

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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- 9/30/2023 – Public comment period ends
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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	ANNUAL PROJECTS (<i>breakdown of projects on following slide</i>)	N/A	\$1,295,000	\$9,232,000	Required rehab, Asset management, Efficiency	Operations, Volk
AD-W-1	INDENTURE IMPROVEMENTS	\$0	\$200,000	\$800,000	Required rehab, Asset Management	Rohrbach
AD-W-7	WATER MAIN REPLACEMENTS	N/A	\$3,200,000	\$24,600,000	Lease Requirement, Asset Management	Peters
AD-W-9	MASTER PLAN STUDIES	\$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

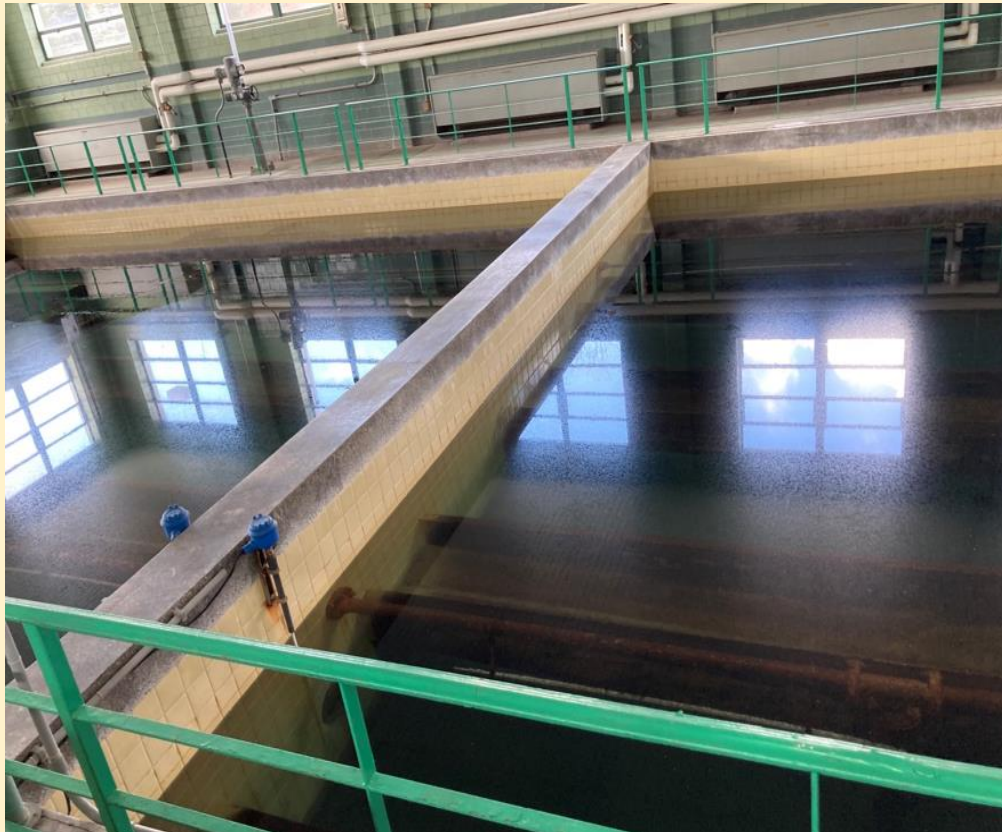
CP#	Project	Prior \$	Budget Approved 2023 \$	2024-2028 \$	Major Drivers	Responsibility
AD-W-16	WATER METER REPLACEMENT PROGRAM	\$0	\$525,000	\$2,400,000	System Improvement, Efficiency	Kunkel
AD-W-21	FIXED BASE METER READING PROJECT	\$0	\$0	\$1,700,000	System Improvement, Efficiency	Kunkel
AD-W-22	WFP FILTER UPGRADES	\$100,000	\$500,000	\$5,500,000	Asset Management, Master Plan	Volk
AD-W-23	BIG LEHIGH INTAKE UPGRADES	\$0	\$0	\$1,120,000	System Improvement, Master Plan	Rohrbach
AD-W-25	TANK AND RESERVOIR REHABILITATION	\$0	\$300,000	\$1,000,000	Required rehab, Asset Management	Operations, Rohrbach
AD-W-26	LARGE DIAMETER VALVE REPLACEMENT PROJECT	\$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	PFAS COMPLIANCE PLANNING & UPGRADES	\$0	\$0	\$10,250,000	Regulatory	Capuzzi, Rohrbach
AD-W-15	WFP INFLUENT CHANNEL MODIFICATIONS	\$0	\$0	\$3,100,000	Master Plan	Rohrbach
AD-W-24	WFP REDUNDANT POWER SUPPLY	\$0	\$0	\$730,000	Master Plan, Regulatory	Rohrbach
AD-W-27	LEAD SERVICE LINE REPLACEMENT PROGRAM	\$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	ANNUAL PROJECTS	N/A	\$1,729,000	\$10,199,500	Required rehab, asset management, efficiency	Operations, Volk
AD-S-1	INDENTURE REPORT IMPROVEMENTS	\$500,000	\$300,000	\$1,100,000	Required rehab, Asset Management	Rohrbach
AD-S-9	MASTER PLAN STUDIES	\$160,000	\$0	\$160,000	Lease requirement	DePoe
AD-S-11	MANHOLE INSPECTION AND SEALING PROGRAM	\$0	\$300,000	\$6,000,000	Regulatory	Peters, Dorner
AD-S-12	ACT 537 ALTERNATIVE ANALYSIS - <i>City funded</i>	\$1,360,000	\$700,000	\$700,000	Regulatory	DePoe
AD-S-29	MISCELLANEOUS ACT 537 PLANNING, FINANCIAL, & LEGAL REVIEWS - <i>LCA funded</i>	\$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	WWTP ELECTRICAL SUBSTATION NO. 1 REPLACEMENT	\$100,000	\$200,000	\$6,800,000	System Resiliency, Master Plan	Volk
AD-S-19	WWTP WET WEATHER CAPACITY ENHANCEMENT - MAIN & AUX. PUMP STATION IMPROVEMENTS	\$80,000	\$100,000	\$12,600,000	Master Plan, Regulatory	Rohrbach
AD-S-20	WWTP BOILER REPLACEMENT & SOLIDS PROCESS HVAC UPGRADES	\$200,000	\$2,800,000	\$1,400,000	Asset Management, Master Plan, Efficiency	Volk
AD-S-21	WWTP WET WEATHER CAPACITY ENHANCEMENT - IPS PUMP STATION & 480V MCC REPLACEMENT	\$40,000	\$100,000	\$5,900,000	Master Plan, Regulatory	Rohrbach
AD-S-26	I&I SOURCE REDUCTION PLAN - <i>new LCA funded program per Lease</i>	\$0	\$800,000	\$23,000,000	Regulatory	Peters, DePoe
AD-S-28	WWTP WET WEATHER CAPACITY ENHANCEMENT – TERTIARY BYPASS	\$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	PRIMARY SLUDGE DIGESTER FEED LINE REPLACEMENT	\$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
PLAN TOTAL	\$192,129,000

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
PLAN TOTAL	\$192,129,000

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
TOTAL USE OF BORROWED FUNDS	\$55,355,508

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

*** 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)
NET FUND FLOWS	177,116	67,417	257,467	233,103	1,647,826
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?