

**PENNSYLVANIA INFRASTRUCTURE INVESTMENT AUTHORITY  
PENNVEST APPLICATION FORMS**

**City of Philadelphia**

**City of Philadelphia Blower Replacement and New Process Air  
Piping**

**512033152306-CS**

**12/01/2023**

## DESCRIPTION

### PROJECT DESCRIPTION

What is the project type?	Wastewater
What is the project name?	City of Philadelphia - Blower Replacement and New Process Air Piping
What is the project's Primary County?	Philadelphia
What is the project's Primary Municipality?	Philadelphia City
What is the application type?	Traditional Construction
What is the project stage?	Construction
Is this related to a previous advanced funding application through PENNVEST?	No
If yes, enter the project name or number.	

### COMMENTS

## SYSTEM

### SYSTEM DESCRIPTION

What type of system is this?	Existing System
What is your NPDES number?	PA-0026689, PA-0026671, PA-0054712
What is your PWSID number?	1510001
Do you own the system?	Yes
If no, explain	
Do you operate the system?	Yes
if no, explain	
Do you maintain the system?	Yes
If no, explain	
Will you construct the system?	Yes

If no, explain

Does this project include costs associated with the purchase of system capacity from another entity (i.e. capital contribution)? No

If yes, explain

Does this project include costs associated with the construction of capacity in your system for use and/or purchase by other entity (ies) (i.e. capital contribution)? No

If yes, explain

Is, or does the Applicant intend to be, a party to any inter-municipal agreements which affect this project or your system? No

Has the applicant issued debt or borrowed money, or does the applicant intend to issue debt or borrow money, under a trust indenture (i.e. Bonds)? Yes

Do you charge residential or commercial user fees? Yes

COMMENTS

FUNDING

REQUESTED PENNVEST AMOUNT

This is your requested PENNVEST amount. \$37,070,670.00

COMMITTED OTHER SOURCES OF FUNDS

Source Type	Source Name	Source Amount	Funding Comments
		\$	
<b>Total:</b>		<b>\$0.00</b>	

ESTIMATED TOTAL PROJECT COST

This is your estimated total project cost. \$37,070,670.00

COMMENTS

PROJECT CONTACTS

<b>City of Philadelphia</b>		Legal Entity	
<b>Address:</b> 1401 John F. Kennedy Boulevard Philadelphia, PA 19107		<b>Email:</b> <b>Phone:</b> 2156854948	
<b>SAP Vendor Number:</b> 177575013	<b>DUNS:</b> 133889241	<b>Federal ID/FIN:</b> 236003047	

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**PROJECT SITE(S)**

<b>Southwest Water Pollution Control Plant</b>	Primary Site
<b>Address:</b> Delaware Expressway Philadelphia, PA 19153	<b>Latitude:</b> 39.886310 <b>Longitude:</b> -75.209878

**PROJECT PLAN**

PROJECT PLAN

Planning Consultation Date	06/05/2023
Planning Completion Date	06/12/2023
Design Start Date	09/01/2020
Design Completed Date	06/30/2023
Date Obtained All Needed DEP Permits	04/01/2023
Anticipated Construction Start Date	09/01/2024
Anticipated Construction End Date	09/01/2027

Letter of No Prejudice Issued by PENNVEST

PROJECT PHASE

Phase Name	Design Complete	Obtain All Permits	Start Construction	End Construction

COMMENTS

**NARRATIVE : DESCRIPTION**

NARRATIVE DESCRIPTIONS

Describe the problem that this project will correct or resolve. Please be specific and include such discussion points as the cause and impact of the problem, permit exceedances or compliance related problems, if any and/or any additional operational issues caused or contributed by the identified problem(s).

The existing rotary lobe blowers, although they have been maintained successfully, are at the end of their useful lives. In addition, they are not equipped with variable frequency drives, are not energy efficient, operate at high sound levels, and are not adaptable to varying airflow demands at SWWPCP. The factors used for evaluation of replacement channel air blower options are: space requirements, capital cost, durability, operations and maintenance requirements, turndown capability, sound level and efficiency and energy requirements. Based on a blower evaluation of these factors together with information from blower manufacturers, turbo blowers are recommended to replace the existing rotary lobe blowers.

The channel air system at the SWWPCP is used to mix all the channels conveying wastewater from one unit process to the next and prevent sedimentation or solids from settling within the channels. Settled solids and sedimentation would reduce the hydraulic capacity of the channels, would increase operations and maintenance requirements for cleaning the channels periodically and may increase the potential for odor emissions if settled solids were allowed to decompose within the channels. The new system replaces the existing system in kind which has reached the end of its service life and is not meeting its performance requirements.

The existing channel air piping network is in severely deteriorated condition. There is visible leakage in the in the tanks and channels. Complete replacement of the entire air piping system is recommended.

Overall internal mechanical issues to be fixed:

1. The new system replaces the existing system in kind which has reached the end of its service life and is not meeting its performance requirements.
2. Replace deteriorated existing channel air piping network
3. Resolve leakage in tanks and channels
4. Replace three (3) existing 400 HP Roots rotary lobe blowers.
5. Replace all existing air piping supplied by the existing blowers.
6. Replace all mixing air diffusers in the Flocculation Tanks and Primary Sedimentation Tank Influent Channels.
7. Add new mixing air diffusers in the Aeration Tank Effluent Channels, and Final Sedimentation Tank Influent Channels.
8. Add a lower capacity air compressor in the Compressor Building to feed the Enviromix system. Maintain existing compressed air feed connection to Enviromix system as a backup.

Overall Project Goals:

1. Reduce sedimentation within the existing tanks and channels.
2. Design new tank and channel aeration mixing systems to promote higher velocity flow and mixing patterns within the existing tanks and channels.
3. Select new blowers requiring less energy, providing greater turndown capability and if possible, quieter operation.
4. Select new diffusers designed to minimize susceptibility to sedimentation and ragging.
5. Review air distribution pipeline materials for long term durability and minimum susceptibility to corrosion.

Describe the scope of the project. List in quantitative terms what is planned to be constructed, rehabilitated and decommissioned. For Example: 'The 12,000 feet of 8-inch waterline will be replace, one 200,000 gallon standpipe will be constructed, the current Market Street Pump Station will be decommissioned, a new 250 gallon per minute duplex pump station will be constructed on Leisure Street, 44 hydrants will be replaced...'

The scope of work includes furnishing, installation, testing and placing into operation a new channel air mixing system including blowers with associated equipment, piping, valves, channel air diffuser assemblies, instrumentation, and controls, new HVAC and new Electrical systems within the existing Compressor Building.

This project is a replacement in kind of equipment within the existing treatment plant property with no treatment performance impacts. No new buildings or structures are being constructed and the existing building structure is not being modified.

Replacement of:

1. Three existing Roots rotary lobe blowers installed in 1972 in the Compressor Building at the SWWPCP. Each blower is rated for 9,000 Inlet Cubic Feet per Minute (ICFM) and operates at a discharge pressure of 7.9 pounds per square inch gauge (PSIG). The blowers are driven by 400 HP, 882 rpm, 460 Volt, 3 Phase squirrel cage induction motors. These will all be replaced.
2. The entire process air distribution pipeline network. This includes stainless steel, and HDPE piping used at the SWWPCP. Steel piping is used to convey process air from the blowers in the Compressor Building via a 30" air main (Figure 1-2) into the Pipe Tunnel and eventually underground to the FT's, PST Influent Channels, AT's and Mixed Liquor Channels. The existing steel air distribution piping, especially the sections located in the FT Y-walls are visibly leaking. These will all be replaced.
3. The air mixing diffusers including drop pipe assemblies, drop pipe isolation butterfly valves and coarse bubble diffusers will all be replaced. At the FT's and PST Influent Channel, stainless steel lateral manifolds (Figure 1-3) connect the air header mains to stainless steel drop pipes. These lateral manifolds are furnished with steel brackets bolted to the Y-wall of the FT's. The brackets provide a feature allowing the drop pipes to be removed from the tanks or channels for maintenance. At the bottom end of each stainless steel drop pipe are horizontal stainless steel pipelines with coarse bubble diffusers spaced out along the length of the pipe. Diffuser headers and drop pipes at the PST Influent Channels and Flocculation Tanks are all removable and equipped with a 3" butterfly valve for isolation. Over time, PWD has removed and replaced some of the original 24-inch Sanitaire wide-band air diffusers with rubber duck-bill type diffusers. Visual inspections of the FT's and PST Influent Channels surfaces indicates a non-uniform air distribution pattern resulting in poor mixing performance. The observed patterns suggest air leakage and/or diffuser failure due to deep sedimentation, fouling, breakage, plugging or ragging.
4. Replacement of the compressor that supplies air to the Enviromix System. The main air compressors operate at significantly higher pressures than needed to supply the Enviromix system; representing a higher than necessary use of energy and reducing capacity of the pure oxygen generation facility. The Enviromix system was originally intended to replace the entire mixing air system, but only the portion of the system servicing the Mixed Liquor Channels remains in service.

Summary:

1. Replace three (3) existing 400 HP Roots rotary lobe blowers.
2. Replace all existing air piping supplied by the existing blowers.
3. Replace all mixing air diffusers in the Flocculation Tanks and Primary Sedimentation Tank Influent Channels.
4. Add new mixing air diffusers in the Aeration Tank Effluent Channels, and Final Sedimentation Tank Influent Channels.
5. Add a lower capacity air compressor in the Compressor Building to feed the Enviromix system. Maintain existing compressed air feed connection to Enviromix system as a backup.

Describe the cost effectiveness of this project. List physical and administrative alternatives and selected alternatives and justify proposed alternative. Include all issues discussed in Planning Consultation related to cost effectiveness.

During project planning and design PWD evaluated three options for the Southwest Water Pollution Control Plant (SWWPCP); replacement of existing rotary lobe blowers, replacement of air piping network, and replacement of diffused aerobic devices.

The aging components of the air mixing system was the driving force behind PWD's decision to upgrade the system. Equipment included in the cost estimate is as follows:

- Turbo Blowers
- Air Compression System
- Air Diffuser equipment
- Butterfly Valves
- 15 kV Transformers
- Switchgear

Due to the age of the existing equipment, it can be clearly stated that installation of a newer and more efficient air mixing system will decrease O&M costs and result in energy savings. Although higher in capital cost, turbo blowers maintain high efficiency throughout the entire turndown range of 100-45% of capacity (Instrument Engineers' Handbook, 2018). Multi-stage centrifugal blowers are not only less efficient at 100% capacity but are less efficient as the inlet butterfly valve is throttled to reduce capacity. Turndown is often limited to 70-80% of capacity. The only scheduled maintenance for the turbo blower is blower filter replacement. Some manufacturers provide air filters that are washable and can be cleaned and reused multiple times.

The new air mixing system will increase reliability and provide the appropriate level of service needed to provide safe drinking water to the community. Additionally, spare parts for the upgraded blowers and diffusers will be readily available in today's market as parts for existing models are becoming more expensive and harder to locate.

Constructed in the 1970s, major components of the air mixing system are reaching the end of their useful lives. High-speed blowers typically have an expected useful life of 25-30 years. If PWD continues to use the three blowers in rotation they can balance wear and extend the machines' useful lifespans. The recommended diffusers and air piping materials have a projected useful lifespan of 30-50 years.

Based on evaluations of existing conditions and design alternatives, it was concluded that replacing the existing air mixing system with upgrades of the existing blowers, air piping, and air diffusers is the most cost effective and economically feasible design alternative for this project.

## COMMENTS

### NARRATIVE : WASTEWATER SUPPORTING PROJECT INFORMATION

#### WATERWATER SUPPORTING PROJECT INFORMATION

Category/Subcategory	Total
Other / Other	3

COMMENTS

1. Replacement of 3 existing Roots rotary lobe blowers (400 HP, 882 RPM, 460 Volt)

PROJECT SPECIFIC DATA : LAND USE

LAND USE

Has the area served by this project been covered by an adopted municipal comprehensive plan? Yes

Is this project located in an area where there is an adopted county comprehensive plan? Yes

Is there an adopted multi-municipal or multi-county comprehensive plan for the area(s) covered by this project? No

Is there an adopted county or municipal zoning ordinance or a joint municipal zoning ordinance for the area covered by this project? Yes

Is the proposed project consistent with these comprehensive plans and/or zoning ordinances? Yes

Is the project consistent with county agricultural preservation efforts. Yes

COMMENTS

PROJECT SPECIFIC DATA : DRINKING WATER SUPPORTING PROJECT INFORMATION

DRINKING WATER COST BREAKDOWN

Planning & Design Only :	\$	0.00%
Source Development Amount:	\$	0.00%
Transmission Amount:	\$	0.00%
Treatment Amount:	\$	0.00%
Finished Water Storage Amount:	\$	0.00%
Distributed System Amount:	\$	0.00%
Pump Stations Amount:	\$	0.00%

Meters Amount:	\$	0.00%
Safety/Security Amount:	\$	0.00%
Purchase of Systems Amount:	\$	0.00%
Restructing Amount:	\$	0.00%
Land Acquisiton Amount:	\$	0.00%
Total:	\$	

## DRINKING WATER COMPLIANCE

Does the project help to bring the facility back into compliance with existing or future State or Federal regulatory requirements?

No

If yes, enter what percentage of the project meets that criteria:

Does the project help the facility to maintain current compliance?

No

If yes, enter what percentage of the project meets that criteria:

Does the project help the facility to achieve compliance with upcoming requirements?

No

If yes, enter what percentage of the project meets that criteria

Does the project assist the facility with other non-compliance related activities?

No

If yes, enter what percentage of the project meets that criteria:

## DRINKING WATER ENHANCEMENT

Does the project help enhance well capacity? (source development/upgrade)

No

If yes, the impact is:

Does the project enhance treatment plant capacity?

No

If yes, the impact is:

Does the project enhance security measures at the drinking water facility?

No

If yes, the impact is:

Does project enhance public safety? (Fire hydrants and related)

No

If yes, the impact is:

## COMMENTS

## PROJECT SPECIFIC DATA : WASTEWATER SUPPORTING PROJECT INFORMATION

### WASTEWATER COST BREAKDOWN

Secondary Treatment:	\$37,070,670.00	100.00%
Advanced Treatment:	\$0.00	0.00%
Treatment Greater Than Secondary:	\$0.00	0.00%
Infiltration/Inflow Reduction:	\$0.00	0.00%
Sanitary Sewer Replacement/Rehabilitation:	\$0.00	0.00%
New Collection Sewers:	\$0.00	0.00%
New Interceptors:	\$0.00	0.00%
Elimination/Correction of Combined Sewer Overflows:	\$0.00	0.00%
Storm Sewers:	\$0.00	0.00%
Recycled Water Distribution:	\$0.00	0.00%
Total:	\$37,070,670.00	

## WASTEWATER COMPLIANCE

Will this project bring a wastewater facility into compliance with public health and water quality standards?	No
Will this project install best management practices (BMP's) for a non-point source project?	No
Will this project reclaim a brownfield site?	No
If this project eliminates Combined Sewer Overflow(CSO) discharge points, how many?	
If this project improves the water quality in a stream or streams, how many?	
If this project eliminates malfunctioning on-lots septic systems, how many?	
If this project eliminates raw sewage discharges from wildcat systems, how many?	

## COMMENTS

## BENEFITS WASTEWATER

### INFRASTRUCTURE HEALTH (WASTEWATER)

Will this project address hydraulic overloading that results in sewage backing up into basements of structures?	No
Does the system have an up-to-date Emergency Response Plan?	Yes
Does the system have an up-to-date Asset Management Plan?	Yes
If the rates being charged by the system are NOT sufficient to implement the system's long term budget, please explain.	

N/A

## COMMUNITY HEALTH (WASTEWATER)

If this project WILL eliminate one or more existing National Pollutant Discharge Elimination System (NPDES) discharges, please explain.

N/A

If this project WILL eliminate all NPDES - system permitted combined sewer overflow (CSO) points in a combined wastewater collection/conveyance, please explain.

N/A

If this project WILL result in consolidation or regionalization of operational, maintenance, or monitoring functions with other discharges, please explain.

N/A

## PUBLIC HEALTH (WASTEWATER)

If this project eliminates on-lot disposal systems that have been confirmed as malfunctioning, how many were tested?

N/A

Provide the percentage of confirmed malfunctions

N/A

Will this project eliminate untreated or inadequately treated sewage discharged from collection and conveyance? No

Will this project address Wet Weather discharges? No

Will this project address Dry Weather discharges? No

If any downstream public bathing beaches have been closed due to water quality standards directly related to this facility, please explain.

N/A

If public water supply sources or private wells are subject to contamination that will be addressed by this project, please explain.

N/A

AQUATIC HEALTH (WASTEWATER)

If this project eliminates a wildcat sewer system discharge, please explain:

N/A

Number of EDU's in the project service area?

432829

Number of EDU's served by wildcat sewers in the project service area?

N/A

Is this treatment facility hydraulically overloaded during dry weather? No

Is this treatment facility hydraulically overloaded during wet weather? No

Please name the surface water bodies impacted by this project and do these surface water bodies support cold or warm water fishery, please explain.

Delaware River (WWF, Migratory Fish)

DEP COMPLIANCE (WASTEWATER)

Is this project part of an approved Corrective Action Plan schedule to bring the wastewater facility into compliance with an NPDES permit? No

If this project satisfies a non-compliance consent order and agreement at a wastewater treatment facility or wastewater collection/conveyance facility, please explain.

Is this project necessary to upgrade treatment facilities as a result of an NPDES permit? No

COMMENTS

BENEFITS : NON-POINT SOURCE

NPS SUB TYPES

Not Applicable

EXPLANATION FOR OTHER NON-POINT SOURCE SUB TYPE

NPS COMPLIANCE WITH ACT 167 AND MS-4

Is the project in an MS-4 regulated community (with either a draft or final permit)?

If Yes, does the MS-4 permit require the work that is proposed in the funding application?

#### NPS PLANNING

Is your project addressing a Department of Environmental Protection approved 319 Watershed Implementation Plan (WIP), or contained in an Municipal Separate Storm Sewer System (MS4) Pollutant Reduction Plan (PRP), or Total Maximum Daily Load (TMDL) strategy plan that is submitted for an MS4 Notification of Intent (NOI) permit application.

If Yes, please explain:

If No, will your project implement Best Management Practices (BMP) identified as needed to improve water quality in a water quality plan?

If Yes, please explain:

#### URBAN RUNOFF PROJECTS

What is the total area treated by BMP in acres?

What is the impervious area treated by each BMP in acres?

What is the runoff or storage volume in acre-ft for each BMP?

#### AGRICULTURAL PROJECTS

How many animals are currently at the project site?

Explain what manure management controls or BMPs are currently being implemented and what is the state of their condition?

What is the name of the receiving stream and how far is the receiving stream from the project site?

Is the receiving stream impaired due to agriculture and/or sediment?

What is the estimated annual nitrogen reduction to the stream as a result of the project?

What is the estimated annual phosphorus reduction to the stream as a result of the project?

What is the estimated annual sediment reduction to the stream as a result of the project?

#### NPS SAFETY

If the project addresses a critical or on-going safety or health hazard, please explain.

#### BROWNFIELDS SYSTEM INFORMATION

Who owns the property to be remediated?

Does the project site have ACT 2 Clearance, or will the project site obtain ACT 2 Clearance as a result of project?

Will the owner's company be completing any of the construction (force account)?

Can you provide evidence that all federal supercrosscutters have been met? If so, please upload any evidence of federal supercrosscutters compliance.

Is the cost of acquiring the land to be remediated as part of this project?

Do you have a survey and title search of the real estate to be used for collateral; including title insurance policies and endorsements?

Do you have 'as is', 'as remediated' or 'as developed' appraisals of any real estate to be used for collateral?

#### NPS WATER QUALITY IMPACTS

Identify the receiving water(s) impacted by this project.

Describe the length stream or acres of lake that will show water quality improvement as a result of your project.

Is the receiving water(s) listed as impaired on the PA Integrated Water Quality and Assessment Report?

If Yes, list the causes of impairment.

If Yes, identify the benefits of the project on water quality.

If Yes, how are the benefits of the project linked to the impairment?

Is the receiving water(s) listed as high quality (HQ) or exceptional value (EV) by DEP?

If Yes, list the pollutant(s) to be a threat to the HQ/EV existing use.

If Yes, list the source of water quality data/report that documents the threat to HQ/EV.

If Yes, explain how the benefits of the project will remove the threat to HQ/EV.

The receiving water(s) or groundwater is not listed as impaired or HQ/EV by the DEP, but has identified water quality problems:

If Yes, list the source of water quality data, assessment report, or watershed plan that documents the water quality problems.

If Yes, explain how the project will have a direct and substantial benefit in addressing the documented water quality problems.

If Yes, will this project have direct pollutant benefits to waters beyond the immediate receiving waters (e.g. Chesapeake Bay Estuary, Gulf of Mexico, Lake Erie, or Delaware Estuary)? Please explain.

#### NPS COMPLIANCE

Has DEP taken enforcement action(order or consent order and agreement) or issued a Notice of Violation which requires the project?

Is there an approved Total Maximum Daily Load(TMDL) which requires reductions in the pollutants(s) to be controlled by the project?

#### COMMENTS

#### KEYSTONE BENEFITS

#### KEYSTONE BENEFITS

If any of the communities served by this project have been granted special economic designation by the Department of Community and Economic Development or by the Governor's Action Team, please identify the program and the municipality(ies) and county(ies).

N/A

If any of the communities served by this project have been designated as distressed under the Municipalities Financial Recovery Act 47 of 1987, please identify the municipality(ies) and county(ies).

N/A

If this project directly serves a Brownfield site as designated by the PA Department of Environmental Protection, please identify the site.

N/A

If this project serves a City, Borough or 1st Class Township, please identify.

Yes, the City of Philadelphia is a 1st class city.

## COMMENTS

## GREEN INFRASTRUCTURE COMPONENTS

### GREEN INFRASTRUCTURE

If the project results in reduced (minimum 20%) water use, please explain.

N/A

If the project recycles water, please explain.

N/A

If the project reduces (minimum 20%) infiltration of water into sewer pipes being repaired/replaced, please explain.

N/A

If the project reduces (minimum 20%) leakage from the water pipes being repaired/replaced, please explain.

N/A

Will this project reduce facility and/or better manage energy consumption?

No

If the project saves energy (minimum 20%), please explain.

Yes, the replacement of the blower will allow for the facility to operate more efficiently and should reduce operational time.

If this project generates energy, what percent?

N/A

If the project infiltrates evapo-transpires or controls stormwater, please explain.

N/A

If the project implements Ag BMP's, Low-Impact Development, wetland restoration or construction, greenhouse gas reduction, or applies differential uses of water treated to varying levels, please explain.

N/A

### COMMENTS

## INCOME

### COUNTY MUNICIPALITY & APPLICATION LEGISLATIVE

Primary	County	Municipality	System Served	Project Served	Households Served	Bulk
<input checked="" type="checkbox"/>	Philadelphia	Philadelphia City	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	421,425	<input type="checkbox"/>
					<b>Total: 421425</b>	
Primary	District	Congress Name	District	House Name	District	Senate Name
<input checked="" type="checkbox"/>	5	Scanlon, Mary Gay	185	Young, Regina	1	Saval, Nikil

### BILLING

	Last Completed Audited Year	First Full Year After Project is Completed
	2022	2029
Estimate Population	1,567,000	1,567,000
Households served by System	421,425	421,425
Total EDUs served by system	873,002	873,002
Residential EDUs served by system	421,425	421,425
Average annual Residential bill	\$277.00	\$277.00
Total residential bills levied	\$116,923,300.00	\$116,923,300.00
Total residential bills collected	\$116,923,300.00	\$116,923,300.00
Total Commercial/Industrial bills levied	\$162,628,973.00	\$162,628,973.00
Total Commercial/Industrial bills collected	\$162,628,973.00	\$162,628,973.00

### INCOME FOR GOVERNMENT ENTITY

	Last Completed Fiscal Year	First Full Year After Project Completed
	2022	2029
Total Bills Collected	\$279,552,273.00	\$279,552,273.00
Other Charges Collected	\$4,904,158.00	\$4,904,158.00
Total Operating Revenues	\$284,456,431.00	\$284,456,431.00
Non-Operating Revenues	\$-2,013,394.00	\$2,000,000.00
Total Income	\$282,443,037.00	\$286,456,431.00

### INCOME FOR PROFIT ENTITY

	Last Completed Fiscal Year	First Full Year After Project Completed
	2022	2029
Sales of Products	\$0.00	\$0.00
Investment Income	\$0.00	\$0.00

Rental Income	\$0.00	\$0.00
Other Income	\$0.00	\$0.00
Total Income	\$0.00	\$0.00

#### INCOME FOR NON-PROFIT ENTITY

	Last Completed Fiscal Year	First Full Year After Project Completed
	2022	2029
Provisions of Services	\$0.00	\$0.00
Government Grants Subsidies	\$0.00	\$0.00
Program Services	\$0.00	\$0.00
Investment Income	\$0.00	\$0.00
Contribution from Donors	\$0.00	\$0.00
Rental Income	\$0.00	\$0.00
Other Income	\$0.00	\$0.00
Total Income	\$0.00	\$0.00

#### OPERATING EXPENSES

	Last Completed Fiscal Year	First Full Year After Project Completed
	2022	2029
Labor Salaries Benefits	\$99,155,010.00	\$99,155,010.00
Utilities	\$0.00	\$0.00
Rent	\$0.00	\$0.00
Materials/Supplies	\$18,581,267.00	\$18,581,267.00
Cost of Goods Sold	\$0.00	\$0.00
Program Expenses	\$0.00	\$0.00
Administration Expenses	\$2,437,607.00	\$2,437,607.00
Professional Fees	\$55,618,317.00	\$55,618,317.00
Depreciation Expense	\$50,409,546.00	\$50,409,546.00
Other Expenses	\$0.00	\$0.00
Outside Services	\$0.00	\$0.00
Total (Minus Depreciation Expense)	\$175,792,201.00	\$175,792,201.00

#### NON-OPERATING EXPENSES

	Last Completed Fiscal Year	First Full Year After Project Completed
	2022	2029
Annual Debt Service Excluding This Project	\$66,179,300.00	\$54,281,182.00
Other Non-Operating Expenses	\$0.00	\$0.00

Total	\$66,179,300.00	\$54,281,182.00
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NET CASH

	Last Completed Fiscal Year	First Full Year After Project Completed
	2022	2029
Total Cash	\$0.00	\$0.00
Total Cash Expenses	\$241,971,501.00	\$230,073,383.00
Total Cash (Minus Total Cash Expenses)	\$0.00	\$0.00

COMMENTS

Numbers in this application are to the best of our knowledge as of 12/1/23 - PR

Explain other charges, non-operating revenues and identify sources of the above information:

Bulk Agreements with FY22= Revenues totaling \$42,382,000 million and is listed as total commercial.

Other Operating Revenue FY22 = interest income + small grant

Other Non-Operating Expense FY22 = items removed from fixed assets of the system.

All Water and Wastewater Revenue Bonds (other than Subordinated Bonds) are equally and ratably secured under the General Ordinance. No Subordinated Bonds are Outstanding under the General Ordinance.

Pursuant to the General Ordinance, the City pledges and assigns to the Fiscal Agent, in trust, for the security and payment of all Water and Wastewater Revenue Bonds (other than Subordinated Bonds) issued under or subject to the General Ordinance, and grants to the Fiscal Agent, in trust, a lien on and security interest in all Project Revenues and amounts on deposit in or standing to the credit of the Water and Wastewater Funds (other than the Rebate Fund).

The Fiscal Agent must hold and apply the security interest in and lien on Project Revenues and funds and accounts, in trust, for the equal and ratable benefit and security of all present and future holders of Water and Wastewater Revenue Bonds (other than Subordinated Bonds). The General Ordinance provides that such pledge also may be for the benefit of the provider of a Credit Facility or a Qualified Swap (as defined therein), or any other person who undertakes to provide monies for the account of the City for the payment of principal or redemption price of and interest on any series of Water and Wastewater Revenue Bonds (other than Subordinated Bonds), on an equal and ratable basis with the holders of Water and Wastewater Revenue Bonds (other than Subordinated Bonds).

## DEBT

Note Holder	Date of Loan / Issued	Original Principal	Interest Rate	Term Months
		\$		

## COMMENTS

As of June 30, 2021, \$2,435,100,000 aggregate principal amount of Water and Wastewater Revenue Bonds is outstanding.

## BUDGET INFORMATION

### PROJECT BUDGET

Administrative Cost:	\$0.00
Legal Fees:	\$0.00
Financial/Accounting Charges:	\$0.00
Interest During Construction:	\$0.00
Engineering/Architecture Fees:	\$0.00
Permits:	\$0.00
Land	\$0.00
Construction	\$35,305,400.00
Contingency	\$1,765,270.00
Other Costs:	\$0.00
Total:	\$37,070,670.00

## COMMENTS

## RATES

### RATES

Metered:	Monthly
Flat:	Not Selected Yet
Other:	Not Selected Yet

Explain special rate structure or agreement. Indicate if no rates apply for this project.

The Water Department initiated a general rate increase proceeding (the "2023 Rate Proceeding") for Fiscal Years 2024 and 2025 by filing, on January 24, 2023, its Advance Notice of proposed changes in water, sewer, and stormwater rates and related charges to take effect on or about September 1, 2023 and September 1, 2024. On February 23, 2023, the Water Department filed its Formal Notice of proposed changes in rates and charges. Standard prehearing conferences and orders

were issued, and discovery requests and responses were submitted consistent with the prehearing order from the period of March through April 2023. Four public input hearings were conducted. Pursuant to the schedule, direct testimony was filed by interveners in the proceeding on April 12, 2023. Rebuttal testimony was filed by the Water Department on April 26, 2023. Hearings were held on May 2 through May 5, 2023 and briefs were filed on May 16, 2023. The Hearing Officer's report was delivered on May 30, 2023. Exceptions to the Hearing Officer's Report were filed on June 5, 2023. The Rate Board rendered its rate determination on June 21, 2023. The Rate Board authorized an increase in base rate revenues of \$61.022 million in Fiscal Year 2024 and an additional increase of \$57.015 million in Fiscal Year 2025. Taking into account the Rate Board's 2023 Annual TAP-R Adjustment Proceeding, the overall approved increases amount to \$172.5 million over Fiscal Years 2024 and 2025.

Water rates for general service customers of the Water Department consist of a service charge related

to the size of the meter, plus a schedule of quantity charges for water use. Sewer rates for general service customers are similar. To more fairly reflect the burden on the System, stormwater charges are calculated based on a customer's property size and its relative imperviousness. A uniform stormwater charge based on the average size and imperviousness of residential properties is billed to residential customers. Charges to non-residential and condominium customers are based on each property's specific size and impervious area.

Special rates with partial discounts are established pursuant to the Water Department's Rates and

Charges for the following customers: (1) public and private schools which provide instruction up to or below the twelfth grade; (2) institutions of "purely public charity;" (3) places used for religious worship; (4) residences of eligible senior citizens; (5) universities and colleges; and (6) public housing properties of the Philadelphia Housing Authority. In addition, the Rate Board approved discounts of 100% on stormwater rates for eligible community gardens in 2016 and an exemption from water, sewer and stormwater rates for unoccupied properties of the Philadelphia Land Bank in 2018. Some real estate also is exempt from stormwater charges, including, cemeteries, residential sideyards, City-owned or City-controlled vacant lots or improvements, portions of Fairmount Park, streets, medians, sidewalks, and rights-of-way. Water and sewer charges, including stormwater charges, terminate when any vacant or unoccupied premises are acquired by the City and when property is acquired by the Philadelphia Housing Development Corporation or the Philadelphia Redevelopment Authority under provisions of the Philadelphia Code pertaining to vacant properties.

In addition to the special rates referenced above, the Water Department offers additional assistance and

incentive programs to customers, which constitute either an Operating Expense of the Water Department or contra-revenue in the form of credits or reductions to customers' bills. The Tiered Assistance Program ("TAP") program was launched on July 1, 2017 and assists low-income households at or below 150% of the federal poverty level ("FPL") and those experiencing a special hardship, as discussed herein. Under the TAP program bills are tied to household income and do not fluctuate based on actual consumption.

## COMMENTS

