that the Authority is exploring financing strategies for the first phase of Administrative Order work. The municipalities are exploring financing on their own or joining with the Authority's financing to determine how they can achieve the best interest rates.

Liesel Gross said that the Authority will be presenting the Board with a financing request in the upcoming months to begin work on the Park Pump Station projects that are outlined in the plan. She asked if the Board would like to see any additional information provided at a future meeting to help the Board learn more or feel confident in approving such future funding requests. Deana Zosky requested a special meeting with the project engineer to understand more details, and said she would provide a more detailed listing of data requests. Other Board members declined such a meeting, and Liesel Gross said she would set up a special meeting for Ms. Zosky to meet with the Authority's engineer.

PROJECT UPDATES/INFORMATION ITEMS

Liesel Gross brought to the attention of the Board items listed in the report for upcoming meetings.

FINANCIAL REVIEW

2016 Q3 Forecast

Ed Klein reviewed the 2016 Q3 Forecast report as attached and presented to the Board.

SYSTEM OPERATIONS REVIEW

Liesel Gross informed the Board that John Parsons was on vacation and that any questions regarding the June 2016 report can be forwarded to him. The Board had no specific questions. Pat Mandes noted that the Notice of Violation (NOV) listed in the report regarding a fuel tank registration fee was similar to the NOV in May. Precautions are being set up to prevent additional similar NOVs. Liesel Gross noted that the two injury accidents reported in June were slip and falls.

STAFF COMMENTS

Liesel Gross explained that the Authority's employee manual has some deficiencies and does not include certain detailed policies that the Authority is required to adopt to meet regulatory requirements such as the Family Medical Leave Act and other employment legislation. Ms. Gross recommended that the Board authorize the Staff to develop and implement such policies that are required by law without Board approval.

Board approval would continue to be required for employee policies that have a discretionary economic impact to the Authority, change the general scope, philosophy or terms of Authority employment that are not legislated, or which deviate from legislative requirements. Discussion followed. The Board asked that a resolution be drafted that outlines Authority staff recommendations for policies for consideration at a future meeting.

SOLICITOR'S COMMENTS

None.

PUBLIC COMMENTS / OTHER COMMENTS

Scott Bieber asked for an update on the injection wells proposed in Upper Macungie Township. Frank Leist said the Authority has not received a plan submittal and so no additional comments have been submitted to the township.

EXECUTIVE SESSION

Chairman Nagle called an Executive Session at 2:05 p.m. to discuss potential litigation and real estate acquisition.

Liesel Gross left the meeting at 3:00 p.m.

The Executive Session ended at 3:30 p.m.

ADJOURNMENT

There being no further business, the Chairman adjourned the meeting at 3:30 p.m.

Richard H. Bohner
Secretary



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MEMORANDUM

TO: LCA Board of Directors
FROM: Liesel Gross
DATE: August 10, 2016
RE: 2017-2021 Capital Planning Process & Overview

At our Board meeting on August 8, 2016, all Board members received Lehigh County Authority's preliminary / draft capital plans for the period of 2017 to 2021. This memo is intended to provide an overview of the purpose of this planning process and the approval stages the Board will participate in, plus a description of some of the process changes LCA staff has implemented this year to facilitate our upcoming discussions about the plan as well as the 2017 budget.

Capital Plan Purpose & Board Approvals

It is important to note that LCA's capital plan ("plan"), and the Board's approval of the plan, is a non-binding planning process intended to provide high-level guidance on upcoming required financial investments in our water and wastewater systems, as well as to provide project-level details that will serve the basis for further authorizations for the work we have described in the plan.

The plan is the first of four levels of authorization that the LCA Board of Directors may participate in as it relates to implementation of the work described in the plan.

Capital Plan – Approval of LCA's Capital Plan indicates the Board's approval for the approach outlined in the plan at a concept level, including a review of the potential source of funds to finance the plan, prioritization of projects, and any overarching strategic thrusts. These strategic thrusts may include prioritization of projects that further our asset management approach, phasing of projects to reduce customer cost impact, use of operating reserves vs. borrowing to fund the program, etc. Board approval of the plan does not indicate approval for any specific project, nor does it approve specific budgets or expense allocations.

Annual Budget – Typically, LCA will incorporate the work outlined in the first year of the capital plan into the upcoming year's annual budget. For this reason, the first year of the capital plan must be scrutinized in greater detail to ensure the source of funds and internal resources required to complete the work are realistic and available. Board approval of the annual budget provides authorization for LCA staff to complete certain work that falls below cost approval thresholds, but does not indicate approval for any specific new projects that fall outside of those thresholds.

Project Financing / Borrowing – Should LCA require new funds to support the implementation of any capital projects, a detailed process ensues to fully describe the projects to be funded and the sources of revenue that will be pledged to pay the associated debt service. Board approval of a new loan or bond issue indicates general commitment to complete the project(s) being funded as well as commitment to secure revenues (through rates, tapping fees or other means) adequate to cover debt service.

Project Authorizations – All projects that exceed standard cost approval thresholds require specific project-level approval. In many cases, the Board will authorize the work in phases, such as design, construction, change orders, etc. Such authorizations may also include approval of construction contracts and professional services. Project details presented for approval address the need for the project and provide more details on the system benefits to be gained through the proposed project, any third-party financial contributions, any efficiencies, enhanced revenues or payback that may be achieved, enhancement of system sustainability, etc. Should the project require funds that are not included in the current year’s budget, a budget amendment is also requested at this time, along with a justification for the request. Board approval of project-level authorizations is the final step prior to the LCA staff implementing a project that has been contemplated through all of the prior approval processes.

While this process illustrates a multi-layered approach to project approval that some may feel is duplicative, it has served LCA well over the past several decades. It ensures that the overall direction of the organization is evaluated annually, funding requirements are evaluated and put into place, and specific project-level controls are implemented prior to any work commencing.

Capital Plan Process: 2017-2021

As LCA’s leadership team is growing and evolving, and new Board members have requested a different approach to planning, this year’s planning process has evolved as well. The changes implemented with the 2017-2021 capital plan development process focused on two primary areas: Project Prioritization and Financial Analysis.

Project Prioritization:

The Capital Works department, and other LCA staff who participated in the process, developed a new project detail sheet and project categorization method to better capture and describe the need for each project. In prior years, priorities were set simply on a scale of “Low-Medium-High” or “Mandated.” This year’s project categories are more descriptive and can be used to easily identify projects that may not be completed should funding not be approved or available, or should the Board request a shift in strategic thrusts. These categories are shown on the table below.

Project Category	Description
<i>Regulatory</i>	Required to meet Regulatory requirements
<i>New Cust</i>	New Customers
<i>CA/OS</i>	Concession Lease/Operating Standards
<i>AM - Low</i>	Asset Management - Low Risk
<i>AM - Med</i>	Asset Management - Medium Risk
<i>AM - High</i>	Asset Management - High Risk
<i>AM - Varies</i>	Asset Management - Varies
<i>Efficiency</i>	Efficiency
<i>Sys Imp</i>	System Improvement
<i>Rev Opprt</i>	Revenue Opportunity
<i>Planning</i>	Planning

The capital plan development team reviewed each proposed project through an iterative process to refine the categories and the ultimate phasing of the projects as shown in the plan. Furthermore, in reviewing the specific projects included in the first year of the plan (to be reflected in the 2017 annual budget), this categorization proved useful in determining that these projects are the most critical projects to be completed, and that they can realistically be completed in 2017 with resources currently available or expected to be available.

Financial Analysis:

The financial analysis portion of the capital plan was completely revamped this year. A brief outline of the Prior-Year Process vs. Current-Year Process is shown below.

OLD (Prior Years) Financial Analysis Method

Part 1 - Growth Projections

- 20-year Present Value of Future Revenue Increases due to Growth
- Analysis is based on assumption that capital investments will be funded via debt and growth will pay some portion of the debt service

Part 2 - Existing Revenue Capacity

- Current Revenues minus Current Expense and Current Debt Service = Operating Surplus
- Analysis is based on assumption that future operating surplus can be used to pay for Capex either via debt service or direct cash payments

Part 3 - Existing Reserves

- Detailing Existing Reserves Available for Capex

SUMMARY

- + Value of Future Growth
- + Projected Future Operating Surpluses
- + Existing Reserves

Total = Justified Capital Investment with No Rate Impact

**** NOTE:** This justification does not imply "no new borrowing."
Instead, it implies that borrowing is justified and debt service can be covered by future revenues without raising rates.

Pros:

- Shows how much Capex is justified with no rate increases
- Provides Managers a hard financial target for the Capex plan, assuming "no rate increases" is the goal

OLD (Prior Years) Financial Analysis Method

Cons:

- Doesn't illustrate/define a strategy for building operating reserves vs. borrowing
- Growth projections are somewhat speculative
- Doesn't illustrate timing of new borrowing / cash flow impact
- Difficult to implement this process for Suburban Wastewater -- each system must be calculated separately*

NEW (Current Year) Financial Analysis Method

5-Year Cash Flow Projection Includes the Following Elements:

- Annual Capex Spending Requested
- Use of Existing Project Reserves
- Projection of Operating Surplus via Growth in Revenues & Expenses (all assumptions can be changed/adjusted to show different results)
- Reimbursements for Capex / Construction Contributions
- Maintaining a Minimum Operating Cash Reserve Balance
- Remaining Cash from Operations - Available for Capex
- Estimated Borrowing Required to Fund Remaining Capex not Funded from Operations
- Annual Debt Service for New Borrowing (plugged back into cash flow)
- Recalibrate & Finalize

RESULT = Financial Model of Cash Flow / Borrowing Impact of Capex Plan

Pros:

- Flexible model to show impact of different scenarios (rate increases, customer growth, higher/lower spending, etc.)
- Can be used to determine timing of rate increases and/or borrowing
- Illustrates growth of operating reserves over time depending on decision-making on borrowing vs. rate increases

Cons:

- Doesn't capture true value of future growth / capacity to support Capex via new customer additions
- Doesn't provide hard financial targets for managers unless a specific goal is incorporated into the model (e.g. no borrowing, no rate increases)
- Difficult to implement this process for Suburban Wastewater -- each system must be calculated separately*

** Note that in both the Prior-Year and Current-Year process, the Suburban Wastewater division is problematic. This is due to the required separation of Western Lehigh Interceptor related costs from other system costs, and the relative small size of those other systems. In addition, some of LCA's Suburban wastewater systems are operated under the terms of additional agreements that limit the ability to consolidate funds with other systems. Therefore, financial analysis must still be completed at the project / system level vs. at the global plan level.*

As a result of this change in the financial analysis methodology, the capital plan financials are presented in a more simplistic way this year. The spreadsheets driving this analysis would be too detailed to publish in this document format. The Finance Committee has reviewed them and advised that this level of detail is not required for purposes of discussing the financial impact of the plan, since no funds are authorized as a result of plan approval.

Instead, we have opted to show a “worst case scenario” in the financial analysis portion of the plan documents, focusing on the maximum borrowing level that would be required to fund the plan in the event that A) All projects are authorized through future budgets and project approvals; and B) No customer growth or rate increases are implemented to fund the program. In reality, we know there will be some customer growth, especially in our Suburban divisions, and actual project budgets and rate increases can be evaluated annually as part of the budget process. Additionally, some projects in the 2018 to 2021 timeframe may not be implemented, or the timing/phasing may change based on future circumstances not currently known.

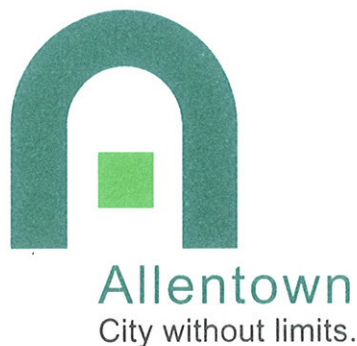
Results: By implementing these changes in the capital planning process, we believe the plan has become a more dynamic and flexible tool for the next phase of work, which includes development of our 2017 budget. In addition, as the LCA Board of Directors reviews the draft plans, the new project categories and financial modeling tools we have developed can be used synergistically to analyze additional scenarios as the Board may request. During our planned presentation on August 22, 2016, we will illustrate this in more detail as we provide financial analysis of different scenarios relating to revenue growth and other factors.

Next Steps

It is important to put the capital plan in context of the steps that follow. The most critical next step is the development of the 2017 budget. Within the context of the 2017 budget development, the first year of the 2017-2021 capital plan will be further scrutinized to ensure the projects are truly required, justified financially via revenue / cash flow modeling, and are realistic to achieve with resources currently available. As a result, the planned presentation on August 22, 2016 will include a more detailed review of the projects proposed for 2017.

It should be noted that in LCA’s Suburban Water Division, the 2017 budget process will also include an evaluation of cash needs for the upcoming calendar year, and a rate evaluation conducted as part of the budget process. This will necessarily include evaluation of the Suburban Water capital budget for 2017. After the development of the 2017 budget is completed, a more comprehensive cost-of-service rate study can be initiated to develop a 3- to 5-year rate projection based on the remaining years of the capital plan and other operational impacts to future cash flows.

A Note about Borrowing: While all utility operations should be managed in a fiscally responsible manner to ensure revenues are adequate to cover expenses, the use of long-term debt to fund major capital improvements is an industry best practice which recognizes the long useful life of water / wastewater utility assets, and the contributions of past, current and future customers to pay for these improvements through debt service. LCA will continue to balance the judicious use of debt, supplemented with operating surpluses, to ensure a strong financial basis to support the required investment in our infrastructure as it ages. Board input on the desired mix of debt vs. operating surplus to fund these improvements will be especially valuable as we plan for the future!



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September 1, 2016

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

RE: Allentown Division, Preliminary 2017-2021 Capital Plan

Dear Mr. Leist,

Pursuant to Article 4 of the Concession and Lease Agreement, the City of Allentown (City) is responding to your letter of August 3, 2016 *Allentown Division: Preliminary 2017-2021 Capital Plan (2017 CP)*. The following responses and comments are on the Major Capital Improvement Projects (MCIP) and those projects that have a financial impact on either the City or City ratepayers.

Thank you for making the format changes to the Project Detail Sheet; it is much easier to review.

Comments on individual projects:

AD-W-7 Water Main Replacements – Lehigh County Authority's (LCA) use of exceedance credits (Operating Standards (OS) Sec.A.18.0) to meet the requirement of replacing a minimum of two (2) miles of distribution lines annually (OS Sec. A.6.19.2) for 2017 is accepted. Confirm that LCA is not planning a 2017 program and will be preparing a 2018 program. The description on the Project Detail Sheet contradicts the statement in the cover letter. Clarify which of the statements is correct.

AD-W-10 – WFP Emergency Power, Schantz and Crystal Springs – The Project Detail Sheet states, "This evaluation was completed in 2016 as part of the Water Filtration Plant Master Plan project [sic]". The Water System Master Plan (WSMP) is due to be completed later this year and the draft of the report is to be provided to the City for review and comment before being finalized. Consequently, the City cannot consider any meaningful comments on this proposed

project at this time. Since the City will not receive the WSMP until after this 2017 CP is finalized and as the proposed project is not scheduled to begin until 2020, the City will review and comment on this MCIP as part of the 2018-2022 Preliminary Capital Plan (2018 CP) review process.

In the interim, the City requests information regarding the incoming powerlines to the Water Filtration Plant (WFP); include dates, times, and durations of the power outages since LCA began operating the facility August 8, 2013.

In addition, the City has concerns with the evaluation criteria used in defense of this proposed project. Noted in the Project Detail Sheet, "The distribution system has only 3-4 days of storage if water cannot be pumped from the Plant." Based on this statement there is no need for this expenditure. It is extremely difficult to imagine that both incoming power sources would be down for that period. As a result of the major storms in 2013, PPL and the City initiated two maintenance programs to prevent disruption of the power supply to the WFP. PPL's Advanced Vegetation Management and the Hazard Tree Programs is responsible for the removal of the trees immediately around the powerlines across from the Plant. The City cleared the remaining trees on north slope above the powerlines to the ridge. Additionally, PPL's Vital and Critical Facility Programs identifies those facilities providing essential public health and safety functions for large numbers of people. These identified facilities include hospitals, county 911 centers, and certain water treatment plants, which would include Kline's Island Waste Water Treatment Plant (KIWWTP) and the WFP.

The City would like to know the basis of this project as it appears there is a lack of understanding of the system and its components. The City takes issue with LCA preemptively including MCIPs in its 2017 CP, which should be resultant from the required System Master Plans.

The City will reserve further comments on this project until after the study is completed, reviewed, and finalized.

AD-W-11 Schantz Spring Main Replacement & Leak Rehabilitation – This project is accepted and qualifies a Major Capital Improvement Project (MCIP); it will be the last project listed under Schedule 7 to begin.

AD-W-15 Itron/AMR Meter Project – This is an on-going *Uncompleted Work* project.

AD-W-16- Pre-Lease Valve Replacements – This is an *Uncompleted Work* project. Per your e-mail, *Pre-Lease Valve Replacement dated August 11, 2016*. We acknowledged and accept that the project has been delayed for approximately one (1) year and that all designated valve replacements will be completed in 2017. Additionally, per LCA's 2016 *Capital Plan response letter dated November 24, 2015*, "LCA acknowledges that there have been numerous e-mails confirming our agreement that allows the City to pay LCA overtime for the project cost, where said payments from the City will not exceed \$370,000 per/year. While we typically do not

include such detail in the Capital Plan documentation, we will include that in our next update of the Plan.”

The City assumes the budget for this project will not be exceeded due to project’s delay, please advise.

AD-W-21 Fixed Base Meter Reading System – It is appreciated that LCA has modified the timing for implementation of this project as suggested in the City’s comments on LCA’s 2016 Capital Plan.

Stated in *LCA’s 2016 Capital Plan response letter dated November 24, 2015*, “We believe the City is overlooking system benefits that provide a justification for this project and will be happy to share that analysis upon its completion.” Therefore, and in accordance with discussions last year, it is assumed that LCA will be conducting a study detailing the technical aspects and benefits to the ratepayers from the proposed project. Confirm that the \$30,000 expenditure listed for 2019 is to cover the cost of the study.

The City will reserve further comments on this project until after the study is completed and available for review.

AD-S-5 WWTP Electrical Substation Replacements – The Project Detail Sheet indicates that an evaluation study was completed in 2016. The City has not been provided a copy of that study and consequently cannot provide any comment. AD-S-4 indicates there is no work planned until 2018; therefore, LCA has time to provide a copy of the report for the City’s review and comment. The City will review and comment on this MCIP as part of the 2018 CP review process.

If this project does proceed, the use of a singular engineer, consultant and/or contractor for both the AO projects and the Electrical Substation Replacement should be considered to provide financial benefit to the contributors to the KIWWTP through economies of scale. This approach would also facilitate coordination between the projects. The distribution of costs, although billed through separate mechanisms, would be based on sewage treatment allocations for both the MCIP and AO projects. Similarly, should the project go forward, consideration should be given to AO Phases 2 and 3 project power requirements. Moreover, should blending be the mode of treatment of extraneous sewage, consideration needs to be given to location of various system components in AO Phases 1, 2, and 3 as the physical area needed to incorporate all projects, including ancillary items such as piping, electrical service, and instrumentation is very limited.

The City will reserve further comments on this project until after the study is presented to the City for review.

AD-S-6 WWTP Disinfection Upgrade- The Project Detail Sheet notes that a study will be undertaken to investigate the alternatives to gaseous chlorine for disinfection. It is expected,

that the study will look at alternatives, advantages and disadvantages, and related costs; however, until the study is received and reviewed it is assumed that the listed expense is just a placeholder.

The National Pollution Discharge Elimination System (NPDES) permit and the Operating Standards have requirements for fecal coliforms and chlorine residual. The gaseous chlorine system, although referenced as “outdated,” has continually provided essentially one hundred percent (100%) compliance. It is assumed that LCA will accept all risks associated with a Notice of Violation of either or both the NPDES permit or the Operating Standards if a disinfection alternative is implemented.

If the project proceeds, consideration needs to be given to the impacts and integration of AO Phases: 1, 2, & 3, including blending if accepted by EPA.

Lastly, this “Efficiency” designated MCIP will require a NPDES permit change. The City’s, as the permit holder or a permit holder, approval would be required.

The City will reserve further comments on this project until after the study is completed and reviewed.

AD-S-7 – WWTP - Digester Cover Replacements – Project approved previously as a MCIP and underway.

AD-S-10 – Rehabilitation of Administrative Order Manholes – This project was previously approved as an AO Project. Manhole rehabilitation work in 2017 should essentially close out this project as all manholes that were historically identified as needing rehabilitation for I & I or identified by modelling in the *Phase 2 Corrective Action Plan Report, April 2016*. In the future, any individual manholes that are determined to be sanitary sewer overflow sites due to high flows will be addressed independently. These independent manhole rehabilitations would be undertaken by LCA and would be considered a reimbursable AO expenditure(s). Therefore, as it is anticipated that this project will be closed after 2017; there is no need for additional funding to appear in subsequent years.

AD-S-11- Administrative Order Phase 1A Improvements- The AO Phase 1A projects are approved by the City pending agreement from the United States Environmental Protection Agency (EPA). That approval is anticipated to be received in late 2016. If that is the case, it is expected that LCA will begin the process of securing necessary professional service agreements in January 2017. If the EPA rejects, in whole or in part, the currently proposed AO Phase 1A projects, the City and its consultants will advise LCA of a revised or new AO Phase 1A plan.

AD-S-12- WWTP - Security Upgrades - This Uncompleted Work project was previously approved and is underway. The *Infrastructure Survey Security & Resilience Report* prepared by the Department of Homeland Security (DHS) was received by the City on August 18, 2016. Based on our preliminary review, the City does not expect the costs for this project to exceed

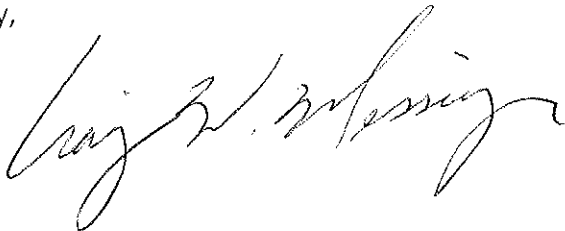
the current budget, which was based on the project developed prior to and included in the Lease. The City awaits LCA's response to the report and will provide additional comments at that time.

AD-S-16 WWTP Interim Blending Pumping System – This AO project is approved but is conditioned on the issuance of a new NPDES permit by the Pennsylvania Department of Environmental Resources (PaDEP) which allows this project to proceed.

As prior practice, the City will anticipate LCA's response to these comments, after receipt of which the City will schedule a meeting, if necessary, 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 black ink, reading "Craig H. Messinger". The signature is written in a cursive, flowing style.

Craig Messinger

Interim Director of Public Works

CC: Liesel Gross, Chief Executive Officer, Lehigh County Authority
Brian C. Nagle, Chair Lehigh County Authority Board of Directors
Dan Koplisch, Office of Compliance



LIESEL DREISBACH
Chair

STEPHEN REPASCH
Vice Chair

JOHN DIACOGIANNIS
Treasurer

BECKY A. BRADLEY, AICP
Executive Director

August 26, 2016

Mr. Frank Leist,
Chief Capital Works Officer
Lehigh County Authority
P.O. Box 3348
Allentown, Pennsylvania 18106-0348

Re: LCA Preliminary Capital Plans - Suburban and Allentown Divisions 2017-2021

Dear Mr. Leist:

The Lehigh Valley Planning Commission (LVPC), at its regular monthly meeting on August 25, 2016, reviewed the above-referenced plans and would like to offer the following comments. The comments, as shown on the attached pages, are provided for water and wastewater projects appearing for the first time in the Capital Plans and significantly modified projects from previous Capital Plans. The Suburban Division Capital Plan includes 12 new projects and one significantly modified project and the Allentown Division Capital Plan includes six new projects for which comments are provided.

Please call me if you have any questions.

Sincerely,

Susan L. Rockwell
Senior Environmental Planner

cc: Lehigh County Commissioners

LVPC PROJECT REVIEW SUMMARY SHEET			Date: August 2016
TITLE	BRIEF STATEMENT	LVPC COMMENT	
1. Lehigh County Authority (LCA) Preliminary Capital Plans (2017-2021)	<p>Allentown Division New Projects:</p> <p><u>Water</u></p> <ul style="list-style-type: none"> • Water Filtration Plant-Emergency Power-Crystal & Schantz Spring Pumps • Bulk Water Filling Station – Relocation <p><u>Sewer</u></p> <ul style="list-style-type: none"> • Wastewater Treatment Plant (WWTP) Electrical Substation Replacements • WWTP Disinfection Upgrade • WWTP Dewatering Supervisory Control & Data Acquisition (SCADA) Upgrades <hr/> <ul style="list-style-type: none"> • Administrative Order (EPA) Phase 1A WWTP Improvements <ul style="list-style-type: none"> - Includes construction of flow equalization basin or plant blending infrastructure (pending PADEP approval) 	<p>Improvements that will result in more efficient, safe and reliable sewer and water service are consistent with the County Comprehensive Plan.</p> <hr/> <p>Project located in area recommended for urban development in County Comprehensive Plan. Project is in response to Environmental Protection Agency Administrative Order requiring reduction of infiltration and inflow to reduce peak flows at City of Allentown Kline's Island Treatment Plant. Any capacity for future growth provided by this project should only be provided for areas recommended for urban development in county plan.</p>	
	<p>Suburban Division New Projects:</p> <p><u>Water</u></p> <ul style="list-style-type: none"> • Well Abandonments – Out of service wells • Arcadia West Division Total Dissolved Solids Removal <p><u>Sewer</u></p> <ul style="list-style-type: none"> • Spring Creek Force Main Air/Vacuum Release Valve Replacements • Western Weisenberg WWTP Mechanical Screen • Park Pump Station Force Main Rehabilitation <ul style="list-style-type: none"> - Force main pipe is aging: Inspection will determine need for and extent of project • Heidelberg Heights WWTP Rehabilitation <ul style="list-style-type: none"> - Repaint tanks, install new catwalk grating system over tanks • Heidelberg Heights WWTP Mechanical Screen • Lynn Township Infiltration & Inflow Investigation and Remediation Program 	<p>Improvements that will result in more efficient, safe and reliable sewer and water service are consistent with the County Comprehensive Plan.</p>	

	<p>Significantly Modified Project:</p> <p><u>Water</u></p> <ul style="list-style-type: none"> • Pine Lakes Pumping Station Improvements - Modification includes new water storage tank and chlorine contact infrastructure 	<p>Improvements that will result in more efficient, safe and reliable sewer and water service are consistent with the County Comprehensive Plan.</p>
	<p>New Project:</p> <p><u>Water</u></p> <ul style="list-style-type: none"> • Central Lehigh to Upper Milford Division Interconnection - Water main extension from Central Lehigh Division to Upper Milford Division (UMD) and booster pump station to serve existing customers, proposed Kohler Tract customers and future customers. Existing UMD wells to be abandoned. 	<p>Interconnection of Central Lehigh Division to Upper Milford Division is consistent with County Comprehensive Plan—the extension and Kohler Tract are located in an area recommended for community water service. Service to anticipated future customers along the route of the extension is also consistent. Future extensions that would provide service in areas recommended for on-lot water supply would be inconsistent with county plan.</p>
	<p>New Project:</p> <p><u>Water</u></p> <ul style="list-style-type: none"> • Upper Milford Central Division Improvements (Buss Acres) - Includes replacement of aging pump stations and storage tanks - will allow for fire protection that is currently not provided. Alternative option is interconnection to nearby municipal system. 	<p>Improvements that will result in more efficient, safe and reliable sewer and water service are consistent with the County Comprehensive Plan. Buss Acres is located in area recommended for rural development in county plan. Alternative water line extension would run through rural area and would be inconsistent with county plan</p>
	<p>New Project:</p> <p><u>Sewer</u></p> <ul style="list-style-type: none"> • Western Lehigh Interceptor – Trexlertown Area Interceptor Upgrade - Approximately 10,600 linear feet of sewer interceptor installed parallel to existing interceptor to address infiltration/inflow, projected dry day overflows and allow for future growth. • Park Pump Station Force Main Extension - Extend existing force main 1,000 linear feet to Kline's Island WWTP to comply with EPA Administrative Order 	<p>Projects located in area recommended for urban development in County Comprehensive Plan. Projects are in response to Environmental Protection Agency Administrative Order requiring reduction of infiltration and inflow to reduce peak flows at City of Allentown Kline's Island Treatment Plant. Any capacity for future growth provided by these projects should only be provided for areas recommended for urban development in county plan.</p>



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MEMORANDUM

TO: LCA Board of Directors
FROM: John Parsons, Chief Operating Officer
DATE: September 1, 2016
RE: Emergency Pump Repair for Well #20

On 8/15/2016, LCA's Suburban Division Operations staff had Kohl Brothers from Myerstown PA pull the pump for Well #20 for what was believed to be minor repairs. Upon a complete dissection of the pump, it was determined that the required repairs were way beyond what was originally anticipated. Well #20 is a high-production source located within the Central Lehigh Division. With Wells #13 and #17 of the Central Lehigh Division currently down with pump problems as well, Operations gave Kohl the approval on 9/1/2016 to start repairing the pump for Well #20. It was felt that with numerous wells down concurrently, we could not wait several weeks at a minimum for the work to be publicly bid and only then would repairs be made. Well #20 would likely have been down an extra month at least had we not gone this route. It should also be noted that Kohl Brothers is the only Peerless Pump representative in Lehigh County.

The specifications for repairs on the pumps for Wells #13 and #17 are currently being developed and will be publicly bid at the earliest date possible.

The time and material quote from Kohl for the work on the Well #20 pump was \$33,495, which is above the current bid threshold for municipal authorities of \$19,400. Therefore, a retroactive Emergency Declaration is requested in accordance with LCA's Purchasing Guidelines.

CC: Liesel Gross, Chief Executive Officer
Nathan Roush, Operations Manager
Patricia Walck, Purchasing Agent



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MEMORANDUM

TO: LCA Board of Directors
FROM: Jason Gruber, Manager of Water Distribution & Sewer Collection, Allentown Division
DATE: September 2, 2016
RE: Emergency Sewer Repair at E. Cedar Street & Wahneta Street

On July 25, 2016, LCA's Allentown Division crews were completing normal sewer line maintenance checks and discovered the sewer siphon at E. Cedar Street and Wahneta Street was blocked. After numerous attempts to further inspect the facilities and open the sewer line, it was determined that excavation would be required. Immediate repair was required to prevent sewer backups into customers' homes or other discharges of sewage from the system.

Because of the depth of the sewer line in this area, and other unrelated utilities in the way, it was determined that LCA crews and equipment would be insufficient to complete this emergency work. JOAO Bradley Construction Company was called in and they immediately responded to excavate the area and replace both siphon lines to rectify the issue.

The time and material cost of this work invoiced from JOAO was \$27,679.38, which is above the current bid threshold for municipal authorities of \$19,400. Therefore, a retroactive Emergency Declaration is requested in accordance with LCA's Purchasing Guidelines.

CC: Liesel Gross, Chief Executive Officer
John Parsons, Chief Operating Officer
Joshua Kuhns, D&C Sewer Line Maintenance Supervisor
Patricia Walck, Purchasing Agent



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MEMORANDUM

TO: LCA Board of Directors
FROM: Liesel Gross
DATE: August 24, 2016
RE: 2017 Budget Assumptions

As a result of our August 22, 2016 Board of Directors meeting being canceled, it appears our September 12, 2016 agenda will be quite lengthy. To facilitate meaningful and efficient discussions, this memo will serve to describe our 2017 budget development process and the assumptions we will include in this process. Should you have any questions or concerns about any of this material, please let me know in advance of the September 12th meeting so we can be prepared to address those specific concerns.

Budget Development Process

LCA's annual budget is developed on a rather short time schedule in order to accommodate the results of the capital planning discussions that are under way, and to ensure budget adoption prior to November 1st, as required by the trustee of our lease bonds. The basic process flows as follows:

Board Meeting Date	Planned Agenda Item
8/8/2016	Capital Plan Distribution
8/22/2016	Capital Plan Presentation
8/22/2016	Budget Assumptions Presented
9/12/2016	Capital Plan Approval
9/26/2016	Preliminary Rate Approval – Western Lehigh Interceptor
10/10/2016	Preliminary Budget Presented & Discussed
10/24/2016	Final Budget Approval*

**If additional time is required to address Board concerns about the budget, and Special Meeting can be held on 10/31/2016.*

As you can see, the cancelation of the 8/22/2016 meeting creates a gap in the schedule that will be difficult to bridge, and an adjustment is required.

The most critical piece at this point is answering any specific questions and concerns the Board may have about our Budget Assumptions, so that we can incorporate those comments into the budget development process. Keep in mind that the Budget Assumptions are high level concepts that will create variances in financial performance in the upcoming year as compared to 2016. At this stage, the Budget Assumptions represent the staff's best estimate of additional costs, revenues, efficiencies, etc., that will be further explored as the actual budget is being developed.

Board approval of the Budget Assumptions is not required. However, it is important to receive your feedback to ensure that the preliminary budget we present captures the Board's strategic direction on key initiatives.

Every drop matters. Every customer counts.

Note About Rates: On the budget preparation schedule listed above, rates for the Western Lehigh Interceptor are called out as a specific item on the Board's agenda. This is due a contractual and past-practice obligation to provide our municipal signatories with the upcoming year's wastewater rates well in advance of their own budget-development schedules. Other LCA rate adjustments will be evaluated as part of the budget process and will be presented with the preliminary budget, and approval requested with the final budget adoption.

2017 Budget Assumptions

The 2017 LCA Budget is in very early stages of its development at the time of this writing. The following items have been identified for inclusion in the budget, and will be evaluated in more detail as the process continues to ensure overall financial sustainability in 2017:

Category	Impact
City Division Revenues	3.3% Increase (0.8% CPI plus 2.5% Index, per lease agreement)
	2 additional projects added to the Capital Cost Recovery Charge in 2017, approximately \$323,000 increase in revenue
	Suburban water purchase increased by 1 MGD, approximately \$182,000 increase in revenue
	Signatory revenues will increase proportionate to expense increases
Suburban Division Revenues	Debt service for new Administrative Order borrowed funds to be reimbursed by municipal signatories
	Final implementation of common water rates (Madison Park North & Upper Milford Central systems), modest revenue reduction in these 2 small systems (impacts 216 customers)
	Water rates to be evaluated based on cash needs basis for 2017 during budget preparation
Personnel Expenses	2 employee additions related to wastewater / succession planning 1 employee addition related to advancing automation / instrumentation 1 employee addition to backfill a position held vacant in 2016 4 employee additions to address preventive maintenance / asset management needs
	General wage increase pool of 3% of salaries
	Assume 20% increase in employee health benefit costs (to be verified)
Key Initiatives	Employee training program on wastewater system operations
	New financing expenses related to Administrative Order projects and other capital plan components
	Management / leadership development initiatives
	Compensation study results expected by 12/31/2016, initial implementation phase estimated in 2017
	Potential operating contract extension for pretreatment plant, evaluation of cost-saving opportunities
	Public outreach programs to be evaluated / included in 2017 budget such as webcasting Board meetings, re-branding / logo project, enhanced public outreach on environmental initiatives and Administrative Order projects

Other Expenses	Several items cut from 2016 budget to make debt service coverage will be re-evaluated for inclusion in the 2017 budget
	Additional outsourcing to be evaluated as an alternative to certain staff additions

These Budget Assumptions will be explored further during the development of line item expenses to be included in the preliminary budget. They are presented in this format to provide an overview of the primary components the LCA staff have identified as having an impact on the organization's financial performance in 2017. Each of the assumptions listed above will be evaluated and potentially changed or excluded from the actual budget proposal depending on Board feedback as well as desired financial performance on key indicators such as rate impact and debt service coverage.

Next Steps

To ensure this information becomes part of the public record, this memo will accompany the Board agenda that is being prepared for the September 12, 2016 meeting. However, should any Board member have any questions, comments or other feedback about these Budget Assumptions, please forward them to me in advance of that meeting so that staff has time to prepare responses to help facilitate an efficient meeting.

MEMORANDUM

Date: August 11, 2016

To: Authority Board

From: Amy Kunkel

Subject: Suburban Division- CLD Capece Tract, Well #20 & Reservoir #3 –
Construction Phase

MOTIONS / APPROVALS REQUESTED:

No.	Item	Amount
1	Capital Project Authorization – Construction Phase	\$78,300
2 ⁽¹⁾	Professional Services Authorization 1. ARRO Consulting, Inc., Amendment No. 1- Construction. Engineering and Inspection	\$14,400
3 ⁽¹⁾	Construction Contracts 1. Blooming Glen Contractors, Inc. General/Electrical Contract	\$47,900

(1) Included in the Capital Project Authorization.

BACKGROUND: *(Reference attached map)*

The Central Lehigh Division lower system is serviced by a series of wells and an interconnection with the Allentown Division. The operating hydraulic service elevation (*i.e. pressure*) is maintained by three above ground reservoirs (#s 2, 3 & 5).

Because Reservoir #3 is only ~ 1,800 linear- feet from supply wells WL#s 20, 23 & 24 (*all located on the Capece Tract well field*), the reservoir will overflow before Reservoir #2 (which is located a few miles away from these supply wells) reaches the optimum storage level. This operating condition is caused by water main head losses. Currently, to remedy this operating condition, a system valve near the intersection of Newton Road is partially closed, which creates a higher head loss in the water main supplying Reservoir #3 therefore diverting more water flow to the south eastern section of the service area (*rather than to Reservoir #3 which allows Reservoir #2 to reach optimum storage level*). Secondly, upon startup of WL#20, a certain amount of water is wasted to the surface because the turbidity levels are unacceptable. The installation of a Variable Frequency Drive (VFD) on WL#20, would minimize starts and stops, minimize wasting water discharges that at times flow over privately owned property, and allow operation at varying rates based upon the

reservoir level. An upgrade of the SCADA system is necessary to address the new operating control and telemetry needs of the project.

PROJECT OVERVIEW

This Authorization is for the construction of improvements necessary to maximize operation of the water supply system and address the deficiencies notes above in the Central Lehigh Division. The project includes in the installation of a VFD at WL#20 and a 16-inch motor operated valve at Reservoir #3. .

FUNDING:

The Project will be funded by the LCA Suburban Central Lehigh Division

PROJECT STATUS:

Board approval is requested for the Construction Phase.

THIS APPROVAL –CONSTRUCTION PHASE

BIDDING SUMMARY

This project was bid under one Electrical Construction Contract. The project was advertised for bid on June 8, 2016. A mandatory pre-bid meeting was held on June 22, 2016. .Bids were received on July 12, 2016, the results of which follow:

Electrical Construction	
Bidder	Amount
<i>Blooming Glen Contractors, Inc.</i>	\$ 47,900
Barry J. Hoffman Co., Inc.	\$49,795

Blooming Glen Contractors, Inc. has worked for LCA before and performed their work in a satisfactory manner. Therefore, we recommend awarding the contract to the aforementioned contractor, subject to the receipt of the necessary Performance Bonds, Insurance and other required documentation.

PROFESSIONAL SERVICES:

1. *ARRO Consulting, Inc.*, the design engineer will provide construction engineering and inspection services to include:

Professional Services
1. Attend Pre-Construction Meeting and Prepare/distribute Minutes
2. Attend Progress Meeting
3. Respond to design related RFIs
4. Log, review and process shop drawing submittals
5. Provide Contract Administration
6. Provide Inspection Services
7. Assess work for Contractor Payments and work completion
8. Compile and review as-built drawings; from Contractors

PROJECT SCHEDULE:

It is anticipated that from the date of the Notice to Proceed will be completed in approximately by the end of December 2016

FUTURE AUTHORIZATIONS-

None

Location Map-Capece Tract, Well #20 & Reservoir #3 Improvements



CAPITAL PROJECT AUTHORIZATION

Amendment No. 1

PROJECT NO.:	<u>SD-W-15-6</u>	BUDGET FUND:	<u>Suburban Div\Water\Capital\CLD</u>
PROJECT TITLE:	<u>Capece WL-20 & Res No. 3-</u>	PROJECT TYPE:	<input checked="" type="checkbox"/> Construction <input type="checkbox"/> Engineering Study <input type="checkbox"/> Equipment Purchase <input checked="" type="checkbox"/> Amendment
THIS AUTHORIZATION:	<u>\$78,300</u>		
TO DATE (W/ ABOVE)	<u>\$167,146</u>		

DESCRIPTION AND BENEFITS:

This Authorization is for the construction of improvements necessary to maximize operation of the water supply system in the Central Lehigh division. The project will result in the installation of a Variable Frequency Drive (VFD) at WL#20 and a 16-inch motor operated valve at Reservoir #3. Included in these efforts is SCADA control updates for these facilities. This authorization takes us through construction phase.

Previous Authorizations	
Design Phase	\$88,846

REQUESTED THIS AUTHORIZATION	
Construction Phase	
Staff	\$10,000
Professional Services	
Construction Engineering/Management- ARRO Consulting, Inc.	\$14,400
Contract 1-General/Electrical Construction	\$47,900
Contingency	\$6,000
Total This Authorization	\$78,300

Future Authorization	
None	

Total Estimated Project	\$167,146
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REVIEW AND APPROVALS:

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



Lehigh County Authority

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PROFESSIONAL SERVICES AUTHORIZATION
Amendment No. 1

Professional: ARRO CONSULTING, INC.
108 West Airport Road
Lititz, PA 17543

Date: August 11, 2016

Requested By: Amy Kunkel

Approvals

Department Head: _____

Chief Executive

Officer: _____

Suburban Division- CLD Capece Tract, Well #20 & Reservoir #3

Previous Authorizations- Design Phase; \$34,300

This Authorization- Construction Phase, \$14,400

ARRO Consulting, Inc. will provide construction engineering related services for the aforementioned project

Professional Services
1. Attend Pre-Construction Meeting and Prepare/distribute Minutes
2. Attend Progress Meeting
3. Respond to design related RFIs
4. Log, review and process shop drawing submittals
5. Provide Contract Administration
6. Provide Inspection Services
7. Assess work for Contractor Payments and work completion
8. Compile and review as-built drawings; from Contractors

Cost Estimate (not to be exceeded without further authorization): **\$48,700**

Time Table and Completion Deadline: As required to meet construction timeline requirements.

(For Authority Use Only)

Authorization Completion:

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

MEMORANDUM

Date: August 22, 2016

To: Authority Board

From: Amy Kunkel

Subject: Suburban Division- Pine Lakes Pumping Station

MOTIONS / APPROVALS REQUESTED:

Rejection of all bids received for construction of the Pine Lakes Pumping Station.

BACKGROUND:

The Pine Lakes Division is located in Lynn Township and was acquired from a developer on September 25, 1991. The system provides service to 60 customers in the Pine Lakes of Lynn Subdivision. The water supply source is two wells which pump into a below grade hydro pneumatic tank.

PROJECT OVERVIEW

This project includes the conversion of the aged existing hydro-pneumatic station serving the development to a variable frequency drive controlled double-pumping system. The project will also include the addition of a new 10,000 gallon steel non-pressure class underground water storage tank and other miscellaneous improvements. A SCADA (supervisory control and data acquisition) system will be installed to allow full remote control and monitoring of the facilities.

FUNDING:

The Project will be funded by the LCA Suburban Central Lehigh Division

PROJECT STATUS:

Board approval is requested for the Construction Phase.

BIDDING SUMMARY AND PROJECT STATUS

This project was bid under a General Construction Contract and an Electrical Construction Contract. The project was advertised for bid on June 8, 2016 and a mandatory pre-bid meeting was held on June 21, 2016. Bids were received on July 20, 2016, the low bid results of which follow:

General Construction	
Bidder	Amount
<i>Blooming Glen Contractors, Inc.</i>	<i>\$536,421</i>
Electrical Construction	
Bidder	Amount
<i>Wind Gap Electric, Inc.</i>	<i>\$62,770</i>

The sum of the two contracts represent an approximately 50% increase in construction costs over the Engineer's estimate for the project. Only two contractors submitted bids for the General construction contract. It was determined from follow up discussions with other general contractors who attended the pre-construction meeting but did not submit bids that most contractors already had a full schedule of projects lined up for this year.

We request that the Board reject all bids for both the General and Electrical contracts. The project will be reevaluated and rebid shortly after the first of the year for the 2017 construction season. We expect that there will be more interest in the project at that time and therefore more competitive pricing. The Electrical Construction contract cannot be completed without the award of the General Construction contract so it must be rejected and rebid as well.

PROJECT SCHEDULE:

It is anticipated that the project will be rebid in January of 2017.

FUTURE AUTHORIZATIONS-

Construction phase.

FINANCE & ADMINISTRATION**ACTION ITEMS**

1. 2015 Audit & Financial Statements – September 12, 2016

The 2015 financial statements and audit report were presented in August, and the auditors are not available to attend Board meetings for several months. Board acceptance is requested considering the independent audit is complete and will not be modified.

2. 2017-2021 Capital Plan – September 12, 2016

The draft plan was distributed to the Board at the August 8, 2016 meeting, and will be presented in more detail at the September 12, 2016 meeting. A copy of the staff's process overview memo is attached for Board reference, along with a comment letter received from the City of Allentown. Any additional comments received from other municipalities or other external agencies will be reviewed with the Board as well. Staff requests Board adoption of the 2017-2021 Capital Plan in September, although action can be delayed to the September 26, 2016 meeting if there are substantive changes required following the Board's discussion.

3. Emergency Declarations – September 12, 2016

Two recent operational emergencies are outlined in the attached memos, and the Board is requested to declare an Emergency for both situations, which required immediate expenditure of funds exceeding the Authority's bidding thresholds in order to address the operational conditions. In addition to declaring an Emergency for these situations, the Board should discuss whether a staff authorization threshold is desirable to allow staff to move quickly when an operational emergency is under way.

4. Resolution Authorizing Management Staff to Institute Certain Employee Policies – September 26, 2016

Presentation of the Board resolution defining the institution of certain employee policies required by law to be handled as part of the administrative responsibilities of the Authority staff.

DISCUSSION ITEMS

1. 2017 Budget Preparation – September 12 & 26, 2016

A memo to the Board was distributed, and attached to this report, outlining the revenue and expense assumptions developed by the Authority staff for the development of the 2017 budget. Board review / discussion of these items would be beneficial to ensure consensus on key initiatives to be included in the budget. A very preliminary review of the budget details will be provided at the September 26, 2016 meeting, followed by a draft budget packet being distributed in early October for Board consideration and approval no later than October 31, 2016.

2. Board Meeting Recordings – September 26, 2016

Three quotes for audio-visual systems have been obtained to achieve the Board's request to pursue recording public meetings for posting online. The recommended quote includes camera, ceiling microphones and other equipment required to record LCA Board meetings. The quote fits within current purchasing guidelines and existing budgets, so Board approval is not required. However, the Board should confirm its desire to complete this upgrade prior to staff implementing this work.

INFORMATION ITEMS

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

CERTIFICATES OF DEPOSIT						
27-Jul-16						
Fund	Bank	Location	Gross Amount	Date of Purchase	Date Due	Net Rate %
Cons Wtr (2)	Bank Rhode Island	Providence, RI	245,000.00	6/27/16	6/27/18	1.00
Cons Wtr (2)	Parkway Bank and Trust Co	Harwood Heights, IL	245,000.00	6/28/16	12/28/17	0.90
Cons Wtr (2)	GNB Bank	Grundy Center, IA	245,000.00	6/30/16	12/29/17	0.90
LLRI CR	PSDLAF Collateralized CD		400,000.00	6/21/16	12/13/16	0.30
Cons Wtr (2)	PSDLAF Collateralized CD		155,000.00	6/21/16	12/13/16	0.30
Cons LL2 (314)	PSDLAF Collateralized CD		245,000.00	6/21/16	12/13/16	0.30
WW Capac	PSDLAF Collateralized CD		600,000.00	6/21/16	12/13/16	0.30
2010 Wtr Cons A	PSDLAF Flex Pool		2,000,000.00	6/21/16	12/13/16	0.30
Wtr R&R	PSDLAF Collateralized CD		1,000,000.00	6/21/16	12/13/16	0.30

Fund Descriptions for Investments:

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

WATER

ACTION ITEMS

1. **Suburban Division – Capece Tract, WL #20 and Res #3 Improvements – September 12, 2016**

Well #20 will be switched over to a variable frequency drive (VFD) motor to better control power usage and maintain steady output. Reservoir #3 will receive a motor activated control valve to maintain filling capabilities and chlorine contact levels. Both facilities will receive an upgrade to their SCADA systems. Bids were received on July 12, 2016, and award of construction phase of the project is requested.

2. **Suburban Division – Pine Lakes Pumping Station Improvements – September 12, 2016**

The project will feature the conversion of the existing hydro-pneumatic station to a variable frequency drive controlled double pumping system (along with other miscellaneous improvements) and installation of a SCADA system. Bids were received on July 20, 2016. Recommend rejection of all bids for the General and Electrical Construction contracts with rebid in early 2017.

DISCUSSION ITEMS

INFORMATION ITEMS

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

The project will feature the installation of a new booster station and water main extension to pump water from the Lower System to the Upper System. The project will also involve installation of a SCADA system. We are reviewing the revised Public Water Supply (PWS) permit application. **(No change)**

2. **Suburban Division – Crestwood Alternate Water Supply**

The project consists of abandonment of existing wells and storage tank currently serving higher elevation customers and a connection of the pumping station to the main North Whitehall Division System. The project will also involve installation of a SCADA system. The design phase is underway. The DEP Water Supply Permit has been obtained. We are reviewing the 100% design plans and specifications. **(No change)**

3. **Suburban Division – Route 309 Crossing at Sand Spring Road**

A 12" water line will cross Route 309 through a previously installed 24" casing. Completion of this line will bring public water to the property line of Lehigh Carbon Community College. The design phase is under way. PennDOT Highway Occupancy Permits have been obtained. **(No change)**

4. **Allentown Division – Prelease Valve Replacements**

The project is the replacement of approximately 55 inoperable valves in multiple locations throughout the City that existed prior to the lease settlement. Design is currently under way. This project is identified as Un-Completed Work and will be funded by the City. **(No Change)**

5. **Suburban Division - Water Main Replacement Program Cycles 1 & 2**

The project consists of the replacement of 2.85 miles of aged and/or failing Cast Iron water main. The Construction phase was approved at the 4/11/16 Board meeting. Anrich Inc., our contractor has started construction in many areas throughout the project and is progressing according to schedule. **(No Change)**

6. **Allentown Division – Water Main Replacement Program- Cycle 3**

The project is the replacement of 4.39 miles of aged and/or failing Cast Iron water main in multiple locations throughout the City. The Construction phase was approved at the 4/11/16 Board meeting. JOAO & Bradley, Inc. our contractor is progressing according to schedule and has approximately 98% of all water mains and 90% of all service laterals installed to date. This Project is identified as Schedule-7 Work and will be funded by LCA Allentown Division.

7. **Allentown Division – Water Filtration Plant: Filter Room Ceiling Improvements**

This project will involve the installation of a new ceiling system at the Water Filtration Plant's filter room. This system was already installed above the filters themselves approximately 10 years ago. The project is needed for both a combination of aesthetic (highly visible location to guests) and operational issues (to eliminate the possibility of chipped paint to enter the filters). Bids were received on 4/26/16 and Board approval for the construction phase was granted at 5/23/16 Board Meeting. Construction began in the middle of July and will be completed by the end of September. **(No Change)**

8. **Allentown Division - Miscellaneous Water Filtration Plant / Water Distribution**

- WFP Stormwater Pump/Control - Upgrades to the existing stormwater pump/control for the WFP and D&C parking lot is needed due to equipment age. Design is currently underway with a likely December 2016 construction start date. **(No Change)**
- WFP 20 Ton A/C and 40 Ton Chiller Replacement – Delivery of the AC unit occurred on 4/25/16 and delivery of the chiller unit occurred on 4/26/16. Installation was completed in the second week of May. **(No Change)**
- WFP Painting Phase II – Work began in the filter pipe gallery in mid-April and painting was completed in late June. **(No Change)**

All of these capital projects are funded by the LCA Allentown Division.

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

This project involves the creation of a Master Plan for the Allentown Water Plant, water storage tanks, water storage reservoirs, pressure booster stations, raw water springs, and surface water intakes. The Master Plan will involve several key sections including, but not limited to: full-scale condition assessments, treatment process optimization, and development of short term/long term capital plans. The Master Plan is a requirement included within the City of Allentown lease, and it also needs to be updated every 5 years throughout the life of the lease. The project kick-off meeting with Arcadis was held on May 4, 2016. Multiple workshops have also been held. Condition Assessments and process control audits/optimizations are in-progress. The project is scheduled to be finished early in 2017. The project will be funded by the LCA Allentown Division.

10. **Developments**

Water system construction is occurring in the following developments:

Fields at Indian Creek, Phase 1, 43 private, age-restricted/senior residential units (sfd),
with a community clubhouse, UMiIT & LMT, water & sewer
Grandview, 6 commercial units and 204 apartment units, LMT
West Hills Business Center, 2 industrial lots, WeisT, water & sewer

Water system plans are being reviewed for the following developments:

67 Werley Road, 112 apartments & clubhouse, UMT
Ciocca Subaru, 1 additional commercial building at existing business, LMT
Diocesan Pastoral Center, 2 commercial lots, 3 additional lots and residual lot for existing
cemetery, LMT
Farr Tract, 17 residential lots (sfd), LMT
Grant Street Townes, 18 residential lots (sfa), WashT
Hickory Park Estates, 3 residential lots (sfd), UMT
Hillview Farms, 31 residential lots (sfd), LMT/SWT
Indian Creek Industrial Park, 6 commercial lots, UMiIT, water and sewer
Lehigh Hills, Lot 5, Phase 1, 273 apartments & clubhouse, UMT
Mary Ann's Plaza, 1 lot with 12 commercial units, NWT
Morgan Hills, 40 residential lots (sfd), WeisT, water and sewer
North Whitehall Commercial Center (Walmart), 5 commercial lots, NWT, water & sewer
Shepherd's Corner, 1 commercial lot, LMT
Stone Hill Meadows, 24 residential lots (sfd), LMT
Trexler Business Center, 1 Commercial Lot with 6 commercial buildings, LMT
Weilers Road Twins, 82 residential lots (sfa), UMT
Woodmere Estates, 60 residential units (sfd), UMT

WASTEWATER

ACTION ITEMS

1. **Park Pump Station Refurbishment – Design Phase – Approval – September 26, 2016**

The Park Pump Station is an integral component of the sewerage network in the region, serving ten municipalities. Its operation also significantly impacts the operation of the Allentown Division wastewater treatment plant. The station was originally built to serve as a relief facility during high flow periods in the Western Lehigh Interceptor, and has seen a dramatic increase in operation since its inception, and is now operated continuously, which creates significant wear and tear on facility components. This project is part of the work necessary to comply with the EPA Administrative Order. Necessary improvements include replacement of the existing pumps, pump speed controllers, motor control center panel, and SCADA system. The Board is requested to approve the design phase of this project, as outlined in greater detail in the attached memo and authorization forms.

DISCUSSION ITEMS

1. **Wastewater Pretreatment Plant – Operations Report & Discussion of Contract Extension – September 12, 2016**

The Authority's contract operator, CH2M, will provide an overview of its services and operational performance of this facility for the past year. Staff will also present proposed terms of a 10-year contract extension with CH2M, which the Board requested the Staff investigate when the current contract was approved in 2013. Due to Board turnover since this action was taken, staff requests the Board to reconfirm its desire to continue such negotiations based on the proposed/conceptual terms presented.

INFORMATION ITEMS

1. **Wastewater Treatment Capacity**

The PaDEP has suggested that a 537 Plan for the additional 4 MGD of capacity be submitted to them at the time when the 4 MGD is needed or after the SCARP improvements are made. They anticipate that if the 537 Plan is submitted in the near term, the Department will require a revised Plan prior to any capital improvements. The 537 planning process has currently been side-lined until such time as the wastewater capacity is limited or a 537 plan update is needed for an Administrative Order project must be submitted. A 537 Planning summary report is being drafted by our consultant and will be distributed to the Board. **(No change)**

2. **Suburban Division - Lynn Township – WWTP Improvements, Phases 1 & 2**

The project will upgrade the WWTP head works. Comments on the specifications were returned to the consultant. The project is being funded by the Lynn Township Suburban Division. **(No change)**

3. **Allentown Division – Sanitary Sewer Manhole Lining: Cycle 3**

This annual project will install a lining system (to eliminate infiltration) in approximately 111 aged brick manholes identified by LCA staff. The City approved the Conceptual Design Report and the project was advertised on May 17, 2016. Board approval of the construction phase was granted at the 6/27/16 Board Meeting. The project is identified as Administrative Order Work and will be funded by the City. Construction began in mid-July and is expected to be complete in mid-September. **(No change)**

4. **Allentown Division – Manhole Collars with Water Tight Frame and Covers: Cycle 3**

This project will permanently secure the frame and cover of approximately 57 aged brick manholes identified by current LCA staff. This work will eliminate inflow from entering these manholes and eliminate the potential for sanitary sewer overflows (SSO's) from these manholes. The City approved the Conceptual Design Report and the project was advertised on May 17, 2016. Board approval of the construction phase was granted at the 6/27/16 Board Meeting. The project is identified as Administrative Order and will be funded by the City. Construction to begin in early August and is expected to be complete in late September. **(No change)**

5. **Allentown Division – WWTP: Replacement of Motor Control Centers**

This Project replaced five aged motor control centers that provide power on a 24/7 basis to various parts of the WWTP. The project was approved by the City as a Major Capital Improvement (MCI). Except for some minor punchlist items the project is complete. This Project is identified in the Lease as Schedule 7 (required) project and was funded by the LCA Allentown Division. **(No change)**

6. **Allentown Division – Roof Rehabilitation and Replacements: Phase 1**

The Project consisted of replacing 26 facility roofs that were identified as in need of immediate replacement in the Roof Evaluation report performed by D'Huy Engineering. The project was presented to the City for review/approval as a Major Capital Improvement (MCI), but the city rejected it as such. The project has been completed. The project was funded by the LCA Allentown Division. **(No change)**

7. **Allentown Division – Wastewater Treatment Plant: Miscellaneous Improvements**

- Main Pump Station Suction Piping – This project involves the replacement of the suction piping for Pump #1 at the Main Pumping Station. Holes have developed in the suction piping and without this repair, the ability to operate this pump properly may be compromised in the future. The piping will be replaced in September.
- Main Pump Station Locker Room Renovation – Except for some minor punchlist items the project is complete. **(No change)**
- Chlorine Building Permanent Generator – Construction has been completed and all punchlist items have been addressed. **(No change)**
- Trickling Filter Odor Control Tower Repairs – Construction has been completed and all punchlist items have been addressed. **(No change)**
- Locker Room Phase II Renovation – A design memorandum study was completed in the May of 2016. The locker room design is now on hold indefinitely.

- Disinfection Alternative Study – A RFP was being developed to solicit Engineering Firms to study disinfection alternatives at the WWTP. This study is now on hold until 2019.
- Substation No. 1 & 2 Replacement – A study has been completed to investigate the need to replace Substation No. 1 & 2 at the WWTP. Construction on hold until 2018.
- Condition Assessment of Trickling Filters and Clarifiers – An onsite inspection will investigate the need to repair the exterior and interior components of the trickling filters and clarifiers. This inspection is to occur in mid-September.

All of these capital projects are funded by the LCA Allentown Division.

8. **Allentown Division – Wastewater Treatment Plant: Digester Cover Replacements**

This project involves the cover replacement of both the Primary Digester No. 1 and the Secondary Digester (the cover for Primary Digester No. 2 was previously replaced in 2010). A Major Capital Improvement (MCI) Conceptual Design has been approved by the City. Board approval of the construction phase was received at the 2/8/16 Board Meeting. The new Secondary Digester cover is expected to be installed by October 2016 and the new Primary No. 1 Digester is expected to be installed by October 2017. This Project is identified in the Lease as a Schedule 7 (required) project and will be funded by the LCA Allentown Division. **(No change)**

9. **Consolidated Systems - SharePoint**

GHD conducted training on June 9, 2016 for the Board/Staff notes workflow. We plan to role the site out to employees in the coming weeks beginning with the Board/Staff notes workflow for August.

10. **Suburban Division – Spring Creek Pump Station**

This project involves the following upgrades to the existing pumping station: Evaluate the feasibility of installing a comminutor to reduce buildup of debris on the bar screens, replace the manually operated weir gates with new motorized weir gates, and upgrades to the SCADA system. The project has been identified as a Major Capital Improvement (MCI). Design of the project was awarded to JMT. Design phase is underway.

11. **Suburban Division – Western Weisenberg Wastewater Treatment Plant Improvements**

This project includes the improvements necessary to rectify the cold weather nitrification issue at the WWTP. The Board approved the construction phase of the project at the May 9, 2016 meeting. Notices to Proceed have been issued to both the general and electrical contractors. A pre-construction meeting was held on June 24, 2016. Given the long-lead time equipment construction is expected to start in late September 2016. This project will be funded by the LCA Suburban Western Weisenberg Division. **(No change)**

12. **Suburban Division - Heidelberg Heights Sanitary Sewer Lateral Rehabilitation**

Project involves the installation of an internal cured in place liner on four (4) sewer laterals and approximately 320 feet of sewer main line. The lateral lining requires construction of permanent cleanout on each lateral. The project targets previously identified pipe damage areas and is part of continuing effort to reduce groundwater infiltration into the sewer system. The pre-construction meeting was held on 7/22/16 and construction was completed in August 2016.

13. **Suburban Division – Test & Seal Project. Western Lehigh Interceptor Service Area**

Project consists of sanitary sewer cleaning, inspections via CCTV, cured-in-place point repairs, pressure testing and chemical grout sealing of joints, and post construction inspection for sanitary sewer lines located in western and central Lehigh County previously identified as areas subject to leakage. This project is part of the SCARP program. Construction began in August 2016.

14. **Suburban Division – Test & Seal Project, Wynnewood Terrace**

Project consists of sanitary sewer cleaning, inspections via CCTV, cured-in-place point repairs, pressure testing and chemical grout sealing of joints, and post construction inspection for sanitary sewer lines located in the Wynnewood Terrace development in North Whitehall Township, previously identified as areas subject to leakage. This project is part of the single contract Test & Seal project. Construction began in August 2016.

15. **Suburban Division – SCARP**

Monthly meetings with the LCA Suburban Division Signatories began in January to negotiate a Memo of Cooperation for completion of the SCARP Capital Improvements Plan. Cash flow plans prepared by the Program Consultant have been presented to the Signatories so they can begin analyzing their borrowing needs and schedule. A communications plan has been developed to help the Signatories with discussions with their Boards and the public. The LCA AO Program Consultant will be making a presentation at both LMT and Macungie Borough at their request.

LCA participated in a meeting between the City and the City Signatories to present the City's Phase 2 Study and to present a concept for allocation of costs associated with the City's AO CIP.

A meeting was held with EPA and DEP for the Partners and the City to present the draft Capital Improvements Plan, Basis of Design, a tentative schedule and an update on the work and being performed. The objective of the meeting was to get a general approval of the LCA/City approach. A submission of information was requested by EPA before they can provide an answer to us.

A public meeting was held on July 11th. The AO Program Consultant gave a presentation on the background of the AO and lay-out the plans for compliance. The public questions and comments will be posted on the LCA website.

A meeting has been scheduled with the EPA/DEP at the EPA office in Philadelphia. We expect to hear feedback on the phasing and schedule of the City and LCA Capital Improvements Plan that was presented to the regulators in June.