Allegheny County Sanitary Authority

Financial Statements and
Required Supplementary and
Supplementary Information

Years Ended December 31, 2022 and 2021
with Independent Auditor's Report

MaherDuessel

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ALLEGHENY COUNTY SANITARY AUTHORITY

YEARS ENDED DECEMBER 31, 2022 AND 2021

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Independent Auditor's Report

Board of Directors
Allegheny County Sanitary Authority

Report on the Audit of the Financial Statements

Opinion

We have audited the accompanying financial statements of the business-type activities and the aggregate remaining fund information of Allegheny County Sanitary Authority (Authority), as of and for the years ended December 31, 2022 and 2021, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the business-type activities and the aggregate remaining fund information of the Authority, as of December 31, 2022 and 2021, and the respective changes in financial position and, where applicable, cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Authority and to meet our other ethical responsibilities in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Authority's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Authority's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the required supplementary information listed in the table of contents be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audits of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Maher Duessel

Pittsburgh, Pennsylvania
March 20, 2023

MANAGEMENT'S DISCUSSION AND ANALYSIS

AUDIT ASSURANCE

The unmodified (i.e., clean) opinion of our independent auditors, Maher Duessel, Certified Public Accountants, is included in this report. You will note that the Allegheny County Sanitary Authority (Authority) has included for 2022 this Management's Discussion and Analysis section, which is in compliance with Statement No. 34 of the Governmental Accounting Standards Board.

FINANCIAL HIGHLIGHTS

Allegheny County (County) is located in Southwestern Pennsylvania and encompasses approximately 730 square miles of land. Founded in 1788, the County is the second most populated county in Pennsylvania with over 1.2 million residents. Roughly 25% of the County's residents live within the City of Pittsburgh. The Allegheny and Monongahela Rivers flow through the County to form the Ohio River in downtown Pittsburgh.

Economy

The County is the location of ten Fortune 500 corporate headquarters. The County's 2022 Fortune 500 companies include: U.S. Steel (310), PNC Financial Services Group (120), PPG Industries (220), Kraft Heinz (110), Alcoa (330), Howmet Aerospace (226), Wesco International, Inc. (245), Viatris (254), Dick's Sporting Goods (362), and Westinghouse Air Brake - Wabtec (388). The County has experienced substantial growth in areas such as technology, tourism, and health care. The County is also a strong supporter of its manufacturing industries and has traditionally been one of the major industrial centers of the world with its access to major fields of coal and shipping access to 8,000 miles of navigable rivers. The Port of Pittsburgh is the second busiest inland port in the nation. There is annual benefit to the region for the shipping and receiving of millions of tons of cargo.

The County has undergone an economic transformation spanning more than three decades with a shift from the manufacturing industry to the service and trade industries. Specifically, the focus industries have been healthcare and life sciences, advanced manufacturing, energy, information and communication technology, and financial and business services. This shift is attributed to the continuing diversification of the employment base.

The region's health services sector employs over 150,000 people and is a robust network that is cultivating lifesaving technologies, regenerative medicine, and pharmaceuticals. The University of Pittsburgh Medical Center is a multi-billion-dollar global healthcare enterprise and is the region's top employer, with more than 92,000 employees in 40 hospitals. Highmark Inc., UnitedHealth Care, Allegheny Health Network, and Mercy Health System are also part of this sector.

Top manufacturers such as ACUTRONIC, Alcoa, Covestro, Calgon Carbon, Eaton Corp, HJ Heinz, Howmet Aerospace, PPG Industries, and U.S. Steel are either headquartered or have a presence in the greater County region. Smaller precision tooling and machining companies meet global demands for custom components.

The County and surrounding region has become a national leader in energy technology, innovation, and supply chain related to production, distribution, and efficient usage. The area is home to more than 800 companies in the global energy market, including Aquatech, Chevron, Columbia Gas of PA, CONSOL Energy Inc., EQT, FirstEnergy Corp., Peoples National Gas, Range Resources, and Westinghouse.

Technology firms, including Google, Duolingo, Aurora/Uber, and Ariba, have a presence within the County and employ some 26,000 people. A tech-savvy talent pipeline flowing from many area colleges and universities, and a robust network of organizations supporting financial innovation, are helping the region's knowledge-based economy to thrive.

Global financial institutions with headquarters or major business units within the County include PNC Financial Services Group, The Bank of New York Mellon, Citizens Bank, Dollar Bank, Federated Hermes, First Commonwealth Bank, Huntington National Bank, S&T Bank, TriState Capital, and First Niagara.

Two global law firms, K&L Gates and Reed Smith, are based in the City of Pittsburgh, as is Buchanan, Ingersoll & Rooney, and Jones Day – Pittsburgh as well as major insurance companies, including Highmark, UPMC, UnitedHealthcare, and Cigna.

Adding to the County's diverse labor and business climate, some of the most prestigious health, educational, and cultural institutions in the country are located here. The County's colleges and universities include Carnegie Mellon University, Carlow University, Chatham University, Community College of Allegheny County, Duquesne University, La Roche College, Penn State University, Point Park University, Robert Morris University, the Art Institute of Pittsburgh, and the University of Pittsburgh. The County is also home to various junior and technical colleges.

Uber has a tech center in Pittsburgh and a testing facility within the City of Pittsburgh. Also located in Pittsburgh is the recently formed American Robotics Manufacturing Institute. Amazon has expanded its footprint into the Pittsburgh region.

In June, the Port Authority of Allegheny County (Port Authority) changed its name to Pittsburgh Regional Transit (PRT) which still serves the metropolitan area by operating buses, light rail vehicles, and the Monongahela incline. PRT also owns the Duquesne Incline, which it leases to the nonprofit Society for the Preservation of the Duquesne Heights Incline. PRT is the largest operator of mass transit services in Western Pennsylvania and is among the nation's largest public transportation systems. PRT's 2,600 employees serve more than 60 million passengers annually.

Pittsburgh International Airport (PIA), which is recognized as an innovative airport is undertaking a $1.5 billion modernization and renovation project that is anticipated to be completed in 2025. PIA serves more than 8 million passengers annually on 16 carriers with nonstop service to 68 airports.

In 2019, non-manufacturing industries accounted for over 90% of the Pittsburgh MSA employment base. The loss of once-dominant, heavy water-use manufacturing such as steel and food processing has had a negative impact on the Authority's residential users. Decline in regional manufacturing over the past two decades has shifted a significant portion of the Authority's cost burden to residential users who have declined as well over the past decade. This decline in consumption base, combined with outside regulatory emphasis on reducing overflows, will have a dramatic impact on rates for years to come.

Additionally, during 2020 the impact of the restrictions imposed by the State of Pennsylvania in response to the coronavirus disease 2019 (COVID-19) on commercial industries such as retail, entertainment, and restaurants and bars amongst many others, had a direct impact on commercial consumption. This decrease in 2020 commercial consumption was partially offset by an increase in residential consumption as much of the local workforce was able to work from their residences and limited travel. 2022 and 2021 continued to see decreases in consumption with a reversal of the gain in residential consumption experienced in 2020.

- Billed flow for 2022 of 18,805,954 tgal (thousands of gallons) increased slightly by 31,247 tgals. As seen in 2021, increases in commercial consumption offset decreases in residential consumption as the area continues to recover from the COVID-19 pandemic. Billed flow for 2021 of 18,774,707 tgal decreased by 447,975 tgal. Residential consumption decreased in 2021 by 539,496 tgal, which was partially offset by an increase in commercial consumption by 91,522 tgal.

- In 2022, the Authority treated 70,815,400 tgal, of which 18,805,954 tgal was billed. Stated differently, the Authority billed for 26.56% of the water it treated. In 2021, the Authority treated 69,898,600 tgal, of which 18,774,707 tgal was billed. Stated differently, the Authority billed for 26.86% of the water it treated. During 2020, the Authority treated 69,580,700 tgal, for which it billed 19,222,682 tgal, or 27.63% of what was treated was actually billed to customers. The difference between what is treated vs. that which is billed is attributed to direct inflow of storm water from combined sewer communities served and groundwater infiltration into the system from old and deteriorating sewer lines throughout the service area.

- The Authority maintained compliance with all debt covenants required by the governing Trust Indentures.

- Debt Service Coverage, when allowing for available revenue funds on hand at the beginning of the year was 5.94, which greatly exceeded the 1.10 Trust Requirements. In addition, stand-alone coverage without consideration to beginning balances was 2.11, which exceeded the required 1.00 Trust Requirement.

- On October 28, 2021, the Board of Directors (Board) adopted multi-year rate structure increasing customer service charges 7 percent for in 2022, 7 percent in 2023, 7 percent in 2024, 7 percent in 2025, and 7 percent in 2026.

REQUIRED FINANCIAL STATEMENTS

The financial statements of the Authority report information on the Authority's use of accounting methods that are similar to those used by private sector companies. These statements offer short-term and long-term financial information about its activities.

The Statement of Net Position includes all of the Authority's assets, deferred outflows of resources, liabilities, and deferred inflows of resources and provides information about the nature and amounts of investments in resources (assets) and obligations to Authority creditors (liabilities). The Statement of Net Position also provides the basis for computing rate of return, evaluating the capital structure of the Authority, and assessing the liquidity and financial flexibility of the Authority.

All of the current year's revenue and expenses are accounted for in the Statement of Revenues, Expenses, and Changes in Net Position. This statement measures the success of the Authority's operations over the past year and can be used to determine whether the Authority has successfully recovered all its costs through its sewage disposal rates and other fees. As required under the Authority's Trust Indenture, the Consulting Engineer, Hatch, has reviewed the rate structure and agrees that a 7 percent rate increase in 2023 is necessary to meet requirements of the Trust Indenture and financial obligations imposed under the federal consent decree rate model structure.

The third required financial statement is its Statement of Cash Flows. The primary purpose of this statement is to provide information about the Authority's cash receipts and cash payments during the reporting period. The statement reports cash receipts, cash payments, and net changes in cash resulting from operations, investing, and financing activities, and the change in cash during the reporting period.

Also included as part of the financial statements are statements related specifically to the Authority's two defined benefit plans: the Statement of Plan Net Position – Pension Trust Funds and the Statement of Changes in Plan Net Position – Pension Trust Funds. These pension plans are described in detail in the notes to the financial statements.

The notes to the financial statements provide required disclosures and other information that are essential to a full understanding of material data provided in the statements. The notes present information about the Authority's accounting policies, significant account balances and activities, material risks, obligations, commitments, contingencies, and subsequent events, if any.

SUMMARY OF ORGANIZATION AND BUSINESS

The Allegheny County Sanitary Authority was incorporated in May 1945 under the Commonwealth of Pennsylvania Municipality Authorities Act of 1945. Plant operations began on April 30, 1959. The Authority serves as the exclusive agency for the collection, transportation, and treatment of wastewater for the city of Pittsburgh and 82 neighboring municipalities. The Authority charges users for processing of wastewater at a flat rate per thousand gallons. Additional charges are levied for septage (solid waste removed from septic tanks) and industrial waste discharges into the system.

In addition to the main treatment site located on the City of Pittsburgh's Northside, the Authority operates and maintains over 85 miles of interceptor sewers, and seven pumping or ejector stations throughout the service area. The Authority's service area covers over 310 square miles and includes portions of Washington and Westmoreland Counties in addition to Allegheny County.

The Authority's Articles of Incorporation (Articles), as amended, provide that the Authority's Board shall consist of seven members serving staggered five-year terms. Pursuant to the Articles, three members of the Board are appointed by the County, three are appointed by the City of Pittsburgh, and one is jointly appointed by the County and the City of Pittsburgh. The day-to-day operation of the Authority is the responsibility of the Executive Director, who is appointed by the Board to carry out its policies.

FINANCIAL ANALYSIS

The following comparative condensed financial statements and other selected information provides key financial data and indicators for management, monitoring, and planning.

Condensed Statements of Net Position (Balance Sheet)
(In Millions of Dollars)

	2022	2021	$ Change	% Change
Current assets	$390.31	$329.57	$60.74	18.43%
Restricted/designated assets	352.98	205.16	147.82	72.05%
Prepaid bond costs	6.95	5.33	1.62	30.39%
Plant and equipment, net	828.59	708.60	119.99	16.93%
Net pension asset	24.14	1.68	22.46	1336.90%
Total Assets	1,602.97	1,250.34	352.63	28.20%
Deferred Outflows of Resources	27.31	33.90	-6.59	-19.44%
Current liabilities	68.93	64.85	4.08	6.29%
Long-term liabilities	961.23	716.79	244.44	34.10%
Total Liabilities	1,030.16	781.64	248.52	31.79%
Deferred Inflow of Resources	40.18	32.04	8.14	25.41%
Net Position	$559.94	$470.56	$89.38	18.99%

Condensed Statements of Net Position (Balance Sheet)
(In Millions of Dollars)

	2021	2020	$ Change	% Change
Current assets	$329.57	$280.56	$49.01	17.47%
Restricted/designated assets	205.16	272.81	-67.65	-24.80%
Prepaid bond costs	5.33	5.82	-0.49	-8.42%
Plant and equipment, net	708.60	643.50	65.10	10.12%
Net pension asset	1.68	0.00	1.68	0.00%
Total Assets	1,250.34	1,202.69	47.65	3.96%
Deferred Outflows of Resources	33.90	34.59	-0.69	-1.99%
Current liabilities	64.85	47.78	17.07	35.73%
Long-term liabilities	716.79	759.63	-42.84	-5.64%
Total Liabilities	781.64	807.41	-25.77	-3.19%
Deferred Inflow of Resources	32.04	28.30	3.74	13.22%
Net Position	$470.56	$401.57	$68.99	17.18%

Condensed Statements of Revenues, Expenses And Changes in Net Position (In Millions of Dollars)

	2022	2021	$ Change	% Change
Operating revenues	$211.52	$197.36	$14.16	7.17%
Non-operating revenue	7.30	0.26	7.04	2707.69%
Total revenues	218.82	197.62	21.20	10.73%
Operating expenses	90.44	84.27	6.17	7.32%
Non-operating expenses	17.53	22.63	-5.10	-22.54%
Depreciation	21.47	21.73	-0.26	-1.20%
Total expenses	129.44	128.63	0.81	0.63%
Net income (loss)	89.38	68.99	20.39	29.56%
Net Position, Beginning of Year	470.56	401.57	68.99	17.18%
Net Position, End of Year	$559.94	$470.56	$89.38	18.99%

Condensed Statements of Revenues, Expenses And Changes in Net Position (In Millions of Dollars)

	2021	2020	$ Change	% Change
Operating revenues	$197.36	$186.80	$10.56	5.65%
Non-operating revenue	0.26	2.00	-1.74	-87.00%
Total revenues	197.62	188.80	8.82	4.67%
Operating expenses	84.27	84.28	-0.01	-0.01%
Non-operating expenses	22.63	37.22	-14.59	-39.20%
Depreciation	21.73	22.37	-0.64	-2.86%
Total expenses	128.63	143.87	-15.24	-10.59%
Net income (loss)	68.99	44.93	24.06	53.55%
Net Position, Beginning of Year	401.57	356.64	44.93	12.60%
Net Position, End of Year	$470.56	$401.57	$68.99	17.18%

OTHER SELECTED INFORMATION

Selected Data:	2022	2021		Difference	%Change
Authorized employees	541	531		10	1.88%
Actual employees at year-end	422	410		12	2.93%
Wastewater treated (billons of gallons)	70,815	69,899		916	1.31%
Wastewater billed (billions of gallons)	18,806	18,775		31	0.17%
Percentage of billed/treated wastewater	26.56%	26.86%		-0.30%	-1.13%
Rates:					
Charge per 1,000 gallons of water consumption	$9.73	$9.10		$0.63	6.92%
Account service charge per bill rendered	$20.45	$19.11		$1.34	7.01%
Average customer bill:					
Per year	$548.84	$513.24	*	35.60	6.94%
Per quarter	137.21	128.31	*	8.90	6.94%
Per month	45.74	42.77	*	2.97	6.94%

* Based on 12,000 Gallons per quarter

GENERAL TRENDS AND SIGNIFICANT EVENTS

On September 19, 2019, the United States lodged with the Courts a Proposed Modified Consent Decree. On October 2, 2019, the Modified Consent Decree was published in the Federal Register for a 60-day public comment period. The Federal Government accepted comments from October 2, 2019 to December 2, 2019. The Federal Government considered each comment and responded to the public comments (39 written pages) and presented the response to the U.S. District Court.

After the courts reviewed the public comments, the Modified Consent Decree did not change, and as a result, the Modified Consent Decree was entered into the Courts on May 14, 2020. In consideration with the public comments and government responses, the agencies and the courts indicated that the Modified Consent Decree is fair, adequate, reasonable, and consistent with the purpose of the Clean Water Act and the Clean Streams Law.

The Modified Consent Decree replaces the consent decree that the Court entered on January 24, 2008. The Modified Consent Decree: (1) approves portions of the Wet Weather Plan that the Authority was required to develop pursuant to the 2008 Consent Decree; (2) extends the time frame in which the Authority must implement the Wet Weather Plan; and (3) allows the Authority to propose future amendments to the Wet Weather Plan, which might include replacing some proposed control technologies with source reduction measures such as green infrastructure controls.

Appendix Z to the Modified Consent Decree summarizes the construction projects and activities for the Interim Wet Weather Plan which are major components of the Wet Weather Plan. The Authority identifies the approved Wet Weather Plan as the Clean Water Plan.

Summary of Appendix Z

The Authority will complete the Interim Wet Weather Plan (IWWP) by December 31, 2036. Because uncertainties remain regarding the most optimal mix of source reduction measures, an adaptive management framework is necessary to provide for expeditious and affordable program implementation. This framework will provide opportunities to evaluate and integrate green infrastructure and other flow management practices, while prioritizing the regionalization of inter-municipal trunk sewers and key grey infrastructure projects where most cost-effective.

Because the identification of specific flow management project commitments requires on-going coordination with customer municipalities, the IWWP is premised on a phased implementation framework that supports early implementation of green projects, demonstration of effectiveness, and the substitution or reduction of grey infrastructure where flow management measures can be shown to provide equivalent system-wide overflow reduction performance. Accordingly, the framework includes adaptive management milestones where new information can be used to propose modifications to the projects and interim implementation schedules identified herein.

The IWWP is divided into three phases designed to support the adaptive management framework.

Phase 1 projects include highly effective treatment plant expansion projects, preliminary planning projects that will inform adaptive Phase 2 and 3 projects, and existing infrastructure inspection and rehabilitation. Additional detail is as follows:

- **Regional Flow Optimization Strategy and Preliminary Planning.**

  The Authority will work jointly with its customer municipalities to assess the effectiveness of green infrastructure, stream inflow removal, inflow/infiltration reduction, and existing system asset management through preliminary planning and demonstration projects. The resulting regional flow optimization strategy will identify flow management measures to be adaptively incorporated into Phases 2 and 3 and establish the basis of design for Phase 2 and Phase 3 tunnel projects, including any appropriate downsizing. The preliminary basis of design report will include refined tunnel and consolidation sewer construction schedules.

- **Woods Run Wastewater Treatment Plant Expansion.**

  The Authority will expand wet weather treatment capacity of the plant from 250 mgd to 480 mgd and wet weather headworks and disinfection capacity to 600 mgd. It is anticipated that these facilities will be complete and in operation between January 1, 2024 through December 30, 2025.

- **Existing Infrastructure Inspection/Rehabilitation.**

  The Authority will continue its operation and maintenance practices for existing infrastructure, including establishing re-inspection and priority rehabilitation schedules.

Phase 2 projects include high priority conveyance and treatment system improvements. These projects include:

- A wet weather pumping station,
- Expanded primary treatment,
- The Ohio River tunnel segment, including crossings to the existing Chartiers Creek and Saw Mill Run interceptor systems, and
- Cost-effective optimization of the Authority's existing tunnel network.

Phase 3 projects include projects that may be proposed for a modification based on the outcome of Phase 1 and Phase 2 evaluations and demonstration projects.

The IWWP currently includes an estimated $1.8 billion (in 2010 dollars) in identified Authority projects. It is expected that the regional flow optimization strategy, the regionalization of Intermunicipal Trunk Sewers and Associated Facilities, Municipal Source Reduction Studies, and Municipal Source Reduction Measures will identify additional Authority and municipal projects. The established adaptive management framework allows the Authority to submit a request to the Federal and State Government for revising the IWWP such that any alternate controls must achieve equivalent or better system-wide performance than the unaltered IWWP. The Authority will remain committed to close coordination with its customer municipalities in updating regional financial capability analyses so that proposed IWWP revisions do not result in a regional residential indicator greater than 2% of the median household income.

Regionalization

The Authority has committed to make a good faith effort to take responsibility of at least 200 miles of existing Intermunicipal Trunk Sewers and Associated Facilities, including responsibility for controlling associated overflows transferred to the Authority. The Authority has conducted closed-circuit television inspections of these sewers, determined what repairs and improvements are necessary, and is now in the process of working with municipalities to transfer ownership and make the necessary repairs.

Clean Water Plan Construction

The Authority is undergoing a major plant expansion in support of the Clean Water Plan, more than doubling our wet weather treatment capacity to meet the region's wastewater treatment needs. The expansion consists of nine design and construction packages. Construction began in 2020 and is expected to conclude in 2029. There are currently six packages under construction.

The North End Plant Expansion includes adding two additional final clarifiers that will bring our total to 18 final clarifiers that provide secondary treatment to our plant flows. With the additional clarifiers, our secondary treatment capacity will increase to 295 million gallons per day (MGD). Also, a new final disinfection tank will disinfect plant flows prior to discharging into the Ohio River. Construction contracts were awarded for the North End Plant Expansion in 2020. Work in 2022 focused on construction of the chlorine contact tank and the eastern of the two final clarifiers. Work in 2023 will focus on the Secondary Effluent Conduit extension, chlorine contact tank, and chemical building. Construction will continue through 2025.

The East Headworks package entered construction in 2021 with the purpose of increasing our preliminary treatment capacity to a maximum flows of 600 MGD. It is anticipated that the East Headworks facility, to be located in the heart of the current plant footprint, will be completed by the end of 2024.

Future construction of the two new primary sedimentation tanks to increase wet weather capacity will require demolition of our existing Laboratory and Industrial Waste buildings. A new facility, called the Environmental Compliance Facility (ECF), to house both the laboratory and the industrial waste personnel is being constructed. The ECF will be located at the site of the previous union personnel parking lot, adjacent to the newly constructed parking garage. Construction began in late 2022 and will continue through 2024.

The future Wet Weather Pump Station will be constructed in the same location as the existing 5KV substation. A new 5KV substation will be constructed to replace the existing Substation. As a result, the Electrical Distribution System Upgrade project is reconfiguring the electrical distribution systems to re-feed existing loads currently fed from the existing 5KV substation, as well as prepare the Plant for the increased electrical loads associated with the Plant Expansion. Construction began in 2021 and will continue in 2023.

The increased wet weather capacity at the treatment plant will be achieved by bypassing flows that exceed secondary capacity to a wet weather outfall. The current chlorine contact tank will be modified to reverse flows through the existing tank and a new outfall will be constructed at the north end of the tank. The CSO Bypass and Disinfection project will provide a new chemical feed and storage system for disinfection of the wet weather flows. Also, a flow control structure and conduit will be constructed to route the bypass flows from the primary effluent channel to the modified chlorine contact tank. Construction contracts have been awarded and work will begin in 2023.

Contracts to upgrade the existing Return Activated Sludge (RAS) pump stations with larger pumps and replacing the RAS piping with larger pipe were awarded in 2020. This project allows for increased flow from the existing and new Secondary clarifiers; this is required to increase our “return” flows to keep up with the increased “forward” flows the plant will receive and treat following the plant expansion. Additionally, flow control valves have been installed to better split the RAS flows to the various aeration tanks. Construction will be completed in 2023.

Green Infrastructure

The Authority has committed $200 million towards this strategy, including support for municipal flow reduction partnerships. The Authority's Green Revitalization of Our Waterways Program (GROW) has awarded over $74 million so far in grants to our member municipalities dedicated to green infrastructure.

Clean Water Assistance Program

Recognizing that increasing rates will have a negative impact on our service area's most vulnerable ratepayers, the Authority implemented a customer assistance program in 2017. Qualified homeowners who meet family income limits set by the federal government will receive approximately the first 4,000 gallons of quarterly consumption free. In 2022, this resulted in approximately 2,570 Authority customers receiving an annual credit of $160.

For 2023, the quarterly assistance payment was increased to $42 per quarter, or an annual credit of $168. The program is being administered by the nationally recognized Dollar Energy Fund. The Authority expects participation in the program to grow as rates continue to increase in order to fund compliance with the consent decree.

FINANCIAL CONDITION

The Authority continued to achieve outstanding financial results in 2022 improving upon already solid debt service coverage ratios and days cash on hand. Debt service coverage increased to 210.74 percent in 2022 surpassing last year's coverage of 188.98 percent. When considering beginning cash balances available after reserving 25 percent, the Authority achieved a record 594.30 percent debt service coverage in 2022. In their May 2019 issue of OUTLOOK, Moody's Investor Services highlighted the Authority's strong liquidity position by noting its achievement of 684 days cash on hand in 2018. Liquidity improved even further in 2019 with days cash on hand increasing to 780 days, and again in 2020 with days cash on hand of 907 days. Cash on hand at the end of 2021 and 2022 increased yet again to 1,110 and 1,257 days, respectively. While unrestricted for its use, a portion of this cash is anticipated to be used to fund the Authority's substantial capital program.

RESULTS OF OPERATIONS

Operating Revenue:

Operating revenues of $211.52 increased 7.17 percent over 2021, reflecting a 7 percent increase in customer rates implemented at the beginning of the year complimented by a small increase in overall consumption. Overall billed consumption increased by 31,000 tgals for the year compared to 2021. Commercial consumption increased by 220,000 tgals as businesses continued reopening as restrictions related to COVID-19 eased. This increase was largely offset by a decrease in residential consumption by 189,000 tgals. The decrease in residential consumption was also impacted by COVID-19, as less time was spent in local residences than in the previous year.

Almost all of the Authority's revenue was derived from customer billing for sewage treatment service, the Authority received no subsidies and $247,500 in grants. The Authority, the City of Pittsburgh, and 82 other municipalities in and around Allegheny County have entered into agreements (Standard Municipal

Agreements) under which the Authority is designated (within its service area) the exclusive agent of the respective municipality to furnish sewage treatment and disposal service. Each municipality contracting with the Authority is given two options with respect to billing, "Direct" or "Lump-sum." With the Direct method of billing, accounts not paid within 60 days become the responsibility of the community; thus, the Authority insures no bad debt. Under the Direct method, Authority bills and collects for its services directly from the individual customer. Under the Lump-sum method, consumption for the entire community is compiled and billed to the municipality, which in turn bills its own residents. All but three municipalities utilize this method of billing in order to attach fees for local sewer infrastructure maintenance. Under both scenarios, the Authority is guaranteed full payment for services.

Operating Expenses:

Operating expenses in 2022 of $90.44 million increased by 7.32 percent over the 2021 operating expenses of $84.27 million. In 2022, outside Interceptor cleaning contracts added to the cost of maintaining the collection system; some of these costs did not occur in 2021. General inflation has also impacted the cost of items that are used in operating and maintaining the plant. Also, contributing to the increase is that while the Authority hired approximately 34 employees in 2022, there were 25 employees who either retired or left the Authority, as such there are nine more employees in 2022 as compared to 2021.

Depreciation and Non-operating Expenses:

Depreciation expense decreased slightly by $260,000 as a result plant assets becoming fully depreciated. During 2020 the Authority recognized a $4.6 million loss on disposal of fixed assets related to a building that stored plant chemicals that had to be demolished for plant expansion purposes. There was no such loss on disposal of assets in 2021 or 2022 as no plant assets were disposed of during the year. The Authority is in a period of growth to comply with the Clean Water Plan as described earlier in the General Trends and Significant Events section of this Management Discussion and Analysis. It is expected that construction in progress will continue to grow substantially through the completion of the Clean Water Plan anticipated to be completed in 2036.

More detailed information about the Authority's capital assets and the Clean Water Plan is presented in the notes to the financial statements.

Non-operating expenses also reflect changes to pension funding calculated under GASB Statement No. 68 and the 2018 implementation of GASB Statement No. 75 related to Other Post-Employment Benefits. Calculations with regard to both GASB Statement Nos. 68 and 75 are prepared by the Authority's Actuary. In addition, GASB Statement No. 89 implemented in 2019 resulted in the elimination of the capitalization of interest expense on capital projects. The result was an increase in recognized interest revenues and bond interest expense that would have been shown net and capitalized as part of capital assets under construction.

Non-operating Revenues:

Interest earnings on the Authority's revenue and non-restricted capital facilities funds increased by almost $7 million as interest rates on money market and treasury holdings increased substantially in 2022 over the negligible returns in 2021.

The Authority recognized $247,500 in grant income from the Redevelopment Authority of Allegheny County related to funds received for a capital project. The Authority has applied for both Commonwealth of Pennsylvania and Federal grants that may be awarded in the upcoming year(s).

Litigation Contingency:

As noted above, the Authority has finalized an agreement with U.S. EPA, Pennsylvania DEP, and the Allegheny County Health Department (Agencies) regarding wet weather overloads in the sanitary sewer system. The agreement called for the payment of civil penalties in the amount of $400,000 to each of the three noted agencies. As of January 8, 2009, all of the above-noted agencies have been paid.

Additional penalties may be incurred if the Authority fails to meet specific project deadlines as detailed in the agreement.

Debt:

At year-end, the Authority had $979.24 million in long- and short-term debt.

During 2022, the Authority issued $267,150,000 in Sewer Revenue Bonds to provide additional funding for the Capital Improvement program. Previously during 2020, the Authority issued $153,995,000 in Sewer Revenue Bonds to current refund the then outstanding Series 2010 Sewer Revenue Bonds and to provide additional funds for the Capital Improvement Program. The Authority recognized a cash flow savings of almost $39 million on the refunding.

The Authority did not issue any new debt in 2021 but continued to fund the long-term capital plan from bond proceeds from existing issues.

More detailed information about the Authority's long-term debt is presented in the notes to the financial statements.

FINAL COMMENTS

In announcing the filing of the Modified Consent Decree on September 19, 2019, Executive Director Arletta Scott Williams publically noted her pleasure at the positive results achieved over the course of negotiations with the Agencies. "We heard the public's input on the first plan, especially when it came to the price tag associated with making these required changes to our system. Being able to reduce the cost to ratepayers, extending the timetable to 2036 and having the ability to adapt the plan to include new advances in stormwater management are all key to reaching our goal of reducing overflows."

Recognizing that increasing rates to fund the Consent Decree will have a negative financial impact on many households in our service area, the Authority implemented a customer assistance program in 2017 providing, in effect, the first 4000 gallons of consumption per quarter free. In 2018, the Authority increased the quarterly assistance payment from $30 to $32, and has continued to increase the quarterly assistance payment each year. The Authority has announced that for 2023, the quarterly assistance payment will increase to $42.

You have the opportunity to become an informed participant in this program. Become familiar with the Consent Decree by reviewing it on-line at *www.alcosan.org* or by contacting our Public Relations Department for a copy.

CONTACTING THE AUTHORITY'S FINANCIAL MANAGER

This financial report is designed to provide our citizens, customers, and creditors with a general overview of the Authority's finances and to demonstrate the Authority's accountability for the money it receives. If you have any questions about this report or need additional financial information, contact the Allegheny County Sanitary Authority's Director of Finance at 3300 Preble Avenue, Pittsburgh, PA 15233.

ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF NET POSITION

DECEMBER 31, 2022 AND 2021

Assets and Deferred Outflows of Resources

	2022	2021
Assets:		
Current assets:		
Cash and cash equivalents	$ 311,516,031	$ 256,262,201
Accounts receivable:		
Billed sewer revenue	23,428,325	20,251,775
Unbilled sewer revenue	48,333,723	46,174,198
Other	84,200	145,244
Other current assets	6,943,836	6,736,857
Total current assets	390,306,115	329,570,275
Restricted/designated assets:		
Cash and cash equivalents	111,375,912	205,156,065
Investments	240,867,599	-
Accrued interest receivable	732,112	-
Total restricted/designated assets	352,975,623	205,156,065
Prepaid bond costs	6,953,344	5,333,878
Nondepreciable capital assets:		
Land	13,343,651	5,344,896
Construction in progress	197,768,039	170,406,333
Total nondepreciable capital assets	211,111,690	175,751,229
Depreciable capital assets - at cost, net of accumulated depreciation	617,483,584	532,844,107
Total	828,595,274	708,595,336
Net pension asset	24,141,265	1,680,266
Total Assets	1,602,971,621	1,250,335,820
Deferred Outflows of Resources:		
Related to pensions	20,709,578	26,830,110
Related to other post-retirement benefits	2,428,808	2,392,336
Refunding adjustment	4,170,832	4,682,815
Total Deferred Outflows of Resources	27,309,218	33,905,261
Total Assets and Deferred Outflows of Resources	$ 1,630,280,839	$ 1,284,241,081

Liabilities, Deferred Inflows of Resources, and Net Position

	2022	2021
Liabilities:		
Current liabilities:		
Accounts payable	$ 13,347,080	$ 9,426,774
Accounts payable - capital	9,294,858	11,618,234
Accrued liabilities:		
Compensated absences	5,274,999	5,640,410
Salaries and wages	2,138,052	2,064,530
Accrued interest on bonds	3,673,712	2,473,080
Reserve for litigation	2,371,900	2,371,900
Current maturities of sewer revenue bonds	32,830,000	31,255,000
Total current liabilities	68,930,601	64,849,928
Long-term liabilities:		
Other post-employment benefits	14,817,512	14,074,940
Net pension liability	-	1,344,126
Sewer revenue bonds - less current maturities	873,560,000	639,240,000
Unamortized bond premium	72,852,963	62,134,271
Net long-term debt	946,412,963	701,374,271
Total long-term liabilities	961,230,475	716,793,337
Total Liabilities	1,030,161,076	781,643,265
Deferred Inflows of Resources:		
Related to pensions	36,738,124	28,103,085
Related to other post-retirement benefits	3,444,236	3,934,376
Total Deferred Inflows of Resources	40,182,360	32,037,461
Net Position:		
Net investment in capital assets	206,498,766	185,804,945
Unrestricted	329,297,372	283,075,144
Restricted - pension	24,141,265	1,680,266
Total Net Position	559,937,403	470,560,355
Total Liabilities, Deferred Inflows of Resources, and Net Position	$ 1,630,280,839	$ 1,284,241,081

The notes to financial statements are an integral part of this statement.

ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEARS ENDED DECEMBER 31, 2022 AND 2021

	2022	2021
Operating Revenues	$ 211,516,526	$ 197,355,657
Operating Expenses:		
Treatment	54,028,555	50,925,066
Intercepting sewer systems	10,592,060	8,693,262
Upper Allegheny system	429,310	398,157
Administrative and engineering	16,662,143	16,108,332
Billing and collecting	4,333,268	4,052,673
Management information systems	4,393,392	4,088,595
Total operating expenses before depreciation	90,438,728	84,266,085
Operating Income Before Depreciation	121,077,798	113,089,572
Depreciation	21,471,883	21,731,168
Operating Income	99,605,915	91,358,404
Non-operating Revenues (Expenses):		
Intergovernmental grants	247,500	-
Interest income	7,049,207	100,243
Interest expense on bonds	(25,903,240)	(25,729,360)
Amortization of prepaid bond costs	(455,928)	(481,184)
Capital fees recognized	-	159,694
Change in value of pension related items	9,049,554	3,881,925
Change in value of OPEB related items	(215,960)	(303,596)
Total non-operating revenues (expenses)	(10,228,867)	(22,372,278)
Change in Net Position	89,377,048	68,986,126
Net Position:		
Beginning of year	470,560,355	401,574,229
End of year	$ 559,937,403	$ 470,560,355

The notes to financial statements are an integral part of this statement.

ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF CASH FLOWS

YEARS ENDED DECEMBER 31, 2022 AND 2021

	2022	2021
Cash Flows From Operating Activities:		
Cash received from customers	$ 207,816,493	$ 195,278,186
Cash paid to suppliers	(27,306,180)	(28,263,416)
Cash paid to employees	(59,711,108)	(58,287,837)
Net cash provided by (used in) operating activities	120,799,205	108,726,933
Cash Flows From Capital and Related Financing Activities:		
Interest paid on bonds	(29,661,282)	(31,110,606)
Principal paid on bonds	(31,255,000)	(28,785,000)
Proceeds from debt issues	267,150,000	-
Bond premium	16,189,349	-
Prepaid bond costs	(2,075,394)	-
Acquisition and construction of capital assets	(143,795,197)	(69,919,833)
Capital fees	-	159,694
Intergovernmental grants	247,500	-
Net cash provided by (used in) capital and related financing activities	76,799,976	(129,655,745)
Cash Flows From Investing Activities:		
Purchase of investment securities	(240,797,642)	-
Proceeds from sale and maturities of investment securities	-	-
Interest earnings	6,247,138	100,243
Net cash provided by (used in) investing activities	(234,550,504)	100,243
Increase (Decrease) in Cash and Cash Equivalents	(36,951,323)	(20,828,569)
Cash and Cash Equivalents:		
Beginning of year, including $205,156,065 and $272,815,362, respectively, in restricted/designated accounts	461,418,266	482,246,835
End of year, including $111,375,912 and $205,156,065, respectively, in restricted/designated accounts	$ 424,466,943	$ 461,418,266
Noncash Capital and Related Financing Activities:		
Property, plant, and equipment additions reflected in accounts payable	$ 9,294,858	$11,618,234
Reconciliation of Operating Income to Net Cash Provided by (Used in) Operating Activities:		
Operating income	$ 99,605,915	$ 91,358,404
Adjustments to reconcile operating income to net cash provided by (used in) operating activities:		
Depreciation	21,471,883	21,731,168
Change in operating assets and liabilities:		
Accounts receivable	(5,275,031)	(2,074,872)
Other current assets	(206,979)	(102,423)
Accounts payable	3,920,306	(1,952,498)
Accrued liabilities	(291,889)	(230,246)
Pretreatment advance payments	1,575,000	(2,600)
Net adjustments	21,193,290	17,368,529
Net cash provided by (used in) operating activities	$ 120,799,205	$ 108,726,933

The notes to financial statements are an integral part of this statement.

ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF FIDUCIARY NET POSITION
PENSION TRUST FUNDS

DECEMBER 31, 2022 AND 2021

	2022	2021
Assets		
Dividends and interest receivable	$ 642,162	$ 558,901
Cash and cash equivalents	3,807,257	2,058,577
Investments at fair value:		
U.S. government securities	41,051,215	44,324,934
Corporate bonds	29,712,274	36,861,123
Equity securities	113,571,519	150,196,717
Municipal bonds	710,241	1,081,975
Foreign bonds	2,192,104	1,494,444
Mortgages	4,789,309	2,154,192
ETFs	7,898,662	8,451,188
Mutual funds	1,410,717	1,649,685
Asset backed securities	1,062,229	785,227
Noncorporate bonds	-	1,212,795
Total investments at fair value	202,398,270	248,212,280
Total Assets	$ 206,847,689	$ 250,829,758
Liabilities and Net Position		
Liabilities:		
Other payables	$ -	$ -
Net Position:		
Net position restricted for pension benefits	206,847,689	250,829,758
Total Liabilities and Net Position	$ 206,847,689	$ 250,829,758

The notes to financial statements are an integral part of this statement.

ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION
PENSION TRUST FUNDS

YEARS ENDED DECEMBER 31, 2022 AND 2021

	2022	2021
Additions:		
Contributions:		
Employer	$ 7,135,857	$ 6,975,495
Employee	592,553	567,841
Total contributions	7,728,410	7,543,336
Investment income:		
Net appreciation (depreciation) in fair value of investments	(48,915,228)	7,680,760
Realized gain (loss)	4,046,712	25,835,489
Interest and dividends	4,282,521	3,897,815
Total investment income	(40,585,995)	37,414,064
Other income	21,138	70,315
Total additions	(32,836,447)	45,027,715
Deductions:		
Benefits	10,690,346	9,612,785
Distribution expenses	165,483	125,192
Administrative expense	289,793	385,260
Total deductions	11,145,622	10,123,237
Change in Plan Net Position	(43,982,069)	34,904,478
Net Position:		
Beginning of year	250,829,758	215,925,280
End of year	$ 206,847,689	$ 250,829,758

The notes to financial statements are an integral part of this statement.

1. Organization

The Allegheny County Sanitary Authority (Authority) was incorporated in May 1945 under the Commonwealth of Pennsylvania Municipality Authorities Act of 1945. The Authority serves as the exclusive agency for the collection, transportation, and treatment of wastewater for the City of Pittsburgh and 82 neighboring municipalities. The Authority charges users for processing of wastewater at applicable rates. Additional charges are levied for septage (solid waste removed from septic tanks) and industrial waste discharges into the system.

In evaluating the Authority as a primary government in accordance with Governmental Accounting Standards Board (GASB) guidance, management has addressed all potential component units. The criteria used by the Authority to evaluate possible inclusion of related entities within its reporting entity are financial accountability and the nature and significance of the relationship.

Upon review of the criteria above, the Authority determined that there were no potential component units that met the criteria for inclusion in the reporting entity.

The Authority operates as a stand-alone entity governed by a Board of Directors appointed by the City of Pittsburgh and County of Allegheny. Neither the City of Pittsburgh nor the County of Allegheny appoints a voting majority of the Authority's Board of Directors.

2. Summary of Significant Accounting Policies

<u>Measurement Focus</u>

The Authority uses "income determination" as its measurement focus. Accordingly, all assets, liabilities, deferred inflows, and deferred outflows are included on the balance sheet and net position reflects the economic net worth of the Authority. The operating statement reflects the change in total economic net worth for the period, presented through revenues and expenses of the Authority.

<u>Fiduciary Funds</u>

Fiduciary funds are used to account for assets held in a trustee capacity. The Authority reports the following fiduciary funds:

The *Pension Trust Funds* are used to account for employee retirement systems.

- The Management Pension Fund accounts for assets of the Authority management employees' retirement pension plan.

- The Union Pension Fund accounts for assets of the Authority union employees' retirement pension plan.

Basis of Accounting

The financial statements of the Authority for the years ended December 31, 2022 and 2021 have been prepared on the accrual basis of accounting. Under the accrual basis of accounting, revenues are recognized when earned and expenses are recognized when incurred.

Cash and Cash Equivalents

For purposes of the statements of cash flows, the Authority considers all highly liquid investments with a maturity of three months or less when purchased to be cash and cash equivalents.

Investments

Investments are recorded at fair value at December 31, 2022 and 2021.

The Authority categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

Accounts Receivable

Accounts receivable consist of amounts due from customers, lump-sum billings to municipalities (which in turn bill customers individually), and estimated unbilled services since the previous billing.

Under the terms of the respective servicing agreements, each local municipality is responsible for the payment to the Authority and subsequent collection of individual customer billings outstanding over 60 days. Accordingly, an allowance for doubtful accounts is currently not considered necessary by management.

Prepaid Bond Costs

Certain prepaid bond issue and surety bond costs are deferred and amortized over the life of the related outstanding bonds. The original amortization periods are as follows:

Description	Amortization Period
2013 Bonds	31 years
2015 Bonds	30 years
2016 Bonds	21 years
2018 Bonds	30 years
2020 Bonds	30 years
2022 Bonds	30 years

Refunding Adjustment

In accordance with GASB pronouncements, the excess of the reacquisition price over the net carrying amount of debt refunded with proceeds from Series 2020, Series 2016, and Series 2015 Bonds were recorded as refunding adjustments. The refunding adjustments are being amortized using the effective interest method over the originally scheduled life of the defeased issues, which extend to 2051, 2037, and 2045 respectively. The unamortized balances are reflected as deferred outflows of resources.

Capital Assets

Capital assets are recorded at cost. Depreciation of capital assets is provided for on the straight-line method based on the estimated useful lives of the various classes of assets. Maintenance and repairs are charged to expense as incurred. Estimated useful lives of major classes of assets are as follows:

Land improvements	40 years
Buildings and improvements	50 years
Utility plant in service	60 years
Machinery and equipment	3-20 years

The cost of the study for a potential capital project is capitalized in construction in progress. Upon commencement of the related capital project, the cost of the study is allocated to the project. Upon the Authority's final determination that a project is not viable, the cost of the study is expensed.

Deferred Outflows and Inflows of Resources

In addition to assets and liabilities, the statement of net position will sometimes report separate sections for deferred outflows and deferred inflows of resources. Deferred outflows of resources represent a consumption of net position that applies to a future period while deferred inflows of resources represents an acquisition of net position that applies to future periods.

Compensated Absences

Vested or accumulated vacation and sickness leave are recorded as a liability and expensed as the benefits accrue to employees.

Pension Plans

Substantially all full-time employees of the Authority are enrolled in one of two single-employer defined benefit pension plans. For purposes of measuring the net pension liability, deferred outflows of resources related to pensions, and pension expense, information about the fiduciary net position of the pension plans, as well as additions to and deductions from the pension plan fiduciary net position have been determined using the economic resources measurement focus and accrual basis of accounting. Employer contributions are recognized when due and the employer has a legal requirement to provide the contributions. Investments are reported at fair value.

Post-retirement Benefits

The Authority provides certain health insurance benefits to retirees. The costs of these benefits are recognized in accordance with accounting principles generally accepted in the United States of America and are funded when paid.

Deferred Compensation Plan

The Authority offers its employees a deferred compensation plan (plan) created in accordance with Internal Revenue Code Section 457. The plan, available to all employees, permits them to defer a portion of their salaries until future years. Participation in the plan is optional. The deferred compensation is not available to the employee until termination, retirement, death, or unforeseeable emergency. At December 31, 2022 and 2021, all amounts of compensation deferred under the plan, all property and rights purchased with those amounts, and all income attributable to those amounts, are held in trust solely for the benefit of the participants. Investments are managed by the plan's trustee under several investment options selected by the participant. Under applicable GASB pronouncements, the plan is not required to be included in the Authority's financial statements.

Net Position

The Authority is required to report three components of net position:

Net Investment in Capital Assets – This component of net position consists of capital assets net of accumulated depreciation and is reduced by the outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets.

Restricted – This component of net position consists of constraints placed on net position use through external restrictions. The Authority has restricted net position related to its debt service reserves, as required by the bond indenture, as well as restricted net position related to pension benefits for the Authority's pension plan.

Unrestricted – This component of net position consists of net position that does not meet the definition of "restricted" or "net investment in capital assets."

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Management makes significant estimates regarding the amount of unbilled accounts receivable, estimated useful lives of assets, depreciation, reserves for accrued litigation, actuarial valuations of the pension plans and other post-employment benefits liabilities, and environmental contingencies.

Adopted Pronouncements

The following GASB Statements were adopted for the year ended December 31, 2022: Statement Nos. 87 (Leases), 91 (Conduit Debt Obligations), 92 (Omnibus 2020), 97 (Deferred Compensation Plans), and 99 (Omnibus 2022 – paragraphs 26 through 32). These statements had no significant impact on the Authority's financial statements for the year ended December 31, 2022.

Pending Pronouncements

GASB has issued statements that will become effective in future years including 94 (Public-Private and Public-Public Partnerships), 96 (Information Technology Arrangements), 99 (Omnibus 2022), 100 (Accounting Changes and Error Corrections), and 101 (Compensated Absences). Management has not yet determined the impact of these statements on the financial statements.

3. Revenue Bonds

On December 19, 2013, the Authority issued $64,755,000 of Sewer Revenue Bonds Series of 2013, called the 2013 Bonds. The proceeds of the 2013 Bonds were used to provide additional funding for the Authority's capital projects in 2014 and 2015.

The 2013 Bonds were issued at a bond premium of $2,711,736, which is being amortized as an adjustment to interest expense over the life of the bonds, using the effective interest method.

The 2013 Bonds bear interest at rates ranging from 3.50% to 5.00%. Interest is payable in semiannual installments on June 1 and December 1 until maturity. The 2013 Bonds, which have a final maturity date of December 1, 2044, are subject to redemption prior to maturity. At December 31, 2022 and 2021, the 2013 Bonds payable consisted of $64,755,000.

On September 3, 2015, the Authority issued $265,270,000 of Sewer Revenue Bonds Series of 2015, called the 2015 Bonds. The proceeds of the bonds were used to currently refund all of the Authority's outstanding Sewer Revenue Bonds Refunding Series of 2005 and to provide additional funding for the Authority's capital projects.

The 2015 Bonds were issued at a premium of $36,708,408, which is being amortized as an adjustment to interest expense over the life of the bonds, using the effective interest method.

The 2015 Bonds bear interest at rates ranging from 2.00% to 5.00%. Interest is payable in semiannual installments on June 1 and December 1 until maturity. The 2015 Bonds, which have a final maturity date of December 1, 2045, are subject to redemption prior to maturity. At December 31, 2022 and 2021, the 2015 Bonds payable consisted of $159,850,000 and $190,060,000, respectively.

On September 8, 2016, the Authority issued $106,205,000 of Sewer Revenue Bonds Refunding Series of 2016, called the 2016 Bonds. The proceeds of the bonds were used to advance refund all of the Authority's outstanding Sewer Revenue Bonds Refunding Series of 2007 and to provide additional funding for the Authority's capital projects. The defeased bonds were repaid in full during 2017.

The 2016 Bonds were issued at a premium of $13,012,378, which is being amortized as an adjustment to interest expense over the life of the bonds, using the effective interest method.

The 2016 Bonds bear interest at rates ranging from 0.90% to 5.00%. Interest is payable in semiannual installments on June 1 and December 1 until maturity. The 2016 Bonds, which have a final maturity date of December 1, 2037, are subject to redemption prior to maturity. At December 31, 2022 and 2021, the 2016 Bonds payable consisted of $104,455,000.

On September 6, 2018, the Authority issued $157,230,000 of Sewer Revenue Bonds Series of 2018, called the 2018 Bonds. The proceeds of the bonds were to finance a portion of the Authority's capital budget for the years 2018 to 2020.

The 2018 Bonds were issued at a premium of $12,092,896, which is being amortized as an adjustment to interest expense over the life of the bonds, using the effective interest method.

The 2018 Bonds bear interest at rates ranging from 3.25% to 5.00%. Interest is payable in semiannual installments on June 1 and December 1 until maturity. The 2018 Bonds, which have a final maturity date of June 1, 2048, are subject to redemption prior to maturity. At December 31, 2022 and 2021, the 2018 Bonds payable consisted of $157,230,000.

On October 1, 2020, the Authority issued $153,995,000 of Sewer Revenue Bonds Series of 2020, called the 2020 Bonds. The proceeds of the bonds were used to advance refund all of the Authority's outstanding Sewer Revenue Bonds Series of 2010 and to provide additional funding for the Authority's capital projects. The refunded Series 2010 bonds were paid in full in 2020.

The 2020 Bonds were issued at a premium of $25,034,803, which is being amortized as an adjustment to interest expense over the life of the bonds, using the effective interest method.

The 2020 Bonds bear interest at rates ranging from 2.13% to 5.00%. Interest is payable in semiannual installments on June 1 and December 1 until maturity. The 2020 Bonds, which have a final maturity date of June 1, 2050, are subject to redemption prior to maturity. At December 31, 2022 and 2021, the 2020 Bonds payable consisted of $152,950,000 and $153,995,000, respectively.

This refunding resulted in an economic gain to the Authority of approximately $32.6 million and a decrease to the debt service payments of approximately $38.8 million. In connection with the 2020 debt refunding, the Authority recorded deferred refunding adjustments of approximately $110,000, which are being amortized as an adjustment to interest expense over the life of the bonds, using the effective interest method.

On November 10, 2022, the Authority issued $267,150,000 of Sewer Revenue Bonds Series of 2022, called the 2022 Bonds. The proceeds of the bonds were used to finance a portion of the Authority's capital budget for the years 2022 through 2024.

The 2022 Bonds were issued at a premium of $16,189,349, which is being amortized as an adjustment to interest expense over the life of the bonds, using the effective interest method.

The 2022 Bonds bear interest at rates ranging from 4.38% to 5.75%. Interest is payable in semiannual installments on June 1 and December 1 until maturity. The 2022 Bonds, which have a final maturity date of June 1, 2053, are subject to redemption prior to maturity. At December 31, 2022, the 2022 Bonds payable consisted of $267,150,000.

A summary of long-term debt is as follows for the years ended December 31, 2022 and 2021, respectively:

	Balance 1/1/2022	New Issue	Retired	Balance 12/31/2022	Unamortized Premium	Bonds Payable, net	Current Portion
2013 Series	$ 64,755,000	$ -	$ -	$ 64,755,000	$ 1,541,367	$ 66,296,367	$ -
2015 Series	190,060,000	-	(30,210,000)	159,850,000	16,070,755	175,920,755	31,720,000
2016 Series	104,455,000	-	-	104,455,000	8,066,708	112,521,708	-
2018 Series	157,230,000	-	-	157,230,000	9,634,071	166,864,071	-
2020 Series	153,995,000	-	(1,045,000)	152,950,000	21,350,713	174,300,713	-
2022 Series	-	267,150,000	-	267,150,000	16,189,349	283,339,349	1,110,000
Total	$ 670,495,000	$ 267,150,000	$ (31,255,000)	$ 906,390,000	$ 72,852,963	$ 979,242,963	$ 32,830,000

	Balance 1/1/2021	New Issue	Retired	Balance 12/31/2021	Unamortized Premium	Bonds Payable, net	Current Portion
2013 Series	$ 64,755,000	$ -	$ -	$ 64,755,000	$ 1,672,135	$ 66,427,135	$ -
2015 Series	218,845,000	-	(28,785,000)	190,060,000	18,339,132	208,399,132	30,210,000
2016 Series	104,455,000	-	-	104,455,000	8,859,838	113,314,838	-
2018 Series	157,230,000	-	-	157,230,000	10,214,515	167,444,515	-
2020 Series	153,995,000	-	-	153,995,000	23,048,651	177,043,651	1,045,000
Total	$ 699,280,000	$ -	$ (28,785,000)	$ 670,495,000	$ 62,134,271	$ 732,629,271	$ 31,255,000

The 2013, 2015, 2016, 2018, 2020, and 2022 Bonds are collateralized by the net revenues of the Authority, by Surety Bonds, in lieu of cash, as required by the trustee and all amounts held in the Revenue Fund and all amounts held by the trustees.

In accordance with the provisions of the Trust Indentures for the bonds payable, the Authority has established categories of accounts (current, special, and debt service) with certain assets, principally short-term investments, restricted for specific purposes. Each account category is further segregated into specific accounts referred to as funds. All revenues are required by the Trust Indentures to be deposited in a Revenue Fund. These Trust Indentures also require that rates be sufficient to pay current expenses of the Authority, 110% of the debt service requirements for the current fiscal year, and all amounts owed to the Bond Issuer under the terms of the Financial Guaranty Agreement. Current expenses are defined, generally, as the costs of operating and maintaining the sewer system as determined under accounting principles generally accepted in the United States of America, except for depreciation and interest expense.

Funds created as a result of the governing Trust Indentures and by Board of Directors' resolutions are summarized as follows:

	2022	2021
Current account:		
Revenue Fund	$ 311,516,031	$ 256,262,201
Special accounts:		
Capital Facilities Fund	$ 83,403,696	$ 84,064,768
Construction Fund - 2018	-	51,065,579
Construction Fund - 2020	8,348	70,019,606
Construction Fund - 2022	269,476,979	-
	$ 352,889,023	$ 205,149,953
Debt service accounts:		
Debt Service Fund	$ 86,600	$ 6,112

Schedule of Required Debt Service

Maturities of all outstanding bonds of the Authority, in the aggregate, are as follows:

	Principal	Interest	Total Debt Service
2023	$ 32,830,000	$ 43,235,052	$ 76,065,052
2024	31,490,000	40,728,237	72,218,237
2025	35,465,000	39,133,862	74,598,862
2026	32,090,000	37,117,044	69,207,044
2027	32,425,000	35,775,469	68,200,469
2028-2032	148,130,000	156,246,469	304,376,469
2033-2037	169,595,000	122,096,884	291,691,884
2038-2042	154,655,000	86,263,791	240,918,791
2043-2047	137,280,000	51,231,063	188,511,063
2048-2052	92,430,000	21,494,244	113,924,244
Therafter	40,000,000	1,000,000	41,000,000
Total	$ 906,390,000	$ 634,322,115	$ 1,540,712,115

The total debt service schedule in Note 13 represents the total debt service requirements (principal, interest, and sinking fund requirements) of the Authority's bond issuances, by issue and in the aggregate.

4. Interest Cost

Interest cost, including amortization of refunding adjustments, bond discounts/premiums, and prepaid bond costs, for the years ended December 31, 2022 and 2021 were as follows:

	2022	2021
2013 Bonds	$ 3,149,935	$ 3,149,935
2015 Bonds	7,358,810	8,524,680
2016 Bonds	3,640,978	3,640,978
2018 Bonds	6,533,093	6,533,093
2020 Bonds	4,347,774	4,361,858
2022 Bonds	1,328,578	-
	$ 26,359,168	$ 26,210,544

5. Deposits and Investments with Financial Institutions

The investment and deposit policy of the Authority funds is governed by the Trust Indentures and the Municipal Authority Act. In accordance with these regulations, the Authority is authorized to invest in obligations of the U.S. Treasury, agencies and instrumentalities; certificates of deposits, time deposits or deposits in savings accounts, fully insured or collateralized; commercial paper of the highest rating; bonds or notes issued by the Commonwealth of Pennsylvania, political subdivision, or related school district; repurchase agreements; money market mutual funds; and investment agreements with any bank or insurance company. Throughout the years ended December 31, 2022 and 2021, the Authority invested in authorized investments that consisted of U.S. government obligations, short-term commercial paper, money market mutual funds, an external investment pool, and guaranteed investment contracts. There were no deposit or investment transactions during 2022 and 2021 that were in violation of either state statutes or the policies of the Authority. The Authority does not have a formal investment policy which addresses custodial credit risk, interest rate risk, credit risk, or concentration of credit risk. The Authority can withdraw funds from the external investment pools without limitations or fees.

GASB requires disclosures related to the following deposit and investment risks: credit risk (including custodial credit risk and concentrations of credit risk), interest rate risk, and foreign currency risk. The following is a description of the Authority's deposit and investment risks:

Custodial Credit Risk - Custodial credit risk is the risk that in the event of a bank failure, the Authority's deposits may not be returned to it. As of December 31, 2022, $18,799,237 of the Authority's bank balance of $19,236,847 was exposed to custodial credit risk, which is collateralized in accordance with Act 72 of the Pennsylvania state legislature, which requires the institution to pool collateral for all governmental deposits and have the collateral held by an approved custodian in the institution's name. These deposits have carrying amounts of $18,391,632 as of December 31, 2022. As of December 31, 2021, $21,647,124 of the Authority's bank balance of $22,084,734 was exposed to custodial credit risk, which is collateralized in accordance with Act 72 of the Pennsylvania state legislature, which requires the institution to pool collateral for all governmental deposits and have the collateral held by an approved custodian in the institution's name. These deposits have carrying amounts of $26,081,182 as of December 31, 2021.

Included in cash and cash equivalents on the statements of net position are short-term investments in money markets and PA INVEST.

At December 31, 2022, the Authority held the following investment balances:

		Maturity in Years	
	Carrying Value	Less Than 1 Year	1-5 Years
U.S. Government Agencies	$ 240,867,599	$ 219,842,520	$ 21,025,079
Money Market Funds	402,263,608	402,263,608	-
PA INVEST	2,236,703	2,236,703	-
Total	$ 645,367,910	$ 624,342,831	$ 21,025,079

At December 31, 2021, the Authority held the following investment balances:

		Maturity in Years	
	Carrying Value	Less Than 1 Year	1-5 Years
Money Market Funds	$ 433,134,869	$ 433,134,869	$ -
PA INVEST	2,202,215	2,202,215	-
Total	$ 435,337,084	$ 435,337,084	$ -

The carrying value of the Authority's investments is the same as their fair value amount. Money markets are valued using quoted market prices (Level 1 inputs). The fair values of U.S. government agency securities are priced using the spread above the risk-free yield curve. As the yields for the risk-free yield curve and the spreads for these securities are observable market inputs, the fair values of U.S. government agency securities are included in the Level 2 fair value hierarchy.

The Authority's investments in the external investment pool (INVEST) are the same as the value of the pool shares and are reported at amortized cost which approximates market. All investments in an external investment pool that are not SEC registered are subject to oversight by the Commonwealth. The Authority can withdraw funds from INVEST without limitations or fees.

Interest Rate Risk – Interest rate risk is the risk that changes in interest rates will adversely affect the fair market value of the Authority's investments.

Credit Risk – Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligation. As of December 31, 2022 and 2021, the Authority's investment in the state investment pool (INVEST) was rated AAA by Standard & Poor's. 100% of the Authority's investments in U.S. government agencies and money market funds are rated AAA by Standard & Poor's and Moody's.

Concentration of Credit Risk – Concentration of credit risk is the risk of loss attributed to the magnitude of a government's investments in a single issuer. As of December 31, 2022 and 2021, the Authority did not have a high concentration of investments in any one issuer.

<u>Pension Trust Funds</u>

The pension trust funds are used to account for assets held by the Authority in a trustee capacity for future payment of retirement benefits to employees or former employees.

The pension trust funds' investments in money markets, equity, and fixed-income funds, and guaranteed interest accounts are not exposed to custodial credit risk because they are not evidenced by securities that exist in physical or book-entry form. Investments in common stock are not subject to the disclosure requirements of GASB Statement No. 40.

The following is a description of the pension trust funds' investment risks:

Credit risk. The risk that an issuer or other counterparty to an investment will not fulfill its obligations is called credit risk. As of December 31, 2022 and 2021, the pension trust funds' investments in fixed income investments for the Management Plan and Union Plan were rated as follows:

Fiduciary Fund		
Bond ratings	2022 Market Value	2021 Market Value
Moody's Aaa	$ 44,473,781	$ 46,971,758
Moody's Aa1	122,486	139,456
Moody's Aa2	449,556	767,084
Moody's A1	4,080,608	4,109,130
Other	30,390,941	35,927,262
Total	$ 79,517,372	$ 87,914,690

The remaining mutual funds, stocks, common/collective trusts, and ETFs were not rated by nationally recognized statistical rating organizations.

Interest Rate Risk. Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of the pension trust funds' investments. The pension trust funds do not have a formal investment policy that limits investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates. The following table shows investment maturities in years for pension trust fund investments with maturities:

		Investment Maturities (In Years) from December 31, 2022				
Investment Type	Fair Value	Less than 1 Year	1-5 Years	6-10 Years	11-15 Years	16 or more Years
Corporate and utility bonds	$ 29,712,274	$ 1,864,220	$ 7,852,224	$ 11,230,826	$ 2,514,663	$ 6,250,341
US treasury and agency	41,051,215	2,052,778	20,704,079	6,920,747	11,806	11,361,805
Municipal	710,241	-	337,482	215,516	114,420	42,823
Mortgages & Asset Backed Securities	5,851,538	89,288	857,992	596,010	-	4,308,248
Foreign Bonds	2,192,104	268,602	561,650	817,117	69,033	475,702
Noncorporate Bonds	-	-	-	-	-	-
Total securities with maturities	$ 79,517,372	$ 4,274,888	$ 30,313,427	$ 19,780,216	$ 2,709,922	$ 22,438,919

		Investment Maturities (In Years) from December 31, 2021				
Investment Type	Fair Value	Less than 1 Year	1-5 Years	6-10 Years	11-15 Years	16 or more Years
Corporate and utility bonds	$ 36,861,123	$ 868,259	$ 10,266,619	$ 13,304,175	$ 2,206,639	$ 10,215,431
US treasury and agency	44,324,934	502,840	26,890,969	5,205,657	14,100	11,711,368
Municipal	1,081,975	-	613,590	264,916	148,202	55,267
Mortgages & Asset Backed Securities	2,939,419	281,770	915,320	211,029	-	1,531,300
Foreign Bonds	1,494,444	543,912	424,159	254,937	-	271,436
Noncorporate Bonds	1,212,795	-	677,851	240,674	-	294,270
Total securities with maturities	$ 87,914,690	$ 2,196,781	$ 39,788,508	$ 19,481,388	$ 2,368,941	$ 24,079,072

Financial instruments potentially expose the pension trust funds to various risks such as concentrations of credit risk and market risks. Concentration of credit risk for investments in marketable securities is mitigated by the overall diversification of managed investment portfolios. Due to the level of risk associated with certain investments, it is at least reasonably possible that changes in values of investments will occur in the near term and that such change could materially affect the amount reported on the combined statement of fiduciary net position.

The composition of the pension trust funds is noted below, along with the fair value measurements as of December 31, 2022 and 2021, respectively:

Investments by Fair Value Level:	December 31, 2022	December 31, 2021
Fixed Income:		
US Treasury Bonds	$ 37,945,361	$ 11,941,506
US Agency Bonds	3,105,854	32,383,428
Asset Backed Securities	1,062,229	785,227
Corporate Bonds	27,619,431	34,329,203
Utility Bonds	2,092,843	2,531,920
Municipal Bonds	710,241	1,081,975
Foreign Bonds	2,192,104	1,494,444
Noncorporate Bonds	-	1,212,795
Mortgages and mortgaged backed securities	4,789,309	2,154,192
ETFs - Fixed Income	1,103,261	231,696
Total Fixed Income	80,620,633	88,146,386
Equities:		
Mutual Funds	1,410,717	1,649,685
Common Stocks:		
Capital Goods	1,788,149	6,475,615
Industrials	8,086,764	3,377,858
Consumer Discretionary	4,895,217	6,023,538
Consumer Staples	2,433,417	2,322,881
Commercial & Professional Services	-	522,681
Energy	5,956,483	4,114,362
Food, Bev, Tobacco, & Personal Products	6,125,648	5,960,308
Financials	10,834,472	11,587,742
Materials	2,912,852	3,552,474
Transportation	2,319,296	4,656,394
Retail	4,468,884	9,124,735
Pharm/Biotech	5,096,965	7,600,497
Insurance	3,482,429	3,609,163
Information Technology	8,120,352	28,387,160
Software & Services	7,293,271	14,318,828
Technology	10,661,278	-
Media	6,354,568	12,439,705
Real Estate	3,408,609	3,982,582
Utilities	3,744,422	4,034,681
Health Care	12,181,619	12,364,290
Telecommunications	3,406,824	5,741,223
ETFs - Growth	6,795,401	8,219,492
Total Equities	121,777,637	160,065,894
Total investments by fair value level	$ 202,398,270	$ 248,212,280

US Treasury bonds, asset backed securities, utility bonds, noncorporate bonds, mutual funds, preferred stock, common stock, and exchange traded funds are valued using quoted marked prices (Level 1 inputs). Corporate, municipal, and foreign bonds as well as mortgages are valued using a matrix pricing model (Level 2 inputs). The fair values of U.S. government agency securities are priced using the spread above the risk-free yield curve. As the yields for the risk-free yield curve and the spreads for these securities are observable market inputs, the fair values of U.S. government agency securities are included in the Level 2 fair value hierarchy.

6. Capital Assets

A summary of capital assets is as follows:

	2022	2021
Nondepreciable assets:		
Land	$ 13,343,651	$ 5,344,896
Construction in progress	197,768,039	170,406,333
Total nondepreciable assets	211,111,690	175,751,229
Depreciable assets:		
Land improvements	4,805,250	4,805,250
Buildings and improvements	505,594,415	467,675,226
Utility plant in service	282,853,554	260,246,541
Machinery and equipment	345,875,853	340,622,094
Clean Water Program	57,906,665	20,713,833
GROW Program	9,416,711	6,773,298
Total depreciable assets	1,206,452,448	1,100,836,242
Less: accumulated depreciation	588,968,864	567,992,135
Net depreciable assets	617,483,584	532,844,107
Total capital assets	$ 828,595,274	$ 708,595,336

The Authority has spent $197,768,039 and $170,406,333 for construction in progress as of December 31, 2022 and 2021, respectively, with estimated remaining total expansion costs of approximately $2,167,857,716, which are anticipated to occur over the next seven years. These costs are associated with improvements and plant expansion to allow the Authority to increase to maximum flows of 600 MGD. These expansion costs are primarily attributable to activities required by the Consent Decree further discussed in Note 10.

7. Pension Plans

General Information About the Pension Plans. The Authority has two single-employer defined benefit pension plans covering substantially all full-time employees: the Management Employees Plan (Management Plan) and the Union Employees Plan (Union Plan). The Union Plan is a contributory plan including all members of the utility workers' collective bargaining unit and the Management Plan is a contributory plan available to all Authority employees not participating in the Union Plan. The Authority's pension plans, the Management Employees Plan and Union Employees Plan (Plans), are governed by independent boards composed primarily of participants in the Plans, and the Authority does not directly participate in the management of the Plans.

Management and Union Plans - Summary of Significant Accounting Policies

Financial information is presented on the accrual basis of accounting. Employer contributions to the Plans are recognized when earned. Benefits and refunds are recognized when incurred, in accordance with the terms of each Plan.

Each Plan's assets are reported at fair value. Neither Plan had any investment transactions with related parties during the year.

Statements of Plan Net Position – Management and Union Plans

COMBINING STATEMENT OF PLAN NET POSITION
PENSION TRUST FUNDS

YEAR ENDED DECEMBER 31,

	Management 2022	Management 2021	Union 2022	Union 2021
Assets				
Dividends and interest receivable	$ 161,001	$ 145,629	$ 481,161	$ 413,272
Cash and cash equivalents	-	-	3,807,257	2,058,577
Investments at fair value:				
U.S. government securities	12,926,528	13,389,645	28,124,687	30,935,289
Corporate bonds	8,216,106	10,330,023	21,496,168	26,531,100
Equity securities	28,247,356	37,571,634	85,324,163	112,625,083
Municipal bonds	-	230,701	710,241	851,274
Foreign bonds	-	-	2,192,104	1,494,444
Mortgages	4,405	11,980	4,784,904	2,142,212
ETFs	7,898,662	8,451,188	-	-
Mutual funds	1,410,717	1,649,685	-	-
Asset backed securities	-	-	1,062,229	785,227
Noncorporate bonds	-	-	-	1,212,795
Total investments at fair value	58,703,774	71,634,856	143,694,496	176,577,424
Total Assets	$ 58,864,775	$ 71,780,485	$ 147,982,914	$ 179,049,273
Liabilities and Net Position				
Liabilities:				
Other payables	$ -	$ -	$ -	$ -
Net Position:				
Net position restricted for pension benefits	58,864,775	71,780,485	147,982,914	179,049,273
Total Liabilities and Net Position	$ 58,864,775	$ 71,780,485	$ 147,982,914	$ 179,049,273

Statements of Changes in Plan Net Position – Management and Union Plans

COMBINING STATEMENT OF CHANGES IN PLAN NET POSITION
PENSION TRUST FUNDS

YEAR ENDED DECEMBER 31,

	Management 2022	Management 2021	Union 2022	Union 2021
Additions:				
Contributions:				
Employer	$ 2,855,385	$ 2,955,679	$ 4,280,472	$ 4,019,816
Employee	331,736	315,252	260,817	252,589
Total contributions	3,187,121	3,270,931	4,541,289	4,272,405
Investment income:				
Net appreciation (depreciation) in fair value of investments	(16,952,768)	3,657,647	(31,962,460)	4,023,113
Realized gain (loss)	2,858,249	4,757,220	1,188,463	21,078,269
Interest and dividends	1,175,317	1,131,905	3,107,204	2,765,910
Total investment income	(12,919,202)	9,546,772	(27,666,793)	27,867,292
Other income	18,438	116	2,700	70,199
Total additions	(9,713,643)	12,817,819	(23,122,804)	32,209,896
Deductions:				
Benefits	2,986,773	2,639,744	7,703,573	6,973,041
Distribution expenses	165,483	125,192	-	-
Administrative expense	49,811	52,987	239,982	332,273
Total deductions	3,202,067	2,817,923	7,943,555	7,305,314
Change in Plan Net Position	(12,915,710)	9,999,896	(31,066,359)	24,904,582
Net Position:				
Beginning of year	71,780,485	61,780,589	179,049,273	154,144,691
End of year	$ 58,864,775	$ 71,780,485	$ 147,982,914	$ 179,049,273

Plan Benefits

Normal Retirement. Under each of the plans, employees' eligibility for normal benefits begins at age 65, at which time the individual is entitled to an annual retirement benefit, payable monthly for life. For the Management Plan, this benefit is equal to 2.5% of the first $4,200 of average compensation for each year of Credited Service, plus 2.5% of 3-year compensation in excess of $4,200 for each year of Contributory Service (for participant contributing at the rate of 3% of compensation) and 2.0% of 5-year average compensation in excess of $4,200 for each year of Contributory Service (for participant contributing at the rate of 1.25% of compensation in excess of $4,200). If a participant transfers from the Union Plan, the normal retirement benefit is based on all years of employment with the Authority and is offset by the Union Plan benefit. In addition, the portion of the benefit for those contributing 1.25% of compensation in excess of $4,200 will be determined using 2.50% of 3-year average compensation in excess of $4,200 for any Union years of Contributory Service. For the Union Plan, this benefit is equal to 2.5% of the first $4,200 of average compensation for each year of credited service plus 2.5% of average compensation in excess of $4,200 for each year of Contributory Service. The benefit above is limited to 100% of average compensation. For both plans, in no event will a participant's benefit exceed the limits set forth in Section 415(b) of the Internal Revenue Code.

Early Retirement. Early retirement is available to all participants who have reached the age of 55 and have at least 10 years of service for the Management plan, and 55 and have at least 15 years of service for the Union plan. For the Management Plan, a participant who is contributing 3% of compensation may retire at age 60 with 10 years of service with no early retirement reduction. If such participant elects to retire prior to age 60, benefits will be reduced by one-half of 1% for each month prior to age 60 in which retirement occurs. For a participant who elected to contribute 1.25% of compensation in excess of $4,200, the monthly benefit will be reduced by one-half of 1% for each month prior to Normal Retirement Date (that is, prior to age 65). For the Union Plan, If the participant has attained age 60 with 25 years of Credited Service and is actively employed immediately prior to retirement, the benefit is unreduced. Otherwise, the benefit is reduced actuarially if it commences prior to age 62 or by 5% per year if it commences between age 62 and Normal Retirement Date.

Late Retirement. In both plans, for those retiring after age 65, the benefit is the greater of (1) the actuarial equivalent of the benefit that would have been payable at the Normal Retirement Date and (2) the benefit based on service and earnings as of the actual retirement date.

Disability Retirement. For both plans, disability retirement is available upon evidence of total and permanent disability and after 10 years of Credit Service. The disability benefit is based on average compensation and service at the time of disability. The disability benefit is limited to the amount which, when added to worker's compensation, equals 100% of base pay. The disability benefit is payable immediately, with no reduction for commencement before Normal Retirement Date.

Termination Benefits. For both plans, a participant is fully vested in his accrued benefit after 15 years of Credited Service or upon attainment of Normal Retirement age. Partial vesting occurs after five years of Credited Service, in accordance with the following schedule:

Credited Service	Vested Percentage	Credited Service	Vested Percentage
Less than 5 years	0%	10 years	50%
5 years	25%	11 years	60%
6 years	30%	12 years	70%
7 years	35%	13 years	80%
8 years	40%	14 years	90%
9 years	45%	15 or more years	100%

The vested accrued benefit will be payable in full at Normal Retirement Date. Reduced payment can begin as early as age 55 if the participant had 15 years (Union Plan) or 10 years (Management Plan) of Credited Service upon termination of employment. For the Union Plan, the benefit reduction for early commencement is the same as the reduction described for Early Retirement. For the Management Plan, the benefit reduction for early commencement is one-half of 1% for each month prior to normal retirement date, and a participant who satisfies the eligibility requirements for Early Retirement upon termination of employment is deemed to be fully vested. Employee contribution balances are always 100% vested. A participant who terminates employment with less than five years of Credited Service will be entitled to the return of his contributions with interest. A participant who terminates employment with partial vesting may elect a return of his contributions with interest. Such participant will have a residual benefit equal to the vested percentage of his accrued benefit based on Credited Service only (that is, the portion of the benefit based on the first $4,200 of compensation). A participant who withdrew contributions upon termination of employment and who is reemployed by the Authority will have the opportunity to repay his withdrawn contributions, with interest, for the purpose of restoring previously earned Contributory Service.

Pre-Retirement Spouse's Benefit. Upon the death of an active participant before retirement but after five years of Credited Service, the surviving spouse will receive 100% of the accrued benefit, determined without regard to the participant's vested percentage. If the spouse is under age 50, the 100% is reduced by 0.5% for each year and a fraction under age 50. For deaths occurring prior to January 1, 2004 (Union Plan) or 2006 (Management Plan), the surviving spouse received 100% of the vested accrued benefit. Upon the death of a terminated vested participant prior to the commencement of any benefits, the beneficiary shall receive an amount equal to the participant's personal contributions, if any, plus interest at the rate of 3% per year.

Post-Retirement Medical Benefit Payment. For the Management Plan, when a retired participant who was contributing at the rate of 3% attains age 65, such retired participant will receive an additional monthly benefit equal to two times the Medicare Part B premium in effect at that time, payable for the remainder of the participant's life.

Post-Retirement Lump Sum Death Benefit. For the Management Plan, participants retiring under either the Normal or Early Retirement provisions who were contributing at the rate of 3% will be eligible for a post-retirement death benefit of $2,000. Such benefit will be paid to the designated beneficiary.

Employees Covered by Benefit Terms. As of the most recent actuarial valuations, the following employees were covered by the benefit terms:

	Management	Union	Total
Inactive plan members or beneficiaries currently receiving benefits	86	199	285
Inactive plan members entitled to but not yet receiving benefits	22	33	55
Active plan members	132	278	410
Total plan members	240	510	750

Contributions. Participants in the Management Plan contribute 3.0% and participants in the Union Plan contribute 1.25% of earnings to their respective plans. The Authority's contributions to the plans are based on actuarially determined rates.

Net Pension Liability (Asset). The Authority's net pension liability (asset) for 2022 and 2021 was measured as of December 31, 2021 and 2020, respectively. The total pension liability used to calculate the net pension liability (asset) was determined by actuarial valuations as of those respective measurement dates.

Actuarial Assumptions. The total pension liability in the January 1, 2022 and 2021 actuarial valuations were determined using the following actuarial assumptions, applied to all periods included in the measurement:

Actuarial cost method	Entry age normal
Actuarial assumptions:	
Investment rate of return	7.00%
Underlying inflation rate	2.50%
Salary projection	4.00%

For both plans - Base mortality tables are applied to participant categories as follows:

- Active participants and terminated participants with deferred benefits: PubG-2010(A) Employee Table
- Non-disabled participants in payment status: PubG-2010(A) Retiree Table
- Disabled participants: PubNS-2010 Disabled Retiree Table
- Surviving beneficiaries: Pub-2010(A) Contingent Survivor Table

For the January 1, 2022 valuation, fully-generational mortality improvement for all participant categories is projected under Scale MP-2021. For the January 1, 2021 valuation, fully-generational mortality improvement for all participant categories was projected under Scale MP-2020. The MP scale is updated annually by the Society of Actuaries. Annual updates to the MP scale will be applied to each future actuarial valuation. The MP scale update is treated as an actuarial experience gain or loss, rather than as an assumption change.

Actuarial assumptions used in the respective valuations were based on actuarial experience studies for the period January 1, 2021 to December 31, 2021 and January 1, 2020 to December 31, 2020.

Long-Term Expected Rate of Return. The long-term expected rate of return on plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

The following were the asset allocation policy and best estimates of arithmetic real rates of return for each major asset class included in the target asset allocation:

	Management Plan		Union Plan	
Asset Class	Target Allocation	Long-Term Expected Real Rate of Return	Target Allocation	Long-Term Expected Real Rate of Return
US equity	60.0%	5.62%	70.0%	5.62%
Fixed income	40.0%	1.25%	30.0%	1.25%
	100.0%		100.0%	

Discount Rate. The discount rate used to measure the total pension liability was 6.75%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that the Authority's contributions will be made based on the actuarially determined contribution. Based on those assumptions, the fiduciary net position of each plan was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Concentrations – The Management Plan and the Union Plan did not have investments in a single issuer that exceeded 5% of the respective plan's fiduciary net position at December 31, 2022 and 2021.

Changes in Net Pension Liability (Asset). Changes in the Authority's net pension liability (asset) are as follows:

	Management Plan		
	Total Pension Liability	Plan Net Position	Net Pension Liability (Asset)
Balances at 12/31/21	$ 63,124,715	$ 61,780,589	$ 1,344,126
Changes for the year:			
Service cost	2,141,515	-	2,141,515
Interest	4,308,955	-	4,308,955
Differences between expected and actual experience	539,363	-	539,363
Changes of benefit terms	-	-	-
Changes of assumptions	-	-	-
Employer contributions	-	2,955,679	(2,955,679)
Member contributions	-	315,252	(315,252)
Net investment income	-	9,368,709	(9,368,709)
Benefit payments, including refunds of employee contributions	(2,639,744)	(2,639,744)	-
Balances at 12/31/22	$ 67,474,804	$ 71,780,485	$ (4,305,681)
Plan fiduciary net position as a percentage of total pension liability			106.38%

Net investment income includes $178,180 of trustee and other investment related expenses.

	Management Plan		
	Total Pension Liability	Plan Net Position	Net Pension Liability (Asset)
Balances at 12/31/20	$ 57,862,641	$ 52,764,618	$ 5,098,023
Changes for the year:			
Service cost	1,909,209	-	1,909,209
Interest	4,097,579	-	4,097,579
Differences between expected and actual experience	(258,048)	-	(258,048)
Changes of benefit terms	-	-	-
Changes of assumptions	1,793,351	-	1,793,351
Employer contributions	-	2,822,303	(2,822,303)
Member contributions	-	314,238	(314,238)
Net investment income	-	8,159,447	(8,159,447)
Benefit payments, including refunds of employee contributions	(2,280,017)	(2,280,017)	-
Balances at 12/31/21	$ 63,124,715	$ 61,780,589	$ 1,344,126
Plan fiduciary net position as a percentage of total pension liability			97.87%

Net investment income includes $189,068 of trustee and other investment related expenses.

	Union Plan		
	Total Pension Liability	Plan Net Position	Net Pension Liability (Asset)
Balances at 12/31/21	$ 152,464,425	$ 154,144,691	(1,680,266)
Changes for the year:			
Service cost	3,899,353	-	3,899,353
Interest	10,299,603	-	10,299,603
Differences between expected and actual experience	(476,652)	-	(476,652)
Changes of benefit terms	-	-	-
Changes of assumptions	-	-	-
Employer contributions	-	4,019,816	(4,019,816)
Member contributions	-	252,589	(252,589)
Net investment income	-	27,605,217	(27,605,217)
Benefit payments, including refunds of employee contributions	(6,973,040)	(6,973,040)	-
Balances at 12/31/22	$ 159,213,689	$ 179,049,273	$ (19,835,584)
Plan fiduciary net position as a percentage of the total pension liability			112.46%

Net investment income includes $332,273 of trustee and other investment related expenses.

	Union Plan		
	Total Pension Liability	Plan Net Position	Net Pension Liability (Asset)
Balances at 12/31/20	$ 142,117,429	$ 139,948,531	2,168,898
Changes for the year:			
Service cost	3,670,772	-	3,670,772
Interest	9,958,940	-	9,958,940
Differences between expected and actual experience	(1,173,412)	-	(1,173,412)
Changes of benefit terms	-	-	-
Changes of assumptions	4,384,772	-	4,384,772
Employer contributions	-	3,838,941	(3,838,941)
Member contributions	-	249,945	(249,945)
Net investment income	-	16,601,350	(16,601,350)
Benefit payments, including refunds of employee contributions	(6,494,076)	(6,494,076)	-
Balances at 12/31/21	$ 152,464,425	$ 154,144,691	$ (1,680,266)
Plan fiduciary net position as a percentage of the total pension liability			101.10%

Net investment income includes $382,474 of trustee and other investment related expenses.

Pennsylvania Act 205 (Act 205) is the authority by which benefit provisions are established and may be amended. Stand-alone financial reports were not issued for either of the Plans, as they are not required under the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974.

Changes in Actuarial Assumptions. The following actuarial assumptions were modified from 2021 to 2022:

- The long-term inflation rate was increased from 2.40% to 2.50%

Sensitivity of the Net Pension Liability to Changes in Discount Rate. The following presents the net pension liability (asset) of the Authority, calculated using the discount rate of 6.75%, as well as what the Authority's net pension liability (asset) would be if it were calculated using a discount rate that is 1% lower (5.75%) or 1% higher (7.75%) than the current rate:

	1% Decrease (5.75%)	Current Discount Rate (6.75%)	1% Increase (7.75%)
Management	$ 4,220,289	$ (4,305,681)	$ (11,482,472)
Union	338,597	(19,835,584)	(36,995,667)
	$ 4,558,886	$ (24,141,265)	$ (48,478,139)

Pension Expense and Deferred Inflows/Outflows of Resources Related to Pensions. For the years ended December 31, 2022 and 2021, the Authority recognized pension expense (recovery) of ($1,913,697) and $3,093,570, respectively. At December 31, 2022 and 2021, the Authority reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	2022	
	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 875,692	$ 3,657,865
Changes of assumptions	8,911,763	-
Net difference between projected and actual earnings on pension plan investments	3,786,266	33,080,259
Contributions made subsequent to the measurement date	7,135,857	-
	$ 20,709,578	$ 36,738,124

	2021	
	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 769,893	$ 3,979,601
Changes of assumptions	11,512,193	-
Net difference between projected and actual earnings on pension plan investments	7,572,529	24,123,484
Contributions made subsequent to the measurement date	6,975,495	-
	$ 26,830,110	$ 28,103,085

Deferred outflows of resources related to Authority pension contributions subsequent to the measurement date of $7,135,857 and $6,975,495 will be recognized as a reduction of the net pension liability in the years ending December 31, 2023 and 2022, respectively. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pension will be recognized in pension expense as follows:

Year Ending December 31,	Deferred Outflows	Deferred Inflows
2023	$ 6,428,647	$ 11,681,801
2024	2,245,476	11,665,705
2025	1,827,940	7,501,232
2026	1,518,566	5,180,818
2027	847,961	417,689
2028	598,183	202,681
2029	106,948	88,198
	$ 13,573,721	$ 36,738,124

8. Postemployment Benefits Other Than Pensions

General Information About the OPEB Plans. In addition to the pension benefits described in Note 7, the Authority provides certain post-retirement healthcare benefits to management and union retirees until age 65, which is a defined benefit, single-employer plan administered by the Authority. No assets are accumulated in a trust that meets the criteria of paragraph 4 of GASB Statement 75. This plan does not issue stand-alone Financial Statements.

In accordance with the Authority's Policy and Procedures Manual for Management Employees, certain healthcare benefits and life insurance are provided to all management employees, and their dependents, who retire on or after attaining age 55 with at least ten years of credited service. These benefits cease when the retiree turns 65.

Additionally, in accordance with the current labor agreement between the Authority and the Utility Workers Union of America AFL-CIO Local 433, certain healthcare benefits are provided to all union employees and their dependents who retire at age 60 through age 65 with 25 years of credited service. In addition to the healthcare benefits, the Authority provides full hospitalization for retirees and their dependents between the ages of 62 and 65 with 15 to 24 years of credited service and 25% of the life insurance coverage that was provided while employed with the Authority will be carried into retirement.

In addition to these post-retirement healthcare benefits, the Authority also provides to both management and union retirees, the Vision Program, the Prescription Drug Program, and the Dental Program. For these programs, however, the retiree shall be responsible to pay the entire prevailing premium being paid by the Authority for its employees. Usually, these premiums are taken directly out of the retirees' pension payments.

Employees Covered by Benefit Terms. As of the most recent actuarial valuations, the following employees were covered by the benefit terms:

Active employees	425
Retired employees with health coverage	20
Retired employees with life insurance only	144
Total active and inactive employees	589

Actuarial Assumptions. The methods and assumptions are as follows:

- Discount rate, using Fidelity Fixed Income Market Data for Municipal GO AA Yield Curve at 20 years: 1.84%
- Actuarial cost method: Individual Entry Age Normal Level Percent of Pay
- Salary increase: 4.0% annually

Mortality rate – Base mortality tables are applied to participant categories as follows:

- Active participants and terminated participants with deferred benefits: PubG-2010(A) Employee Table
- Non-disabled participants in payment status: PubG-2010(A) Retiree Table
- Disabled participants: PubNS-2010 Disabled Retiree Table

For the January 1, 2021 valuation, fully-generational mortality improvement for all participant categories is projected under Scale MP-2020. The MP scale is updated annually by the Society of Actuaries. Annual updates to the MP scale will be applied to each future actuarial valuation. The MP scale update is treated as an actuarial experience gain or loss, rather than as an assumption change.

- Short- and long-term medical and prescription drug trend assumptions used to project healthcare costs and drug coverage premiums were revised. The short-term trend was revised to consider more recent data. The long term trend, beginning in 2028, was revised using an updated Society of Actuaries (SOA) Long Term Healthcare Cost Trends Model.

- Historical trend rates, which are needed for normal cost allocation under Entry Age method:

Year	Medical Trend	Drug Trend	Year	Medical and Drug Trend
2019	6.80%	5.60%	1990	8.80%
2017	5.70%	5.20%	1985	8.70%
2015	6.80%	11.10%	1980	10.80%
2010	7.60%	6.40%	1975	15.80%
2005	10.40%	10.50%	1970	13.40%
2000	10.90%	10.90%	1965	11.10%
1995	5.30%	5.30%		

The Retirement assumption was selected based upon a study of plan experience for the period 2009 to 2019. The assumption will be monitored against actual plan experience to ensure that it remains reasonable.

Changes in Actuarial Assumptions. The discount rate changed from 2.00% to 1.84% as of December 31, 2021.

Changes in the Total OPEB Liability. The changes in the total OPEB liability of the Authority for the year ended December 31, 2022 were as follows:

	Total OPEB Liability 2022	Total OPEB Liability 2021
Balance at January 1	$ 14,074,940	$ 13,901,968
Changes for the year:		
Service cost	1,039,368	957,087
Interest	294,279	395,674
Differences between expected and actual experience	(2,250)	(1,256,794)
Changes of benefit terms	-	-
Changes of assumptions	171,884	727,289
Benefits paid	(760,709)	(650,284)
Balance at December 31	$ 14,817,512	$ 14,074,940

Sensitivity of the Total OPEB Liability to Changes in the Discount Rate. The following represents the total OPEB liability calculated using the stated discount rate, as well as what the total OPEB liability would be if it was calculated using a discount rate that is one-percentage-point lower or one-percentage-point higher than the current rate:

1% Decrease (0.84%)	Current Discount Rate (1.84%)	1% Increase (2.84%)
$ 15,975,741	$ 14,817,512	$ 13,793,778

Sensitivity of the Total OPEB Liability to Changes in the Medical Trend Rate. The following presents the total OPEB liability calculated using the stated medical trend assumption, as well as what the total OPEB liability would be if it was calculated using a medical trend rate that is one-percentage-point lower or one-percentage-point higher than the current rate:

	1% Decrease	Current	1% Increase
Initial rate	5.00%	6.00%	7.00%
Ultimate rate	3.00%	4.00%	5.00%
	$ 13,660,123	$ 14,817,512	$ 16,187,898

OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEBs. For the years ended December 31, 2022 and 2021, the Authority recognized OPEB expense of $1,061,986 and $1,064,305, respectively. Cash payments into the plan are included in fringe benefits on the statement of revenues, expenses, and changes in net position and any remaining excess (deficiency) is reported as OPEB expense, net.

	December 31, 2022		December 31, 2021	
	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ -	$ 3,269,121	$ -	$ 3,730,554
Changes in assumptions or other inputs	1,582,782	175,115	1,631,627	203,822
Subtotal, to be recognized in future OPEB expense	1,582,782	3,444,236	1,631,627	3,934,376
Employer payments for OPEB subsequent to measurement date and before fiscal year-end (expected claims)	846,026	-	760,709	-
Total	$ 2,428,808	$ 3,444,236	$ 2,392,336	$ 3,934,376

The deferred inflows and outflows related to OPEBs at December 31, 2022 will be recognized in OPEB expense as follows:

Year Ending December 31	Deferred Outflows	Deferred Inflows
2023	$ 220,729	$ 492,390
2024	220,729	492,390
2025	220,729	492,390
2026	220,729	492,390
2027	207,064	492,390
Thereafter	492,802	982,286
	$ 1,582,782	$ 3,444,236

9. Contingencies

The Authority is exposed to various risks of loss related to torts; alleged negligence; acts of discrimination; breach of contract; disagreements arising from the interpretation of laws or regulations; theft of, damage to and destruction of assets; errors and omissions; injuries to employees and natural disasters, for which the Authority carries commercial insurance. While some of these claims may be for substantial amounts, they are not unusual in the ordinary course of providing collection, transportation and treatment of wastewater services for applicable municipalities. The Authority does not participate in any public entity risk pool, and does not retain risk related to any aforementioned exposure except for those amounts incurred relative to policy deductibles, which are not significant. Additionally, the Authority has not significantly reduced any of its insurance coverage from the prior years. Settled claims have not exceeded the Authority's commercial coverage in any of the past three years. Except as noted below, the Authority's management does not expect that the resolution of any outstanding claims and litigation will have a material adverse effect on the accompanying financial statements.

10. Environmental Permit Requirements

The Environmental Protection Agency's (EPA) Combined Sewer Overflow control policy is a national framework for controlling combined sewer overflows through the NPDES permitting program. The policy provides guidance on how communities and wastewater treatment plants such as the Authority and its customers with Combined Sewer Overflows can achieve Clean Water Act (CWA) goals in a flexible, cost-effective manner. The CSO Policy identifies the plan as a Long Term Wet Weather Control Plan, the name is adopted as Wet Weather Plan (WWP) to include both Combined Sewer Overflows and Sanitary Sewer Overflows.

The Authority has been implementing the requirements in their Consent Decree since it's entry in 2008. On January 29, 2013, the Authority submitted a Wet Weather Plan to the US EPA, PA DEP, and ACHD (Agencies) pursuant to the terms of the Consent Decree. The Wet Weather Plan contained a "Selected Plan" that the Authority identified as capable of achieving compliance with the requirements of the Consent Decree and the goals of the Clean Water Act, but costs prohibitive for its rate payers. The Wet Weather Plan also contained three alternatives, each with costs exceeding $2 billion. Following the January 2013 Wet Weather Plan submission, the Agencies worked cooperatively with the Authority in modifying the Consent Decree to allow the Authority to develop an adaptative schedule that would establish interim measures and final measures designed to reduce Combined Sewer Overflows discharges and eliminate Sanitary Sewer Overflows, in accordance with the requirements of the Consent Decree and the goals of the Clean Water Act, while keeping the cost of controls affordable for the Authority's rate payers. As a result of these discussions, the Authority submitted revised portions of the Wet Weather Plan to the Agencies on January 9, 2019, with the title "Clean Water Plan" (CWP). The Agencies conditionally approved portions of the Clean Water Plan on September 26, 2019, which only become effective upon entry by the Court of a Modified Consent Decree.

On October 2, 2019, the Modified Consent Decree was published in the Federal Register for a sixty (60) day public comment period. On May 12, 2020, the Modified Consent Decree was entered into Court and replaced the original Consent Decree entered in January 2008. The modified Consent Decree afforded a longer timetable, through the year 2036 and allows the Authority and our customer municipalities to use the best of evolving technology to meet the terms of the Modified Consent Decree.

On July 23, 2020, the Authority received a NPDES permit administrated by PADEP with EPA oversight for the authorization to discharge for the treatment plant expansion to 295 MGD with a 305 MGD CSO wet weather bypass. The Water Quality Management Permit for construction of the plant expansion was issued February 6, 2020 and was contingent upon the July 23, 2020 NPDES discharge permit approval. All of the discharge and construction permits were approved for wastewater treatment plant expansion and CSO related by-pass.

The Clean Water Plan, as approved in the modified Consent Decree, includes provisions for significant capital improvements to the Authority's conveyance and treatment system, to capture and treat a defined flow from its customer municipalities, and to demonstrate compliance with applicable receiving stream water quality standards. These conveyance system improvements include three (3) sections of deep regional conveyance and storage tunnels, which are the Ohio River Tunnel, the Allegheny River Tunnel and the Monongahela River Tunnel. In addition to the tunnels there are associated structures and consolidated sewers. The final design for the Ohio River Tunnel is currently being performed. In mid to late 2023, the Authority will submit the required Federal, State and local permits for constructing the Ohio River Tunnel. The Authority continues to seek and acquire land for tunnel launching and retrieval areas.

11. Clean Water Assistance Fund

In January 2017, the Authority created the Clean Water Assistance Fund to help families pay their sewage treatment bills. This program serves low-income residential customers in the 83 municipalities that the Authority serves. It is administered by Dollar Energy. The Authority initially contributed approximately $1 million to establish this fund and contributed approximately $344,000 and $350,000 in additional funding in 2022 and 2021, respectively. During 2022 and 2021, the fund paid approximately $256,000 and $231,000, respectively to approved applicants. To date, the Clean Water Assistance Fund has helped over 5,870 customers.

12. Green Revitalization of Our Waterways

The Authority created the Green Revitalization of Our Waterways (GROW) program in June 2017. The GROW program allows for any municipality or municipal sewer authority within the Authority's service area to apply for grants that may be used to install green storm water reduction technology, remove streams from the sewer system, reduce the amount of water seeping in through groundwater, or to separate out storm sewers. As part of the grant agreement, awardees are required to operate and maintain the project for at least 20 years. As of December 31, 2022, 159 grants have been approved. Payments made as of the end of 2022 total $16,884,955, of which $9,416,710 is included in depreciable assets and the remainder is included in construction in progress. As of December 31, 2022, the Authority has committed to $51,935,240 in grants that will be drawn upon in future years.

13. Total Debt Service Schedule

	Series of 2013	Series of 2015	Series of 2016	Series of 2018	Series of 2020	Series of 2022	Combined Debt Service	Annual Debt Service
June 1, 2023	$ 1,612,056	$ 3,872,813	$ 2,097,100	$ 3,524,478	$ 4,074,356	$ 7,971,468	$ 23,152,271	
December 1, 2023	1,612,056	35,592,813	2,097,100	3,524,478	2,947,706	7,138,628	52,912,781	$ 76,065,052
June 1, 2024	1,612,056	3,090,213	2,097,100	3,769,478	7,247,706	7,138,628	24,955,181	
December 1, 2024	7,112,056	17,820,213	8,812,100	3,518,353	2,861,706	7,138,628	47,263,056	72,218,237
June 1, 2025	1,489,894	2,735,150	1,929,225	3,958,353	7,301,706	11,628,628	29,042,956	
December 1, 2025	8,989,894	12,540,150	10,719,225	3,507,353	2,772,906	7,026,378	45,555,906	74,598,862
June 1, 2026	1,312,019	2,509,203	1,709,475	7,317,353	16,547,907	11,746,378	41,142,335	
December 1, 2026	8,812,019	4,649,203	1,854,475	3,412,103	2,428,531	6,908,378	28,064,709	69,207,044
June 1, 2027	1,124,519	2,478,441	1,706,575	7,417,103	7,123,531	11,873,378	31,723,547	
December 1, 2027	8,624,519	13,263,441	2,181,575	3,311,978	2,311,156	6,784,253	36,476,922	68,200,469
June 1, 2028	938,519	2,208,816	1,697,075	7,521,978	7,246,156	12,004,253	31,616,797	
December 1, 2028	6,438,519	13,528,816	2,192,075	3,206,728	2,187,781	6,653,753	34,207,672	65,824,469
June 1, 2029	807,319	1,962,666	1,687,175	7,631,728	7,372,781	12,138,753	31,600,422	
December 1, 2029	3,307,319	13,777,666	2,202,175	3,096,103	2,058,156	6,516,628	30,958,047	62,558,469
June 1, 2030	754,819	1,667,291	1,676,875	7,746,103	7,513,156	12,286,628	31,644,872	
December 1, 2030	754,819	14,072,291	2,206,875	2,979,853	1,921,778	6,372,378	28,307,994	59,952,866
June 1, 2031	754,819	1,357,166	1,666,275	7,824,853	5,671,781	12,437,378	29,712,272	
December 1, 2031	754,819	3,952,166	12,651,275	2,901,122	1,828,031	6,220,753	28,308,166	58,020,438
June 1, 2032	754,819	1,313,375	1,446,575	7,951,122	5,768,031	12,595,753	29,829,675	
December 1, 2032	754,819	3,993,375	12,876,575	2,774,872	1,729,533	6,061,378	28,190,552	58,020,227
June 1, 2033	754,819	1,246,375	1,217,975	8,039,872	5,854,531	13,761,378	30,874,950	
December 1, 2033	754,819	4,061,375	13,107,975	2,686,025	1,638,431	5,868,878	28,117,503	58,992,453
June 1, 2034	754,819	1,176,000	980,175	8,151,025	5,918,431	13,913,878	30,894,328	
December 1, 2034	754,819	4,131,000	13,340,175	2,576,725	1,577,631	5,667,753	28,048,103	58,942,431
June 1, 2035	754,819	1,102,125	732,975	8,266,725	5,982,631	13,072,753	29,912,028	
December 1, 2035	754,819	4,207,125	13,587,975	2,462,925	1,513,297	5,482,628	28,008,769	57,920,797
June 1, 2036	754,819	1,024,500	475,875	8,382,925	6,058,297	13,267,628	29,964,044	
December 1, 2036	754,819	4,284,500	13,840,875	2,344,525	1,446,724	5,288,003	27,959,446	57,923,490
June 1, 2037	754,819	943,000	208,575	8,509,525	6,131,725	13,473,003	30,020,647	
December 1, 2037	754,819	4,363,000	14,113,575	2,221,225	1,366,300	5,073,147	27,892,066	57,912,713
June 1, 2038	754,819	857,500	-	8,636,225	17,716,300	13,688,147	41,652,991	
December 1, 2038	754,819	4,447,500	-	2,092,925	1,110,500	4,857,875	13,263,619	54,916,610
June 1, 2039	754,819	767,750	-	8,802,925	17,980,500	13,937,875	42,243,869	
December 1, 2039	754,819	4,537,750	-	1,925,175	846,475	4,619,525	12,683,744	54,927,613
June 1, 2040	754,819	673,500	-	8,980,175	18,256,473	8,189,525	36,854,492	
December 1, 2040	754,819	4,633,500	-	1,748,800	573,900	4,525,813	12,236,832	49,091,324
June 1, 2041	754,819	574,500	-	9,163,800	2,953,900	8,025,813	21,472,832	
December 1, 2041	9,789,819	4,734,500	-	1,563,425	526,300	4,433,938	21,047,982	42,520,814
June 1, 2042	517,650	470,500	-	9,358,425	3,006,300	8,183,938	21,536,813	
December 1, 2042	6,897,650	4,835,500	-	1,368,550	476,698	4,347,219	17,925,617	39,462,430
June 1, 2043	350,175	361,375	-	9,563,550	3,056,700	12,537,219	25,869,019	
December 1, 2043	6,855,175	4,946,375	-	1,163,675	425,100	4,111,756	17,502,081	43,371,100
June 1, 2044	179,419	246,750	-	9,778,675	3,110,100	12,876,756	26,191,700	
December 1, 2044	7,014,419	5,061,750	-	948,300	371,400	3,859,763	17,255,632	43,447,332
June 1, 2045	-	126,375	-	11,228,300	3,166,400	13,224,763	27,745,838	
December 1, 2045	-	5,181,375	-	691,300	315,500	3,590,519	9,778,694	37,524,532
June 1, 2046	-	-	-	11,756,300	3,225,500	13,090,519	28,072,319	
December 1, 2046	-	-	-	470,000	257,300	3,317,394	4,044,694	32,117,013
June 1, 2047	-	-	-	11,985,000	3,282,300	13,317,394	28,584,694	
December 1, 2047	-	-	-	239,700	196,798	3,029,894	3,466,392	32,051,086
June 1, 2048	-	-	-	12,224,700	3,346,800	15,434,894	31,006,394	
December 1, 2048	-	-	-	-	133,800	2,673,250	2,807,050	33,813,444
June 1, 2049	-	-	-	-	3,413,800	15,893,250	19,307,050	
December 1, 2049	-	-	-	-	68,200	2,293,175	2,361,375	21,668,425
June 1, 2050	-	-	-	-	3,478,200	16,373,175	19,851,375	
December 1, 2050	-	-	-	-	-	1,888,375	1,888,375	21,739,750
June 1, 2051	-	-	-	-	-	16,888,375	16,888,375	
December 1, 2051	-	-	-	-	-	1,457,125	1,457,125	18,345,500
June 1, 2052	-	-	-	-	-	17,357,125	17,357,125	
December 1, 2052	-	-	-	-	-	1,000,000	1,000,000	18,357,125
June 1, 2053	-	-	-	-	-	41,000,000	41,000,000	
December 1, 2053	-	-	-	-	-	-	-	41,000,000
	$ 102,757,908	$ 225,380,768	$ 147,113,050	$ 274,226,914	$ 227,697,637	$ 563,535,838	$ 1,540,712,115	$ 1,540,712,115

REQUIRED SUPPLEMENTARY INFORMATION

ALLEGHENY COUNTY SANITARY AUTHORITY

SCHEDULE OF CHANGES IN THE NET
PENSION LIABILITY AND RELATED RATIOS - MANAGEMENT

YEARS ENDED DECEMBER 31,

	2022	2021	2020	2019	2018	2017	2016	2015
Total Pension Liability:								
Service cost	$ 2,141,515	$ 1,909,209	$ 1,905,043	$ 1,826,493	$ 1,668,851	$ 1,420,751	$ 1,193,822	$ 1,012,344
Interest	4,308,955	4,097,579	3,919,747	3,650,643	3,420,033	3,135,922	2,864,194	2,597,036
Differences between expected and actual experience	539,363	(258,048)	(1,020,214)	832,893	(70,800)	816,498	1,043,646	163,825
Changes of benefit terms	-	-	-	-	-	228,011	-	-
Changes of assumptions	-	1,793,351	-	1,093,916	-	1,342,644	-	1,178,962
Benefit payments, including refunds of member contributions	(2,639,744)	(2,280,017)	(2,254,417)	(2,112,745)	(1,807,432)	(1,757,159)	(1,591,493)	(1,495,819)
Net Changes in Total Pension Liability	4,350,089	5,262,074	2,550,159	5,291,200	3,210,652	5,186,667	3,510,169	3,456,348
Total Pension Liability - Beginning	63,124,715	57,862,641	55,312,482	50,021,282	46,810,630	41,623,963	38,113,794	34,657,446
Total Pension Liability - Ending (a)	$ 67,474,804	$ 63,124,715	$ 57,862,641	$ 55,312,482	$ 50,021,282	$ 46,810,630	$ 41,623,963	$ 38,113,794
Plan Fiduciary Net Position:								
Plan member contributions	$ 315,252	$ 314,238	$ 303,018	$ 276,848	$ 266,378	$ 242,438	$ 215,651	$ 217,014
Employer actuarially recommended contributions	2,955,679	2,822,303	2,376,191	2,516,460	1,916,633	1,795,051	1,642,817	1,647,664
Net investment income	9,368,709	8,159,448	9,556,538	(1,796,686)	5,367,534	2,427,121	(64,985)	3,062,959
Benefit payments, including refunds of member contributions	(2,639,744)	(2,280,017)	(2,254,417)	(2,112,745)	(1,807,432)	(1,757,159)	(1,591,493)	(1,495,819)
Net Change in Plan Fiduciary Net Position	9,999,896	9,015,972	9,981,330	(1,116,123)	5,743,113	2,707,451	201,990	3,431,818
Plan Fiduciary Net Position - Beginning	61,780,589	52,764,617	42,783,287	43,899,410	38,156,297	35,448,846	35,246,856	31,815,038
Plan Fiduciary Net Position - Ending (b)	$ 71,780,485	$ 61,780,589	$ 52,764,617	$ 42,783,287	$ 43,899,410	$ 38,156,297	$ 35,448,846	$ 35,246,856
Net Pension Liability (Asset) - Ending (a-b)	$ (4,305,681)	$ 1,344,126	$ 5,098,024	$ 12,529,195	$ 6,121,872	$ 8,654,333	$ 6,175,117	$ 2,866,938
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	106.38%	97.87%	91.19%	77.35%	87.76%	81.51%	85.16%	92.48%
Covered Payroll	$ 11,647,992	$ 10,923,002	$ 10,732,570	$ 10,179,102	$ 9,342,295	$ 8,594,987	$ 7,340,502	$ 6,455,960
Net Pension Liability (Asset) as a Percentage of Covered Payroll	-36.97%	12.31%	47.50%	123.09%	65.53%	100.69%	84.12%	44.41%

ALLEGHENY COUNTY SANITARY AUTHORITY

SCHEDULE OF CHANGES IN THE NET
PENSION LIABILITY AND RELATED RATIOS - UNION

YEARS ENDED DECEMBER 31,

	2022	2021	2020	2019	2018	2017	2016	2015
Total Pension Liability:								
Service cost	$ 3,899,353	$ 3,670,772	$ 3,355,451	$ 3,140,218	$ 2,944,731	$ 2,616,615	$ 2,476,956	$ 2,293,999
Interest	10,299,603	9,958,940	9,538,363	8,965,814	8,525,299	8,080,735	7,634,199	7,030,443
Differences between expected and actual experience	(476,652)	(1,173,412)	(1,450,770)	(1,116,208)	(238,155)	(179,689)	389,969	(415,816)
Changes of benefit terms	-	-	492,165	-	-	603,344	-	-
Changes of assumptions	-	4,384,772	-	6,285,011	-	3,411,383	-	3,319,486
Benefit payments, including refunds of member contributions	(6,973,040)	(6,494,076)	(5,944,707)	(5,526,297)	(5,052,414)	(4,763,085)	(4,509,841)	(4,067,193)
Net Changes in Total Pension Liability	6,749,264	10,346,996	5,990,502	11,748,538	6,179,461	9,769,303	5,991,283	8,160,919
Total Pension Liability - Beginning	152,464,425	142,117,429	136,126,927	124,378,389	118,198,928	108,429,625	102,438,342	94,277,423
Total Pension Liability - Ending (a)	$ 159,213,689	$ 152,464,425	$ 142,117,429	$ 136,126,927	$ 124,378,389	$ 118,198,928	$ 108,429,625	$ 102,438,342
Plan Fiduciary Net Position:								
Plan member contributions	$ 252,589	$ 249,945	$ 245,136	$ 230,428	$ 219,633	$ 205,330	$ 194,364	$ 179,401
Employer actuarially recommended contributions	4,019,816	3,838,941	3,252,204	3,085,110	3,059,402	3,307,866	3,170,502	3,124,830
Net investment income	27,605,217	16,601,350	22,424,524	(4,901,833)	18,425,789	7,341,987	(1,652,268)	12,699,402
Benefit payments, including refunds of member contributions	(6,973,040)	(6,494,076)	(5,944,707)	(5,526,297)	(5,052,414)	(4,763,085)	(4,509,841)	(4,067,193)
Net Change in Plan Fiduciary Net Position	24,904,582	14,196,160	19,977,157	(7,112,592)	16,652,410	6,092,098	(2,797,243)	11,936,440
Plan Fiduciary Net Position - Beginning	154,144,691	139,948,531	119,971,374	127,083,966	110,431,556	104,339,458	107,136,701	95,200,261
Plan Fiduciary Net Position - Ending (b)	$ 179,049,273	$ 154,144,691	$ 139,948,531	$ 119,971,374	$ 127,083,966	$ 110,431,556	$ 104,339,458	$ 107,136,701
Net Pension Liability (Asset) - Ending (a-b)	$ (19,835,584)	$ (1,680,266)	$ 2,168,898	$ 16,155,553	$ (2,705,577)	$ 7,767,372	$ 4,090,167	$ (4,698,359)
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	112.46%	101.10%	98.47%	88.13%	102.18%	93.43%	96.23%	104.59%
Covered Payroll	$ 22,832,500	$ 22,793,758	$ 21,089,748	$ 20,346,885	$ 19,156,669	$ 18,107,692	$ 17,147,336	$ 16,613,080
Net Pension Liability (Asset) as a Percentage of Covered Payroll	-86.87%	-7.37%	10.28%	79.40%	-14.12%	42.90%	23.85%	-28.28%

ALLEGHENY COUNTY SANITARY AUTHORITY

SCHEDULE OF AUTHORITY'S CONTRIBUTIONS

YEARS ENDED DECEMBER 31,

	2022	2021	2020	2019	2018
Actuarially determined contribution:					
Management	$ 2,855,385	$ 2,955,679	$ 2,822,303	$ 2,376,191	$ 2,516,461
Union	4,280,472	4,019,816	3,838,941	3,252,204	3,085,109
	7,135,857	6,975,495	6,661,244	5,628,395	5,601,570
Contributions in relation to the actuarially determined contribution:					
Management	2,855,385	2,955,679	2,822,303	2,376,191	2,516,461
Union	4,280,472	4,019,816	3,838,941	3,252,204	3,085,109
	7,135,857	6,975,495	6,661,244	5,628,395	5,601,570
Contribution deficiency (excess)	$ -	$ -	$ -	$ -	$ -
Covered payroll:					
Management	$ 11,288,451	$ 11,647,992	$ 10,923,002	$ 10,732,570	$ 10,179,102
Union	22,973,672	22,832,500	22,793,758	21,089,748	20,346,885
	$ 34,262,123	$ 34,480,492	$ 33,716,760	$ 31,822,318	$ 30,525,987
Contributions as a percentage of covered payroll	20.83%	20.23%	19.76%	17.69%	18.35%

	2017	2016	2015	2014	2013
Actuarially determined contribution:					
Management	$ 1,916,633	$ 1,795,051	$ 1,642,817	$ 1,647,664	$ 1,606,029
Union	3,059,402	3,307,866	3,170,502	3,124,830	2,260,312
	4,976,035	5,102,917	4,813,319	4,772,494	3,866,341
Contributions in relation to the actuarially determined contribution:					
Management	1,916,633	1,795,051	1,642,817	1,647,664	1,606,104
Union	3,059,402	3,307,866	3,170,502	3,124,830	2,260,313
	4,976,035	5,102,917	4,813,319	4,772,494	3,866,417
Contribution deficiency (excess)	$ -	$ -	$ -	$ -	$ (76)
Covered payroll:					
Management	$ 9,342,295	$ 8,594,987	$ 7,340,502	$ 6,455,960	$ 7,066,389
Union	19,156,669	18,107,692	17,147,336	16,613,080	16,193,768
	$ 28,498,964	$ 26,702,679	$ 24,487,838	$ 23,069,040	$ 23,260,157
Contributions as a percentage of covered payroll	17.46%	19.11%	19.66%	20.69%	16.62%

ALLEGHENY COUNTY SANITARY AUTHORITY

NOTES TO REQUIRED SUPPLEMENTARY PENSION SCHEDULES

Valuation date: Actuarial calculations are performed each year as of January 1. Contributions noted above are as of each pension plan's calendar year ending December 31 using actuarially determined contribution rates calculated as of January 1, one year prior to the end of the calendar year in which contributions are reported.

Methods and assumptions used to determine the contribution rates:

Actuarial cost method	Entry Age Normal - Union Plan Entry Age Normal - Management Plan
Amortization method	Level-dollar monthly payments - Union Plan Level-dollar monthly payments - Management Plan
Remaining amortization period	15 years Union Plan 14 years Management Plan
Asset valuation method	Smoothed market value (without phase-in) - Union Plan Smoothed market value (with phase-in) - Management Plan

Years ended December 31,	2022	2021	
Inflation	2.50%	2.40%	Union Plan
	2.50%	2.40%	Management Plan
Salary increases	4.00%	4.00%	Union Plan
	4.00%	4.00%	Management Plan
Investment rate of return (gross return assumption)	7.00%	7.00%	Union Plan
	7.00%	7.00%	Management Plan

Mortality - Union Plan

Base mortality tables are applied to participant categories as follows:

- Active participants and terminated participants with deferred benefits: PubG-2010(A) Employee Table
- Non-disabled participants in payment status: PubG-2010(A) Retiree Table
- Disabled participants: PubNS-2010 Disabled Retiree Table
- Surviving beneficiaries: Pub-2010(A) Contingent Survivor Table

For the January 1, 2022 valuation, fully-generational mortality improvement for all participant categories is projected under Scale MP-2021. For the January 1, 2021 valuation, fully-generational mortality improvement for all participant categories was projected under Scale MP-2020. The MP scale is updated annually by the Society of Actuaries. Annual updates to the MP scale will be applied to each future actuarial valuation. The MP scale update is treated as an actuarial experience gain or loss, rather than as an assumption change.

Mortality - Management Plan

Base mortality tables are applied to participant categories as follows:

- Active participants and terminated participants with deferred benefits: PubG-2010(A) Employee Table
- Non-disabled participants in payment status: PubG-2010(A) Retiree Table
- Disabled participants: PubNS-2010 Disabled Retiree Table
- Surviving beneficiaries: Pub-2010(A) Contingent Survivor Table

For the January 1, 2022 valuation, fully-generational mortality improvement for all participant categories is projected under Scale MP-2021. For the January 1, 2021 valuation, fully-generational mortality improvement for all participant categories was projected under Scale MP-2020 The MP scale is updated annually by the Society of Actuaries. Annual updates to the MP scale will be applied to each future actuarial valuation. The MP scale update is treated as an actuarial experience gain or loss, rather than as an assumption change.

Note: the mortality improvement assumptions were updated as of the December 31, 2006, 2010, 2012, 2014, 2015, 2016, 2019, 2020, 2021, and 2022 valuations.

ALLEGHENY COUNTY SANITARY AUTHORITY

SCHEDULE OF CHANGES IN THE TOTAL
OPEB LIABILITY AND RELATED RATIOS

YEAR ENDED DECEMBER 31,
LAST TEN YEARS*

	2022	2021	2020	2019
Total OPEB Liability:				
Service cost	$ 1,039,368	$ 957,087	$ 880,548	$ 976,634
Interest	294,279	395,674	533,331	463,583
Differences between expected and actual experience	(2,250)	(1,256,794)	(1,636,646)	(1,823,758)
Changes of benefit terms	-	-	1,669,049	-
Changes of assumptions	171,884	727,289	891,029	(289,943)
Benefit payments, including refunds of member contributions	(760,709)	(650,284)	(522,480)	(536,537)
Net Changes in Total OPEB Liability	742,572	172,972	1,814,831	(1,210,021)
Total OPEB Liability - Beginning	14,074,940	13,901,968	12,087,137	13,297,158
Total OPEB Liability - Ending (a)	$ 14,817,512	$ 14,074,940	$ 13,901,968	$ 12,087,137
Covered Payroll	$ 34,480,492	$ 33,716,760	$ 31,822,318	$ 30,525,987
Net OPEB Liability as a Percentage of Covered Payroll	42.97%	41.74%	43.69%	39.60%

* Until a full 10-year trend is compiled, the required information for the Plan is presented for as many years as are available.

SUPPLEMENTARY INFORMATION

ALLEGHENY COUNTY SANITARY AUTHORITY

SCHEDULE OF INVESTMENTS AND OTHER ASSETS

YEAR ENDED DECEMBER 31, 2022

	Cash and Cash Equivalents	Investments	Accrued Interest Receivable	Total
Current Account:				
Revenue Fund	$ 311,516,031	$ -	$ -	$ 311,516,031
Special Accounts:				
Capital Facilities Fund	83,403,696	-	-	83,403,696
Construction Fund 2018	-	-	-	-
Construction Fund 2020	8,348	-	-	8,348
Construction Fund 2022	27,877,268	240,867,599	732,112	269,476,979
	111,289,312	240,867,599	732,112	352,889,023
Debt Service Accounts:				
Debt Service Fund	86,600	-	-	86,600
Total	$ 422,891,943	$ 240,867,599	$ 732,112	$ 664,491,654

ALLEGHENY COUNTY SANITARY AUTHORITY

SCHEDULE OF INVESTMENTS AND OTHER ASSETS

YEAR ENDED DECEMBER 31, 2021

	Cash and Cash Equivalents	Investments	Accrued Interest Receivable	Total
Current Account:				
Revenue Fund	$ 256,262,201	$ -	$ -	$ 256,262,201
Special Accounts:				
Capital Facilities Fund	84,064,768	-	-	84,064,768
Construction Fund 2018	51,065,579	-	-	51,065,579
Construction Fund 2020	70,019,606	-	-	70,019,606
	205,149,953	-	-	205,149,953
Debt Service Accounts:				
Debt Service Fund	6,112	-	-	6,112
Total	$ 461,418,266	$ -	$ -	$ 461,418,266