

Lehigh County  
Authority  
2024-2028  
Allentown Division  
Capital Plan

**Draft Plan** Board Presentation  
August 14, 2023

# Planning Process & Board Reviews / Approvals



**Five-Year Capital Plan** → Conceptual approval of planned capital program



**Annual Budget** → One-year funding for upcoming projects



**Project Approval** → Authorization to complete a specific project



**Financing** → Funding for specific project or group of projects

# 2024-2028 Capital Plan Review Process

## Review Timeline:

- May-July 2023 – Staff plan preparation
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- 8/28/2023 – Suburban Div. Draft Plan presentation
- 9/30/2023 – Public comment period ends
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## Public Reviews:

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- Municipalities
- Public (website)

# 2024-2028 Allentown Division Capital Plan Highlights

## Significant increase from prior 5-year plan

- 2023-2027 Plan Total = \$75,027,000
- 2024-2028 Draft Plan Total = \$192,129,000

## Key drivers for increase in capital requirements

- Lead service line replacement program - \$55 million
- Water treatment upgrades for PFAS - \$10 million
- Escalated inflow & infiltration removal programs - \$29 million
- Wet-weather capacity enhancements at Kline's Island WWTP - \$20 million

## Unknown potential for grant funding

- Draft plan includes estimated 17% of plan supported by grant funding
- Additional grants possible to offset borrowing

## What about regional Act 537 Plan projects?

- Significant additional investment needed, not captured in this plan
- Act 537 Plan to be finalized in 2024, will include detailed financial analysis
- Future capital plans will include projects resulting from Act 537 Plan
- Expect more significant increases in capital requirements in 2025-2029 Plan

# Allentown Division Water – Annual & Recurring Projects

CP#	Project	Prior \$	2023 \$	2024-2028 \$	Major Drivers	Responsibility
AD-W-A	<b>ANNUAL PROJECTS (<i>breakdown of projects on following slide</i>)</b>	N/A	\$1,295,000	\$9,232,000	Required rehab, Asset management, Efficiency	Operations, Volk
AD-W-1	<b>INDENTURE IMPROVEMENTS</b>	\$0	\$200,000	\$800,000	Required rehab, Asset Management	Rohrbach
AD-W-7	<b>WATER MAIN REPLACEMENTS</b>	N/A	\$3,200,000	\$24,600,000	Lease Requirement, Asset Management	Peters
AD-W-9	<b>MASTER PLAN STUDIES</b>	\$150,000	\$10,000	\$170,000	Lease requirement	DePoe

# Allentown Division Annual Water Projects

Distribution Mains  
– Development &  
Upsizing

WFP General  
Improvements

General Water  
System  
Improvements  
(D&C)

Mobile Equipment

New &  
Replacement  
Meter Installation

Other Equipment

Reservoir  
Rehabilitation &  
Maintenance

PennDOT  
Relocations

Capital  
Management

SCADA Upgrades

# Allentown Division Water – Large Projects

CP#	Project	Prior \$	Budget Approved 2023 \$	2024-2028 \$	Major Drivers	Responsibility
AD-W-16	<b>WATER METER REPLACEMENT PROGRAM</b>	\$0	\$525,000	\$2,400,000	System Improvement, Efficiency	Kunkel
AD-W-21	<b>FIXED BASE METER READING PROJECT</b>	\$0	\$0	\$1,700,000	System Improvement, Efficiency	Kunkel
AD-W-22	<b>WFP FILTER UPGRADES</b>	\$100,000	\$500,000	\$5,500,000	Asset Management, Master Plan	Volk
AD-W-23	<b>BIG LEHIGH INTAKE UPGRADES</b>	\$0	\$0	\$1,120,000	System Improvement, Master Plan	Rohrbach
AD-W-25	<b>TANK AND RESERVOIR REHABILITATION</b>	\$0	\$300,000	\$1,000,000	Required rehab, Asset Management	Operations, Rohrbach
AD-W-26	<b>LARGE DIAMETER VALVE REPLACEMENT PROJECT</b>	\$0	\$250,000	\$1,950,000	Asset Management, System improvement, Efficiency	Peters

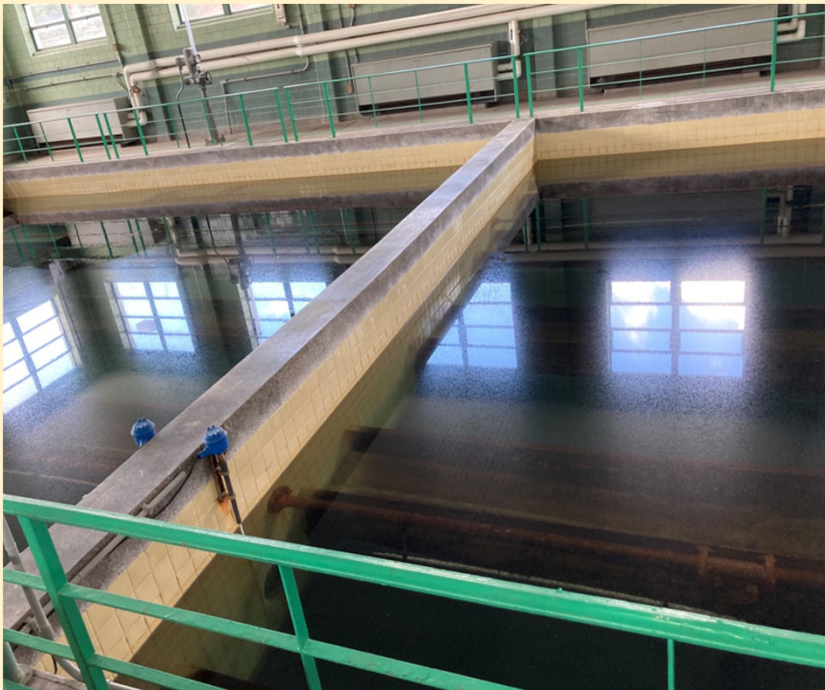
# Allentown Division Water – New Projects

CP#	Project	Prior \$	2023 \$	2024-2028 \$	Major Drivers	Responsibility
AD-W-12	<b>PFAS COMPLIANCE PLANNING &amp; UPGRADES</b>	\$0	\$0	\$10,250,000	Regulatory	Capuzzi, Rohrbach
AD-W-15	<b>WFP INFLUENT CHANNEL MODIFICATIONS</b>	\$0	\$0	\$3,100,000	Master Plan	Rohrbach
AD-W-24	<b>WFP REDUNDANT POWER SUPPLY</b>	\$0	\$0	\$730,000	Master Plan, Regulatory	Rohrbach
AD-W-27	<b>LEAD SERVICE LINE REPLACEMENT PROGRAM</b>	\$0	\$0	\$55,000,000	Regulatory	Peters, Dorner



# WFP Filter Upgrade Project

Operating Filters



Filter Down for Maintenance



# Big Lehigh Intake and Transmission Upgrades

Pumps (#2 to be replaced)



VFDs (#2 pump VFD to be replaced)





# WPF Influent Channel Modifications

North Basin Channel



North Plate Settler Inlet



# Wastewater Projects AD 2024-2028 Capital Plan



# Allentown Division Wastewater Annual & City Funded Projects

CP#	Project	Prior \$	2023 \$	2024-2028 \$	Major Drivers	Responsibility
AD-S-A	<b>ANNUAL PROJECTS</b>	N/A	\$1,729,000	\$10,199,500	Required rehab, asset management, efficiency	Operations, Volk
AD-S-1	<b>INDENTURE REPORT IMPROVEMENTS</b>	\$500,000	\$300,000	\$1,100,000	Required rehab, Asset Management	Rohrbach
AD-S-9	<b>MASTER PLAN STUDIES</b>	\$160,000	\$0	\$160,000	Lease requirement	DePoe
AD-S-11	<b>MANHOLE INSPECTION AND SEALING PROGRAM</b>	\$0	\$300,000	\$6,000,000	Regulatory	Peters, Dorner
AD-S-12	<b>ACT 537 ALTERNATIVE ANALYSIS - <i>City funded</i></b>	\$1,360,000	\$700,000	\$700,000	Regulatory	DePoe
AD-S-29	<b>MISCELLANEOUS ACT 537 PLANNING, FINANCIAL, &amp; LEGAL REVIEWS - <i>LCA funded</i></b>	\$0	\$1,250,000	\$300,000	Regulatory	DePoe



# Allentown Division Annual Wastewater Projects

Mobile  
Equipment

Other Equipment

Collection System  
- Development

Capital  
Management

Sanitary Sewer  
Main  
Replacements &  
Rehab

WWTP General  
Improvements

PennDOT  
Relocations

SCADA Upgrades

# Allentown Division Wastewater – Large Projects

CP#	Project	Prior \$	Budget Approved 2023 \$	2024-2028 \$	Major Drivers	Responsibility
AD-S-5	<b>WWTP ELECTRICAL SUBSTATION NO. REPLACEMENT</b>	\$100,000	\$200,000	\$6,800,000	System Resiliency, Master Plan	Volk
AD-S-19	<b>WWTP WET WEATHER CAPACITY ENHANCEMENT - MAIN &amp; AUX. PUMP STATION IMPROVEMENTS</b>	\$80,000	\$100,000	\$12,600,000	Master Plan, Regulatory	Rohrbach
AD-S-20	<b>WWTP BOILER REPLACEMENT &amp; SOLIDS PROCESS HVAC UPGRADES</b>	\$200,000	\$2,800,000	\$1,400,000	Asset Management, Master Plan, Efficiency	Volk
AD-S-21	<b>WWTP WET WEATHER CAPACITY ENHANCEMENT - IPS PUMP STATION &amp; 480V MCC REPLACEMENT</b>	\$40,000	\$100,000	\$5,900,000	Master Plan, Regulatory	Rohrbach
AD-S-26	<b>I&amp;I SOURCE REDUCTION PLAN - <i>new LCA funded program per Lease</i></b>	\$0	\$800,000	\$23,000,000	Regulatory	Peters, DePoe
AD-S-28	<b>WWTP WET WEATHER CAPACITY ENHANCEMENT – TERTIARY BYPASS</b>	\$40,000	\$0	\$1,500,000	Regulatory	Rohrbach

# Allentown Division Wastewater – New Project 2024-2028 Capital Plan

CP#	Project	Prior \$	2023 \$	2024-2028 \$	Major Drivers	Responsibility
AD-S-23	<b>PRIMARY SLUDGE DIGESTER FEED LINE REPLACEMENT</b>	\$0	\$0	\$1,300,000	Efficiency, Asset Management	Rohrbach



# KIWWTP Electrical Substation Replacement Phase 2 Project

## Substation No. 1 & Switchgear



## Substation No. 1



# KIWWTP Main & Auxiliary Pump Station Upgrade Project

## Main Pumps



## Auxiliary Pumps





# KIWWTP Intermediate Pump Station Upgrade Project

IPS Pump Station



Primary Effluent Pumps



# KIWWTP Boiler Replacement and Solids Process HVAC Upgrade Project

Main Digester Boilers



Solids Handling Building Boiler



# LCA Allentown Division – 2024-2028 Capital Plan SUMMARY

SYSTEMS	
Water	\$117,552,000
Wastewater	\$73,129,000
Allocated Administrative Projects	\$1,447,500
<b>PLAN TOTAL</b>	<b>\$192,129,000</b>

# LCA Allentown Division – 2024-2028 Capital Plan

## FUNDING SOURCES

SOURCES	
Cash from operations and reserves	\$96,589,600
City of Allentown American Rescue Plan Act grants	\$6,200,000
City of Allentown reimbursements (Act 537 Plan development)	\$600,000
Lead Service Line Replacement grants (assumed 60% grant funded)	\$33,383,892
New borrowing	\$55,355,508
<b>PLAN TOTAL</b>	<b>\$192,129,000</b>

# LCA Allentown Division – 2024-2028 Capital Plan

## NEW BORROWING

PROJECTS*	
Lead Service Line Replacement (non-grant portion) **	\$21,616,108
Water Filtration Plant PFAS Compliance Upgrades **	\$10,000,000
Water Main Replacements	\$11,739,400
Kline’s Island WWTP Wet-Weather Capacity Enhancement projects	\$12,000,000
<b>TOTAL USE OF BORROWED FUNDS</b>	<b>\$55,355,508</b>

*\* Projects selected for loans based on potential cost recovery of debt service via Lease terms (i.e. project is applicable for Capital Cost Recovery Charge or Change of Law fee)*

*\*\* Borrowing may be reduced or increased based on availability of grants to cover Lead Service Line Replacements and/or PFAS Compliance Upgrades*



CONDENSED CASH FLOW - CITY DIVISION					
US DOLLARS	2024	2025	2026	2027	2028
User Charges	51,786,376	56,942,742	62,061,791	66,173,867	69,750,275
Other Operating Revenues	355,139	355,139	355,139	355,139	355,139
Non-Operating Revenues	2,725,365	2,125,365	2,125,365	2,125,365	2,125,365
Operating expenses	(22,052,042)	(22,713,604)	(23,395,012)	(24,096,862)	(24,819,767)
Annual Lease & Other Payments	(1,308,224)	(1,002,224)	(1,024,273)	(1,046,807)	(1,069,837)
Debt Service - Current Debt	(15,664,816)	(16,217,696)	(16,786,111)	(17,374,611)	(17,985,361)
Debt Service - NEW Debt	(595,581)	(2,143,805)	(3,568,432)	(3,639,988)	(3,639,988)
Investments Converting to Cash	-	-	-	-	-
Grants	8,733,892	10,850,000	10,000,000	10,000,000	-
Proceeds From NEW Debt	8,555,508	23,800,000	21,900,000	1,100,000	-
Capex	(32,358,500)	(51,928,500)	(51,411,000)	(33,363,000)	(23,068,000)
<b>NET FUND FLOWS</b>	<b>177,116</b>	<b>67,417</b>	<b>257,467</b>	<b>233,103</b>	<b>1,647,826</b>
Plan Volume Increase	0.00%	0.00%	0.00%	0.00%	0.00%
User Charge Revenue Increase %	4.70%	4.70%	4.70%	4.70%	4.70%
Total User Charge Revenue Increase	4.70%	4.70%	4.70%	4.70%	4.70%
Unrestricted Cash Balance	14,076,734	13,307,770	13,218,933	13,095,511	14,376,284
Unrestricted Investments	-	-	-	-	-
Total Unrestricted Balances	14,076,734	13,307,770	13,218,933	13,095,511	14,376,284
Days Cash on Hand	233	214	206	198	211
DEBT SERVICE COVERAGE RATIO	1.86	1.91	1.94	2.04	2.12



# LCA Allentown Division – 2024-2028 Capital Plan

## CUSTOMER RATE PROJECTION

- City customer rates assumed to increase by 4.7% annually by Lease formula
- Additional charges for Capital Cost Recovery Charge and Change of Law fees
- Total rate impact for City customers: 6-10% annually

2023 average residential water & sewer bill\* = \$808 per year

2028 estimated average residential water & sewer bill\* = \$1,218 per year

*\* Calculated based on average usage of 13,000 gallons per quarter*

# 2024-2028 Allentown Div. Capital Plan: *RECAP OF DRAFT PLAN*

- Capital investments more than double from prior plan
- Increases driven by regulatory changes and need to address wet-weather impacts on regional sewer system
- LCA financial performance maintained with new borrowing
- Rate impact of 6-10% per year is significant
- Potential upside for City customers if more grant funding awarded
- Look for future capital plans to increase again as regional Act 537 Plan projects are incorporated

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# Discussion

Questions?