

# PENNSYLVANIA INFRASTRUCTURE INVESTMENT AUTHORITY

## PENNVEST APPLICATION FORMS

DESCRIPTION		
<b>Project Name:</b> City of Philadelphia Torresdale Filtered Water Pumping Station Rehabilitation		
<b>Project ID:</b> 51001111908-CW	<b>Type:</b> Drinking Water	<b>Status:</b> Submitted
<b>Sub Type:</b> System	<b>Stage:</b> Construction	
<b>Filing Date:</b> 8/13/2019	<b>Population Served:</b> 1580863	
<b>Amount Requested:</b> \$63,000,000.00	<b>Total Cost:</b> \$63,000,000.00	
<b>What is the estimated number of construction-related jobs created through this project?</b>		0
<b>What is the number of these jobs that expect to employ Pennsylvania Residents?</b>		0

### Service Area:

The Water System's service area includes the City. The Water System has one wholesale water service contract (see Table 4 – Wholesale Water and Wastewater Customer Revenues Fiscal Year Ending June 30, 2018 on the preceding page). Based on the 2017 U.S. Census Bureau estimate, the Water System served 1,580,863 individuals.

As of June 30, 2018, the Water System served approximately 480,000 active customer accounts using approximately 3,100 miles of mains and approximately 25,000 fire hydrants. Customer accounts have been stable the past several years and are expected to remain consistent for Fiscal Year 2019 and Fiscal Year 2020.

The City obtains approximately 58% of its water from the Delaware River and the balance from the Schuylkill River. Under the City's water allocation permit issued by the PaDEP, which expires in September 2041, the City is authorized to withdraw up to 423 million gallons per day ("MGD") from the Delaware River and up to 258 MGD from the Schuylkill River. The portion of the system that the Torresdale Pumping station services is Northeast Philadelphia, the River Wards, Center City, South Philadelphia, and a small portion of West Philadelphia. The Torresdale pumping station services approximately 361,000 people of the overall populations served of 1,580,863

### Problems:

## PENNSYLVANIA INFRASTRUCTURE INVESTMENT AUTHORITY

The Philadelphia Water Department (PWD) owns and operates the Torresdale Filtered Water Pumping Station (TFWPS) which was constructed in 1946 and supplies filtered water to the Torresdale High Service Pressure District and Torresdale Low Service Pressure District. The existing facility includes a total of twelve (12) horizontal split-case centrifugal pumps which were installed at different times between 1946 and 1995. Pump Nos. 1, 4, 5, and 6 are rated for 40 MGD at 200 feet of TDH. Pump Nos. 2 and 3 are rated for 20 MGD at 200 feet of TDH. Pump Nos. 7 and 8 are rated for 10 MGD at 370 feet of TDH. Pump Nos. 9 and 10 are rated for 21 and 18 MGD, respectively, at 370 feet of TDH. Pump Nos. 11 and 12 are rated for 3 MGD at 390 feet of TDH. All the existing filtered water pumps and associated mechanical systems are approaching the end of their useful service lives. Consequently, PWD has initiated a capital improvement project for complete rehabilitation/replacement of the filtered water pumps and associated mechanical systems at the TFWPS. Additionally, two new pumps will be installed at the TFWPS to transfer water from the Torresdale Low Service Pressure District to the Torresdale High Service Pressure District. These pumps improve the level of resiliency for the City's drinking water system. Lastly, a new surge facility will be constructed at the TFWPS to protect the new pumps and distribution system.

Civil and yard piping improvements will include replacement of individual pump discharge piping to the transmission mains, flow meter replacement, installation of a new 36-inch discharge header, and other miscellaneous work. Mechanical improvements will include replacement of all existing filtered water pumps, installation of two new transfer pumps, replacement of existing suction and discharge piping, replacement of the existing vacuum priming and seal water systems, removal of the existing hydraulic actuator system, and other miscellaneous work. Structural repairs and modifications will include concrete spall repairs, concrete crack repairs, structural steel coating repairs, structural modifications at pipe penetrations, structural modifications for the new pump configuration/layout, and structural modifications for installation of new transfer pumps. Electrical improvements will include replacement of the existing main 13.2kV switchgear, medium voltage starters, 480V distribution, and DC control power.

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### Description:

Replacement of twelve (12) horizontal split case centrifugal pumps and associated mechanical systems.

Installation of two transfer pumps from Low to High Service Pressure Districts

New surge facility construction

Discharge Piping replacement

Flow meter replacement

36-inch discharge header piping will be replaced

Pump suction and discharge piping

Pump seal water systems

Concrete spall repairs

Concrete crack repairs

Structural Steel Coating

Electrical Improvements - Replacement of 13.2 kV switchgear

Medium voltage starters

480V distribution

DC Control Power

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### Other(s) Funding Sources:

Source Type	Source Name	Source Amount
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<b>System:</b>	
<b>Does the Applicant own the System?</b>	YES
<b>Does the Applicant operate the System?</b>	YES
<b>Does the Applicant Maintain the System?</b>	YES
<b>Does the Applicant Construct the System?</b>	YES
<b>Does this project include costs associated with the purchase of system capacity from another entity?</b>	NO
<b>Does this project include costs associated with the construction of capacity in your system for use and/or purchase by other entity (ies)?</b>	N/A
<b>Is, or does the Applicant intend to be, a party to any inter-municipal agreements which affect this project or your system?</b>	NO
<b>Has the Applicant issued debt or borrowed money, or does the Applicant intend to issue debt or borrow money, under a trust indenture?</b>	YES
If yes, you will be required to upload copies of the original trust indenture and all supplemental trust indenture to the Support Documents section when you complete this portion of the application.	
<b>Do you charge residential or commercial user fees?</b>	YES
<b>NPDES Number:</b>	<b>PWSID Number:</b> 1510001
<b>Do you have a current Bond Rating?</b>	YES
<b>Rating Agency</b>	<b>Rating</b>
Fitch	A+
Moody's	A1
S&P	A+

# PENNSYLVANIA INFRASTRUCTURE INVESTMENT AUTHORITY

<b>Contacts:</b>		
<b>City of Philadelphia</b>		Applicant
<b>Address:</b> 1401 John F. Kennedy Boulevard  Philadelphia, PA 19107-2994	<b>Phone:</b> 215-685-4948 <b>Fax:</b> <b>Email:</b>	
<b>SAP Vendor #:</b> 177575013	<b>DUNS:</b> 133889241	<b>Federal ID/FIN:</b> 236003047
<b>Brown and Caldwell</b>		Engineer
<b>Address:</b> Two Radnor Corporate Center, 100 Matsonford Road, #250 Radnor, PA 19087-0000	<b>Phone:</b> <b>Phone Ext.:</b> <b>Fax:</b>	
<b>Ballard Spahr Andrews &amp; Ingersoll, LLP</b>		Legal
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<b>PFM Financial Advisors LLC</b>		Financial
<b>Address:</b> 2533 Yellow Springs Road -- Malvern, PA 19355-1452	<b>Phone:</b> 610-647-5487 <b>Phone Ext.:</b> -- <b>Fax:</b> 999-999-9999	
<b>Cedarville Engineering Group</b>		Others
<b>Address:</b> 159 E. High Street Suite 500 Pottstown, PA 19464	<b>Phone:</b> 610-705-4500 <b>Phone Ext.:</b> <b>Fax:</b> 610-705-4900	
<b>Cedarville Engineering Group</b>		Others
<b>Address:</b> 159 E. High Street Suite 500 Pottstown, PA 19464	<b>Phone:</b> 610-705-4500 <b>Phone Ext.:</b> <b>Fax:</b> 610-705-4900	

# PENNSYLVANIA INFRASTRUCTURE INVESTMENT AUTHORITY

<b>LaBuda, Melissa</b>		Applicant	
<b>Address:</b> 1101 Market Street PWD Philadelphia, PA 19146		<b>Phone:</b>	
		<b>Phone Ext.:</b>	
		<b>Fax:</b>	
		<b>Email:</b>	melissa.labuda@phila.gov
<b>Hovsepian, Vahe</b>		Applicant	
<b>Address:</b> 1101 Market Street 2nd Floor Philadelphia, PA 19107		<b>Phone:</b>	2159089502
		<b>Phone Ext.:</b>	
		<b>Fax:</b>	
		<b>Email:</b>	vahe.hovsepian@phila.gov
<b>Patackis, Chris</b>		Engineer	
<b>Address:</b>   , PA 0		<b>Phone:</b>	
		<b>Phone Ext.:</b>	
		<b>Fax:</b>	
		<b>Email:</b>	cpatackis@brwnald.com
<b>Allen, Valarie</b>		Legal	
<b>Address:</b> 1735 Market Street, 51st Floor Philadelphia, PA 19103		<b>Phone:</b>	2158648565
		<b>Phone Ext.:</b>	
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<b>Clupper, Katherine</b>		Financial	
<b>Address:</b> 1735 Market Street PHILADELPHIA, PA 19144		<b>Phone:</b>	2155571481
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		<b>Email:</b>	clupperk@pfm.com
<b>Crawford, Christina</b>		Others	
<b>Address:</b> 159 E. High Street Suite 500 Pottstown, PA 19464		<b>Phone:</b>	6107054500
		<b>Phone Ext.:</b>	1014
		<b>Fax:</b>	
		<b>Email:</b>	ccrawford@cedarvilleeng.com

# PENNSYLVANIA INFRASTRUCTURE INVESTMENT AUTHORITY

## PROJECT SITE(S)

### City of Philadelphia

#### Address:

1401 John F. Kennedy Blvd  
Philadelphia, PA 19107

### Other Site

#### Latitude:

39.9540966

#### Longitude:

-75.1644793

### Torresdale Filtered Water Pumping Station

#### Address:

State Road  
Philadelphia, PA 19136

### Other Site

#### Latitude:

40.0366617

#### Longitude:

-75.0120318

## Counties and Municipalities

### Primary

True

### County

Philadelphia

### Municipality

Philadelphia City

### System

False

### Project

True

### Households served

480000

## Legislative Districts

### Congress

Brendan, Boyle

### House

MaryLouise, Isaacson

### Senate

John P., Sabatina Jr.

# PENNSYLVANIA INFRASTRUCTURE INVESTMENT AUTHORITY

## PROJECT PLAN

Indicate the important dates for Pre-Construction, Construction and Major Milestones.

### Pre Construction Planning Dates

Planning Consultation	Aug 30 2019
Planning Completed	Aug 30 2019
Design Completed	Jan 31 2020
Obtained all needed permits	Feb 4 2020
Bid Date	Jul 1 2020
Bid Opening	Aug 1 2020
Awarded Contract	Sep 1 2020
Pre-Construction Conference	Oct 1 2020

### Letter of No-Prejudice

Letter of No-Prejudice (LONP) issued (if required). Date is entered by PENNVEST Project Management Office upon request and issue of letter.	
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### Construction Dates

Start Construction	Nov 1 2020
End Construction	Nov 1 2022

### Award Design Dates

Begin Design	Jan 1 2019
End Design	Jan 31 2020

### Project Plan Major Milestones

NOTES:

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## MEASURES

### 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?	YES
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

### DrinkingWater 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
Distribution System Amount	\$0.00
Pump Stations Amount	\$63,000,000.00
Meters Amount	\$0.00
Safety/Security Amount	\$0.00
Purchase of Systems Amount	\$0.00
Restructuring Amount	\$0.00
Land Acquisition Amount	\$0.00

### DrinkingWater Compliance:

Does the project help the facility to bring out of compliance system back into compliance?	NO
Does the project help the facility to maintain current compliance?	NO
Does the project help the facility to achieve compliance with upcoming requirements?	NO
Does the project assist the facility with other non-compliance related activities?	NO

### DrinkingWater Enhancements:

Does the project help enhance well capacity? (source development/upgrade)	NO
Does the project enhance treatment plant capacity?	NO
Does the project enhance security measures at the drinking water facility?	NO



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Does project enhance public safety? (Fire hydrants and related)	YES
If yes, the impact is:	INDIRECT

### Notes:

The project will indirectly enhance public safety by avoiding possible emergency scenarios that could result from the existing out dated pumps. The Torresdale pumping station provide clean and vital drinking water to a large area of the City of Philadelphia. The current water pumps and associated mechanical systems are beyond the end of their useful service lives. The Torresdale Pump Station service area includes 263 sensitive facilities (i.e., schools, hospitals, home dialysis centers, dialysis centers, police, and fire stations), along with 221 critical facilities (i.e., schools, hospitals, home dialysis centers, and dialysis centers). Jefferson Torresdale Hospital is one of those facilities. If the pumps or mechanical systems within the pumping station fail large portions of the City could be without safe drinking water. The hospital would be forced to operate in emergency mode as well as other sensitive areas of the City. This one example of the type of emergency scenarios that can be avoided by updating old infrastructure (i.e., water pumps) before operational concerns become an actual emergency situation. The importance of replacing and maintaining infrastructure to provide clean drinking water to the City of Philadelphia is vital.

# PENNSYLVANIA INFRASTRUCTURE INVESTMENT AUTHORITY

## BENEFITS

### Narrative:

As previously mentioned in the "Measures" section, this project will aid in the prevention of emergency scenarios at nearby sensitive and critical facilities (i.e., Jefferson Torresdale Hospital) through the rehabilitation and replacement of the water pumps and associated mechanical systems within the pumping station facilities. These pumps and associated systems are beyond the end of their useful service lives, which yields a higher risk of failure. Therefore, proactive measures should be taken to ensure the facilities and customers within their supply area are not negatively affected.

In addition to public safety, this project will save energy through the reduced electrical usage of the new pumps. Assuming the new pumps will be around 80% efficient, the department's electrical usage at TFWPS should decrease by about 90,000 kWh per month (which equates to 1,080,000kWh per year). In May 2017, the pumps had an water to wire efficiency of 76.3% for the TLD pumps and 72.35% for the THS pumps, and the electrical usage was 1,480,825 kWh for the month. The expected efficiency for each new pump is noted below:

- 40MGD Low Duty Pump: Expected Range of Operating Efficiency = 84-86%
- 20MGD Low Duty Pump: Expected Range of Operating Efficiency = 86-88%
- 16MGD High Service Pump: Expected Range of Operating Efficiency = 86-89%
- 8MGD High Service Pump: Expected Range of Operating Efficiency = 78-80%
- 4MGD High Service Pump: Expected Range of Operating Efficiency = 80-82%
- 4MGD Transfer Pump: Expected Range of Operating Efficiency = 75-85%

### Comparison:

The proposed alternative is the most effective and cost efficient way to address this problem. All work is contained within previously disturbed areas on the existing PWD-owned TFWPS property (which is currently zoned as I-3, Heavy Industrial land use). Therefore, no additional or new disturbance to the surrounding environment or community is anticipated. Please refer to the Cost Effective Analysis and the for further discussion on alternatives.

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## Drinking Water Development:

Capacity	gpd
Dam	NO
Well	NO
Water Surface Intake	NO
Interconnection	NO
New Source	NO
Rehab Existing Source	NO

## Drinking Water Source Transmission:

Total Pipe Length	feet
New	NO
Clean/Reline	NO
Replace	NO

## Drinking Water Source Treatment:

Existing Capacity	gpd
Proposed Designed Capacity	gpd
New Plant	NO
Plant Addition	NO
Plant Renovations	NO

OTHER:

## Drinking Water Source Finished Water Storage:

Total Pipe Length	gallons
New Tank	NO
Cover Existing Tank	NO
Renovate Existing Tank	NO

## Drinking Water Source Distribution System:

Total Pipe Length	feet
Number of Residential Connections	
Number of Commercial Connections	
New	NO
Replace	NO
Extension	NO
Clean/Reline	NO

## Drinking Water Source Pump Stations:

Design Capacity	264000000 gpd
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New	NO
Renovate Existing	YES

## Drinking Water Source Meters:

Number of Master meters	9
Number of Customer meters	
New Meters	NO
Replace Meters	NO

## Drinking Water Source Other:

Number of New Fire Hydrants	
Plant Access Road	NO
Administration Building	NO

The design capacity of the renovated existing pump stations is anticipated to be 264,000,000 gpd.

There are 4 master meters on the Torresdale Low Pressure District, 3 master meters on the Torresdale High Pressure District and 2 others within the Torresdale system.

## Green Infrastructure Components

Does the project result in reduced (minimum 20%) water use?	NO
If 'Yes' explain:	
Does the project recycle water?	NO
If 'Yes' explain:	
Does the project reduce (minimum 20%) infiltration of water into the sewer pipes being repaired/replaced?	NO
If 'Yes' explain:	
Does the project reduce (minimum 20%) leakage from the water pipes being repaired/replaced?	NO
If 'Yes' explain:	
Does the project save energy (minimum 20%)?	YES
If 'Yes' explain: The project will save energy as the pumps that will be replaced will operate more efficiently and should reduce operational time of the pumps. The new pumps will have a range of efficiency from 75-89%. The department's electrical usage at the pumping station should decrease by about 90,000 kWh per month (1,080,000 kWh per year). In May 2017, the pumps had a water to wire efficiency of 76.3% for the Duty pumps and 73.35% for the high service pumps. There is a theoretical expectation that a 20% reduction in energy savings will be achieved.	
Does the project infiltrate, evapo-transpire or control stormwater?	NO
If 'Yes' explain:	
Does the project implement Ag BMP's, or Low-Impact Development, or wetland restoration or construction, or greenhouse gas reduction, or apply differential uses of water treated to varying levels?	YES

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If 'Yes' explain: Stormwater will be managed from the new meter/valve chambers, new switchgear, and new transient mitigation facilitation through the disconnection of impervious cover from the collection system.

### Cost Effectiveness

Describe the alternatives that were considered to solve the problem in the Project Description and the cost of those alternatives.

Rehabilitation of existing pumps and associated mechanical systems versus complete replacement of all parts will yield cost savings. New slidegates need to installed in the station's suction flume prior to this project. These gates will be installed under an ongoing PWD project, within the next six months. See Cost Effective Analysis

### Drinking Water Public Health:

Will this project eliminate critical or chronic health hazards?	NO
Violation of a primary MCL or maximum containment concentration:	NO
Presence of coliform or fecal coliform:	NO
No water available at the tap:	NO
Giarda cysts in the filtered water:	NO

### Drinking Water DEP Compliance

Will this project satisfy an order issued by DEP, the Federal Government or the Courts that addresses problems with acute health or safety hazard, potable water treatment and/or storage facilities?	NO
Will this project satisfy a non-compliance consent order and agreement related to a health or safety hazard, potable water treatment and/or storage facilities?	NO
Will this project protect water sources under the supplier's control?	NO
Provide treatment adequate to assure that public health is protected?	NO
Provide and effectively operate and maintain public water system facilities?	YES
Take corrective action necessary to assure safe and potable water is continuously supplied to the user:	YES

### Cost Effectiveness

Describe any actions necessary to get the project under construction, when they will be done, and what will be required in order to maintain the facility through its design life.

Rehabilitation of existing pumps and associated mechanical systems versus complete replacement of all parts will yield cost savings. New slidegates need to installed in the station's suction flume prior to this project. These gates will be installed under an ongoing PWD project, within the next six months. See Cost Effective Analysis

### Drinking Water Environmental/Social

Explain any existing environmental condition that will be addressed with the project (example: sludge handling facility).

How will this project improve the quality of life for the system customers?

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This project will ensure that its customers are able to maintain their current quality of life with a constant water supply. Without implementation of this project, there is a potential for failure that would result in a lapse in water availability.

Is this project consistent with local, county and regional land use planning?	YES
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If 'No' explain:

Is this project consistent with county agricultural preservation efforts?	NO
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### Drinking Water Adequacy and Efficiency

Will this project increase the available water?	NO
Does this project include or promote water system conservation?	NO
Does this project include or promote water system consolidation?	NO

### Drinking Water Public Safety

Will this project address replacement or major rehabilitation of an unsafe water supply storage tank?	NO
Will this project allow the system to meet fire code - quantity/pressure for fire protection?	YES
Does this project include installation or replacement of fire hydrants?	NO
Does this project include work to address safety standards with OSHA?	NO
Will this project address issues related to water source and/or system security?	NO

### Keystone:

Have any of the communities served by this project been designated as distressed under the Municipalities Financial Recovery Act 47 of 1987?	NO
Does this project directly serve a Brownfield site as designated by the PA Department of Environmental Protection?	NO
Does this project serve a City, Borough or Township of the 1st Class?	YES
Have any of the communities served by this project been designated as a Community Action Team [CAT] project by the Department of Community and Economic Development?	NO

municipality: county:

Does the Community(ies) where this project is located have a Comprehensive Land Use Plan?	YES
If yes, is this project consistent with that plan? If yes, please upload a copy of correspondence indicating consistency in Supporting Documents.	YES

N/A

Does the County(ies) where this project is located have a Comprehensive Land Use Plan?	YES
If yes, is this project consistent with that plan?	YES

N/A

Does the County(ies) where this project is located have an Agricultural Land Preservation Plan?	NO
If yes, is this project consistent with that plan?	NO



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## INCOME AND EXPENSES

<b>Billing:</b>	<b>Per Last Completed Fiscal Year 2018</b>	<b>First Year after Project Completed 2023</b>
Estimated Population	1580863	1580863
Households served by System	480000	480000
Total EDUs served by system		
Residential EDUs served by system		
Average annual Residential bill	\$803.88	\$803.88
Total residential bills levied		
Total Residential bills collected	\$673,036,309.00	\$673,036,309.00
Total Commercial/Industrial bills levied		
Total Commercial/Industrial bills collected	\$40,693,667.00	\$40,693,667.00
<b>Income for Government Entity:</b>	<b>Per Last Completed Fiscal Year 2018</b>	<b>First Year after Project Completed 2023</b>
Total Bills Collected	\$713,729,976.00	\$713,729,976.00
Other Charges Collected	\$13,210,793.00	\$13,210,793.00
Total Operating Revenues	\$726,940,769.00	\$726,940,769.00
Non-Operating Revenues	(\$12,511,693.00)	(\$12,511,693.00)
<b>TOTAL INCOME</b>	<b>\$739,452,462.00</b>	<b>\$739,452,462.00</b>



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

Other charges = Miscellaneous Operating Revenues

Other Non operating revenues = Federal, State, & Local Grants + Interest Income, factored by Cost of Service allocation.

### Rate Structure

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.

<b>Operating Expenses :</b>	<b>Per Last Completed Fiscal Year 2018</b>	<b>First Year after Project Completed 2023</b>
Labor (Salaries and Benefits)	\$284,380,913.00	\$284,380,913.00
Utilities		
Rent		
Materials and Supplies	\$37,470,666.00	\$37,470,666.00
Outside Services	\$111,776,692.00	\$111,776,692.00

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Cost of Goods Sold		
Program Expenses		
Administration Expenses	\$6,343,190.00	\$6,343,190.00
Professional Fees		
Depreciation Expense	\$101,846,736.00	\$101,846,736.00
Other Expenses		
<b>Net Operating Expense (Less Depreciation)</b>	<b>\$439,971,461.00</b>	<b>\$439,971,461.00</b>

<b>Non-Operating Expenses :</b>	<b>Per Last Completed Fiscal Year 2018</b>	<b>First Year after Project Completed 2023</b>
Annual debt service excluding this project	\$70,135,722.00	\$70,135,722.00
Other Non-Operating Expense	\$19,117,126.00	\$19,117,126.00
<b>Net Non-Operating Expense</b>	<b>\$89,252,848.00</b>	<b>\$89,252,848.00</b>
<b>Total Expenses</b>	<b>\$529,224,309.00</b>	<b>\$529,224,309.00</b>

Explain any Other Expenses and identify sources of the above information: Other expenses = retirement of fixed assets

<b>Net Cash:</b>	<b>Per Last Completed Fiscal Year 2018</b>	<b>First Year after Project Completed 2023</b>
Total Income	\$739,452,462.00	\$739,452,462.00
Total Cash Expenses	\$529,224,309.00	\$529,224,309.00
<b>NET CASH FLOW</b>	<b>\$210,228,153.00</b>	<b>\$210,228,153.00</b>

## Notes:

The Department's revenues and expenses reflect total system (Water & wastewater).

## FINANCIAL

<b>Source:</b>	<b>Amount</b>	<b>Committed</b>
System Funds (resources, Owner equity, etc.)	\$0.00	\$0.00
Connection Fees / Tap Fees / Assessments	\$0.00	\$0.00
Grants	\$0.00	\$0.00
Other	\$0.00	\$0.00
Amount Requested from PENNVEST	\$63,000,000.00	\$0.00
<b>Special Assessments :</b>	<b>Amount</b>	

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Amount of Assement per EDU	\$0.00
No. of EDUs to be Charged	
Anticipated Collection Rate	
Total to be Generated by Assessments	

### Explanation of Sources :

If you have chosen not to utilize other available sources of funding for this project, please explain the basis for your decision:

Describe any constitutional, statutory, charter, or other limitation on debt that apply to the applicant:

The City is requesting PennVest take a subordinated lien to outstanding Water & Wastewater Revenue bonds.

### Debt Obligations :

For Governmental entities:	For non-Governmental entities:
a) First lien on user charge revenues	a) Guarantee of the parent company
b) Guarantee of municipality	b) Pledge of stock
c) Municipal taxing power	c) Mortgage lien on company facilities

Are there any liens or other encumbrances by existing debt obligations which would prevent PENNVEST from requesting any of the above forms of loan security? YES

### Closely Held for Profit Entities :

Owner	Percent
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### NOTES:

The City is requesting PennVest take a subordinated lien to all outstanding bonds.

PENNSYLVANIA INFRASTRUCTURE INVESTMENT AUTHORITY

DEBT

Notes:

RATES

Billing:

Select the appropriate rate structure and billing frequency from the drop down list that is provided. In the space provided, describe any special rate structure or agreement.

	Monthly	Quarterly	Other
Metered	NO	NO	NO
Flat	NO	NO	NO
other	NO	NO	NO

Special Rate Structure or Agreement:

## PENNSYLVANIA INFRASTRUCTURE INVESTMENT AUTHORITY

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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. Under the TAP program, monthly bills for water, sewer, and stormwater usage and service charges are as follows.

50% of FPL or lower at 2% of the household income \$12.00 minimum bill

Above 50% and at or below 100% At 2.5% of the household income

Above 100% and at or below 150% FPL 3% of the household income

Above 150% FPL, with proof of hardship 4% of the household income

A special hardship can be increase in household size, loss of a job lasting more than 4 months, serious illness lasting more than 9 months, death of primary wage earner, domestic violence, other circumstances that threaten household's access to necessities of life

### Current Rates

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.

## PENNSYLVANIA INFRASTRUCTURE INVESTMENT AUTHORITY

### Revenue:

Indicate the total revenues collected by category as indicated before and after the project.

	Before Project	After Project
Residential	\$713,729,976.00	\$713,729,976.00
Commercial	\$0.00	\$0.00
Industrial	\$0.00	\$0.00

### Customers :

Indicate the number of residential households that the system currently serves and the number that you expect to serve once this project is complete. Provide similar information for EDU's (equivalent dwelling units) and population that will be impacted by the project.

	Currently	After First Year
Residential Households Served	480000	480000
Number of Additional EDU's	0	
Estimated Population Impacted	1580863	

### NOTES:

# PENNSYLVANIA INFRASTRUCTURE INVESTMENT AUTHORITY

## BUDGET

### Engineering Costs:

This section is used to provide a breakdown of project engineering costs related to planning. For Waste Water projects these costs should represent expenses that are not related to Act 537 planning.

Tasks	
Planning	\$0.00
Pre-Design Services	\$0.00
Design	\$4,000,000.00
Bidding	\$50,000.00
Construction Services	\$2,500,000.00

<b>Total Engineer Cost</b>	<b>\$6,550,000.00</b>
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### Construction Items:

This section is used to provide a breakdown of project costs related to construction for Transmission/Interceptor, Mains, Pump Station, Storage, Treatment and Source/Disposal. Use linear feet for length.

	Units	Estimated Cost
Transmission/Interceptor	0 linear ft	\$0.00
Mains	0 linear ft	\$0.00
Pump Station	1 stations	\$53,300,000.00
Storage	0 gallons	\$0.00
Treatment	0 gallons	\$0.00
Source/Disposal	0 gallons	\$0.00

<b>Total Construction Cost :</b>	<b>\$53,300,000.00</b>
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### Total Major Phases Costs:

This section is used to provide a breakdown of all project related costs as they relate to pre-design, design and construction components of the project. These figures are typically estimates, based upon consulting services and engineering design specifications.

Major Phases			
Cost Category	Pre-Design	Design	Construction
Administrative Costs	\$0.00	\$0.00	\$0.00
Legal Fees	\$0.00	\$0.00	\$0.00

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Financial / ... Accounting Charges	\$0.00	\$0.00	
Interest during Construction	\$0.00	\$0.00	\$0.00
Engineering, Architecture Fees	\$0.00	\$4,050,000.00	\$2,500,000.00
Permits	\$0.00	\$0.00	\$0.00
Land	\$0.00	\$0.00	\$0.00
Construction	\$0.00	\$0.00	\$53,300,000.00
Contingency	\$0.00	\$0.00	\$3,150,000.00
<b>Grand Totals</b>	<b>\$0.00</b>	<b>\$4,050,000.00</b>	<b>\$58,950,000.00</b>

### Total Project Costs :

Cost Category	Total Cost
Administrative Costs	\$0.00
Legal Fees	\$0.00
Financial / ... Accounting Charges	\$0.00
Interest during Construction	\$0.00
Engineering, Architecture Fees	\$6,550,000.00
Permits	\$0.00
Land	\$0.00
Construction	\$53,300,000.00
Contingency	\$3,150,000.00
	\$0.00
<b>Total Project Cost :</b>	<b>\$63,000,000.00</b>

### Additional information or comments :



PENNSYLVANIA INFRASTRUCTURE INVESTMENT AUTHORITY

IMPACT

Industry:

Economic Benefits: Indicate the economic benefits of the project relative to job creation/retention and private investment. Attachments should be clearly identified and forwarded to DCED for review.

Notes:

## PENNSYLVANIA INFRASTRUCTURE INVESTMENT AUTHORITY

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Last Submission made by christina Crawford (ccrawford@cedarvilleeng.com) at  
10/29/2019 3:01 PM

Last Submission made by Christina Crawford (ccrawford@cedarvilleeng.com) at  
02/05/2020 12:44 PM