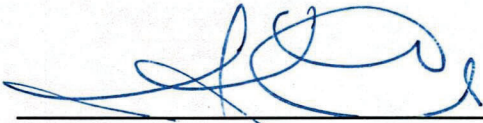





Miami-Dade Water and Sewer Department Business Plan

Fiscal Years: 2025 and 2026*
(10/1/2024 through 9/30/2026)

Approved by:



Jay Fink, Director



Roy Coley, Chief Utilities and Regulatory
Services Officer

7/2/25

Date

7/31/25

Date

Plan Date: July 15, 2025

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DEPARTMENT OVERVIEW

MISSION

"We deliver high-quality, safe, and reliable drinking water and wastewater services in Miami-Dade County where customers know the value of every drop, employees take pride in their contribution, and the pursuit for efficiency and community resilience drives every business decision."

VISION

"A model utility of excellence in reliability, resilience, and environmental stewardship, recognized as an essential partner in the protection of public health and an employer of choice in Miami-Dade County."



DEPARTMENT DESCRIPTION

The Miami-Dade Water and Sewer Department (WASD), continues to serve as the largest public utility water and wastewater utility in the Southeastern United States. The Department provides high-quality drinking water and wastewater services, water conservation measures and works to safeguard public

health and the environment for our visitors, residential, business and municipal customers.

As part of the County's Neighborhood and Infrastructure (NI) strategic area, the Department's main functions are water production and distribution, as well as wastewater collection, treatment, reuse and disposal. WASD operates both water and wastewater systems. The Water System consists of three regional water treatment plants, five local water treatments plants, and one shared City of Hialeah Reverse Osmosis Plant, with a total permitted capacity of 464 Million Gallons per Day (MGD).



The Wastewater System includes three regional wastewater treatment plants with a total permitted capacity of 376 MGD, more than 1,000 sewer pump stations and 6,500 miles of collection and transmission pipelines, manholes, lift stations and force mains.



Additionally, WASD operates and maintains 95 water supply wells (grouped into 14 wellfields) in the Biscayne Aquifer; five aquifer storage and recovery wells in the Floridan Aquifer and approximately 8,700 miles of water distribution mains. The Department implements water conservation measures, provides high quality drinking water and plans and improves infrastructure for future growth

FY 2024-25 TABLE OF ORGANIZATION

WASD's FY 2024-25 full-time equivalent positions total 3,094.

Office of the Director

Formulates and establishes departmental policies that set the course for the organization, directs overall operations, and maintains alignment with the larger County mission and vision. Also directs legislative activities, municipal policies, personnel, and public engagement.

FY 23-24	FY 24-25
12	12



Water & Wastewater Systems Operations

Operates and maintains water and wastewater systems, treatment plants, transmission and distribution systems, and pump stations, as well as SCADA and laboratory functions.

FY 23-24	FY 24-25
1,772	1,793



Finance, Administrative Compliance & Resilience

Directs financial, procurement, operating and capital budgets, contractual monitoring and compliance, and funding coordination as well as the Department's resilience programs.

FY 23-24	FY 24-25
338	330



Planning, Regulatory Compliance & Capital Infrastructure

Leads water and wastewater design and construction activities for plants and pipelines. Directs capital improvement programs, and compliance with state and federal agreements.

FY 23-24	FY 24-25
380	377



Internal & Administrative Services

Directs customer service and departmental security, as well as fleet and general activities, and the quality assurance of WASD work processes.

FY 23-24	FY 24-25
584	572



OUR CUSTOMERS

MIAMI DADE WATER AND SEWER DEPARTMENT CUSTOMERS

WASD delivers water and sewer services to most residents and businesses within Miami-Dade County. The total combined population served at the retail and wholesale level is approximately 2.8 million residents, serving approximately 463,459 water and 378,626 wastewater retail customers as of September 30, 2024.

Additionally, service is provided to 15 wholesale (municipal) water customers and to 13 wholesale (12 municipal and the Homestead Air Reserve Base) wastewater customers within Miami-Dade County daily.



MUNICIPAL DRINKING WATER CUSTOMERS

- BAL HARBOUR
- BAY HARBOR ISLANDS
- HIALEAH
- HIALEAH GARDENS
- HOMESTEAD
- INDIAN CREEK VILLAGE
- MEDLEY
- MIAMI BEACH
- NORTH BAY VILLAGE
- NORTH MIAMI
- NORTH MIAMI BEACH
- OPA-LOCKA
- SURFSIDE
- VIRGINIA GARDENS
- WEST MIAMI



MUNICIPAL & MILITARY SANITARY SEWER CUSTOMERS

- CORAL GABLES
- FLORIDA CITY
- HIALEAH
- HIALEAH GARDENS
- HOMESTEAD
- MEDLEY
- MIAMI BEACH
- NORTH BAY VILLAGE
- NORTH MIAMI
- NORTH MIAMI BEACH
- OPA-LOCKA
- WEST MIAMI
- HOMESTEAD
AIR FORCE BASE

As a full-service water and sewer entity, WASD provides world class utility services to varied customer types. Some of the customers served include other departments within the County government structure. The Miami Dade County Aviation, Parks and Recreation, Miami Seaport, and the Corrections and Rehabilitation Departments are currently in the top 20 of WASD's largest water accounts.

Everything from **hospital-based organizations** (i.e. *Jackson Memorial Hospital and Veteran's Administration Hospital*) to **schools and university systems** (i.e. *University of Miami, Miami Dade County Public Schools*) as well as **correctional facilities** (i.e. *FL Department of Corrections and the Federal Correctional Institution*) are served each day by WASD.



Residents, businesses and visitors to Miami-Dade County require safe drinking water and sanitary sewer services. WAsD works tirelessly to provide these services without interruption. The Department's efforts support Mayor Daniella Levine Cava's countywide initiatives to ensure efficiency and fiscal responsibility and to consistently deliver timely, high-quality services.

The Department directs our actions to adhere to these overarching ideals while providing continuous service to WAsD customers and stakeholders. Miami-Dade County's Strategic Plan underscores the need for investment in "Neighborhood and Infrastructure" that benefits our businesses, stakeholders, water and environment. By bolstering opportunities for small and local businesses in County contracting as well as fortifying WAsD leadership and staff to deliver effective government services, the Department's operations are

in line with these priorities and provide a roadmap to engage and be responsive to the needs of our customers.

Departmental engagement with customers through phone contact, in person meetings, educational outreach and industry workshops serve as a vehicle for ongoing touchpoints with WAsD consumers. Our reliance on the Mayor's "Key Deliverables" actionable items along with other initiatives such as the **WISE305 Plan** and its four pillars— Workplace, Innovation, Savings and Efficiency — have provided the guidance needed for the Department to enhance its effectiveness and productivity.

Investment in these modalities allows WAsD to remain adaptable to customize solutions to address customer priorities.

By aligning its governance with the Mayor's countywide collaborative and innovative approach, WAsD will successfully manage its resources while remaining responsive to the unique needs of our customers. Residents, businesses and stakeholders alike will benefit from the culminating efficiencies.

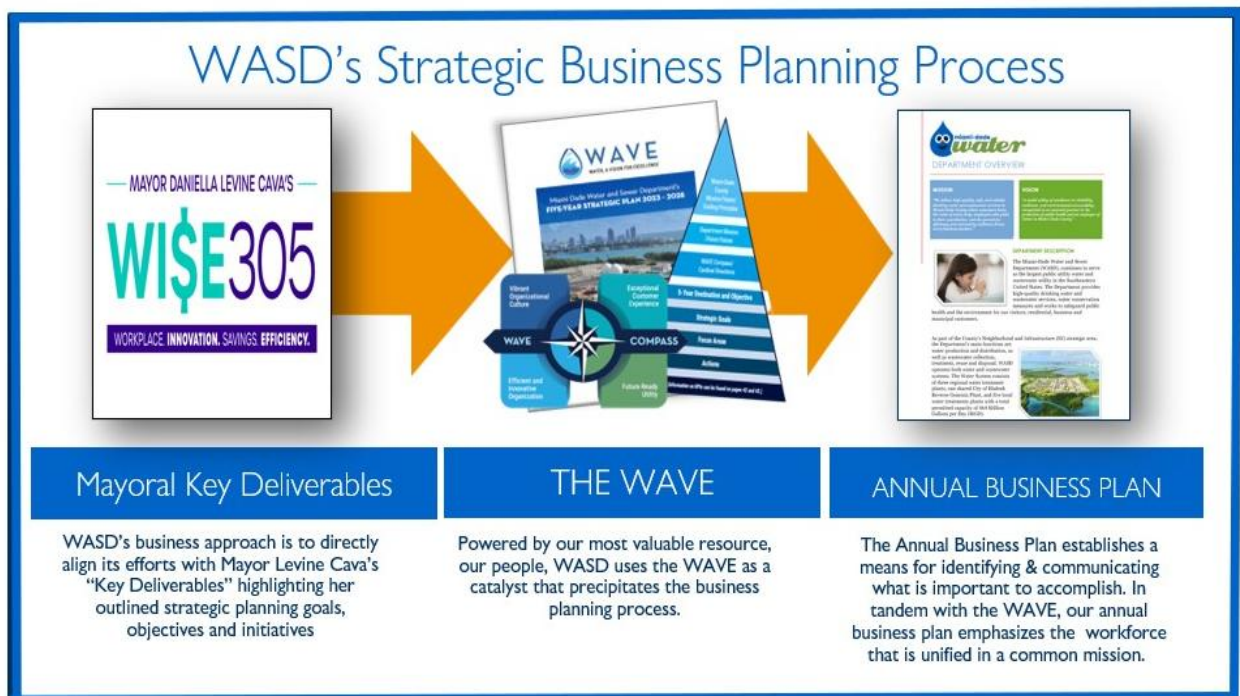


STRATEGIC ALIGNMENT

STRATEGIC ALIGNMENT. MAYOR'S KEY DELIVERABLES & THE WAVE SUMMARY

In tandem with the Miami-Dade County Strategic Plan, Mayoral Key Deliverables, the WISE305 initiative, and the Miami-Dade Climate Action Strategy, WASD's department-level strategic plan, **WAVE: Water, A Vision for Excellence** was crafted. The employee-led WAVE Strategic Plan was launched to further define the key priorities and investments that will propel and transform the way WASD does business.

The WAVE includes internal and external strategies and bridges the County's Strategic Plan and WASD's Annual Business Plan by providing direction for the Department's business.



When departmental staff and leadership reference the WAVE Strategic Plan, they are ensuring alignment with priorities and goals derived from the Miami-Dade County Strategic Plan, initiatives and identified mayoral deliverables.

Strategic Measures

THE MAYOR'S KEY DELIVERABLES

An Economy That Works for All

Healthy and Safe Communities

Fiscal Responsibility and Efficiency

Risk Reduction and Resilience

Investment in Infrastructure

NEIGHBORHOOD AND INFRASTRUCTURE

NI2: Continuity of clean water and community sanitation services

Gallons of water saved per day (GPD) through the implementation of the Water Use Efficiency Plan

Finished Water Use Per Capita - Consumption (Gallons Per Capita per Day)

Percentage of Consent Decree projects on or before schedule

Compliance with drinking water standards

Percentage of compliance with wastewater standards

Systemwide available water supply capacity from the Biscayne Aquifer

GENERAL GOVERNMENT

GG1: Accessible, equitable, transparent, and responsible government

Average wait time per call monthly

GG2: Excellent, engaged and resilient County workforce

Training Hours Per Employee (Fiscal Year)

GG4: Effective leadership and management practices

Capital Infrastructure Improvement Plan

Revenue bond ratings (Moody's, Fitch and S&P)

The table on this page identifies our strategic measures by a primary area. Given the fundamental nature of WASD's work in our community providing necessary water and wastewater services, many measures may impact more than one of the Mayor's Key Deliverables.

STRATEGIC AREA: NEIGHBORHOOD AND INFRASTRUCTURE (NI)

Goal NI2: Continuity of clean water and community sanitation services

Objective NI2-1: Provide sustainable drinking water supply and wastewater disposal services.

In keeping with the direction of the Miami-Dade County Strategic Plan, WASD's department-level strategic plan, the WAVE, features building a "Future-Ready Utility" as a guiding principle of our organization. Therefore, the future-ready actions that follow, which align with that principle, will also serve to meet the future water supply and wastewater disposal needs in Miami-Dade County.

Execute the Capital Improvement Program to expand, renew, and rehabilitate water and sewer infrastructure. The adopted FY 2024-2030 MYCIP is \$8.8 billion. The timely execution of the projects in the CIP will provide sustainable drinking water and wastewater disposal now and into the future.



Continue implementing the Connect 2 Protect Program to advance the near-term and long-term actions detailed in the “December 2020 Plan of Action — A Risk-Based Approach to Septic Systems Vulnerable to Sea Level Rise.” Key actions include incentivizing parcel connection to available sewer infrastructure through implementing the sewer laterals program.

Continue integrating future conditions, such as sea-level rise, rainfall frequency and intensity changes, heat, and other climate conditions, in the planning and design of infrastructure as well as operations planning



As part of the Ocean Outfall Program (OOL), Miami Dade County and Florida Power and Light (FPL) executed an agreement to reuse up to 15 million gallons of reclaimed water per day (15mgd) from the South District Wastewater Treatment Plant to cool the natural gas plant located at FPL's Turkey Point Clean Water Recovery Center.

Further develop and advance WASD's resilience framework and planning efforts, including vulnerability assessments, facility hardening, design guidelines, tools, and standard operating procedures to maximize the lifespan of public assets in the face of changing conditions.

Advance implementation of the ANSI/AWWA J100 Standard for Risk and Resilience of Water and Wastewater Systems.

Keep rolling out the \$2 billion Water Reset program to address existing and emerging needs within the water treatment facilities and critical components of the water distribution system over the next 10 years.

Continue to apply the Sustainable Buildings Ordinance's requirements, including the LEED Sustainable Buildings Rating System for vertical assets and the Envision Sustainable Infrastructure Rating System, in the planning, design, construction and operation of infrastructure and facilities.



STRATEGIC AREA: GENERAL GOVERNMENT (GG)

Goal GG1: Accessible, equitable, transparent, and responsible government

Objective GG1-1: Support a customer-focused organization by providing convenient access to information and services and ensuring processes are easy to navigate.

Exceptional customer service is a cornerstone of WASD's business strategy, so the Department puts its customers' needs at the forefront of all decision-making. As such, we continue to roll out and track the “Water is Life” marketing and communications plan to improve internal and external perception and trust based on the insights received through employee and customer feedback.



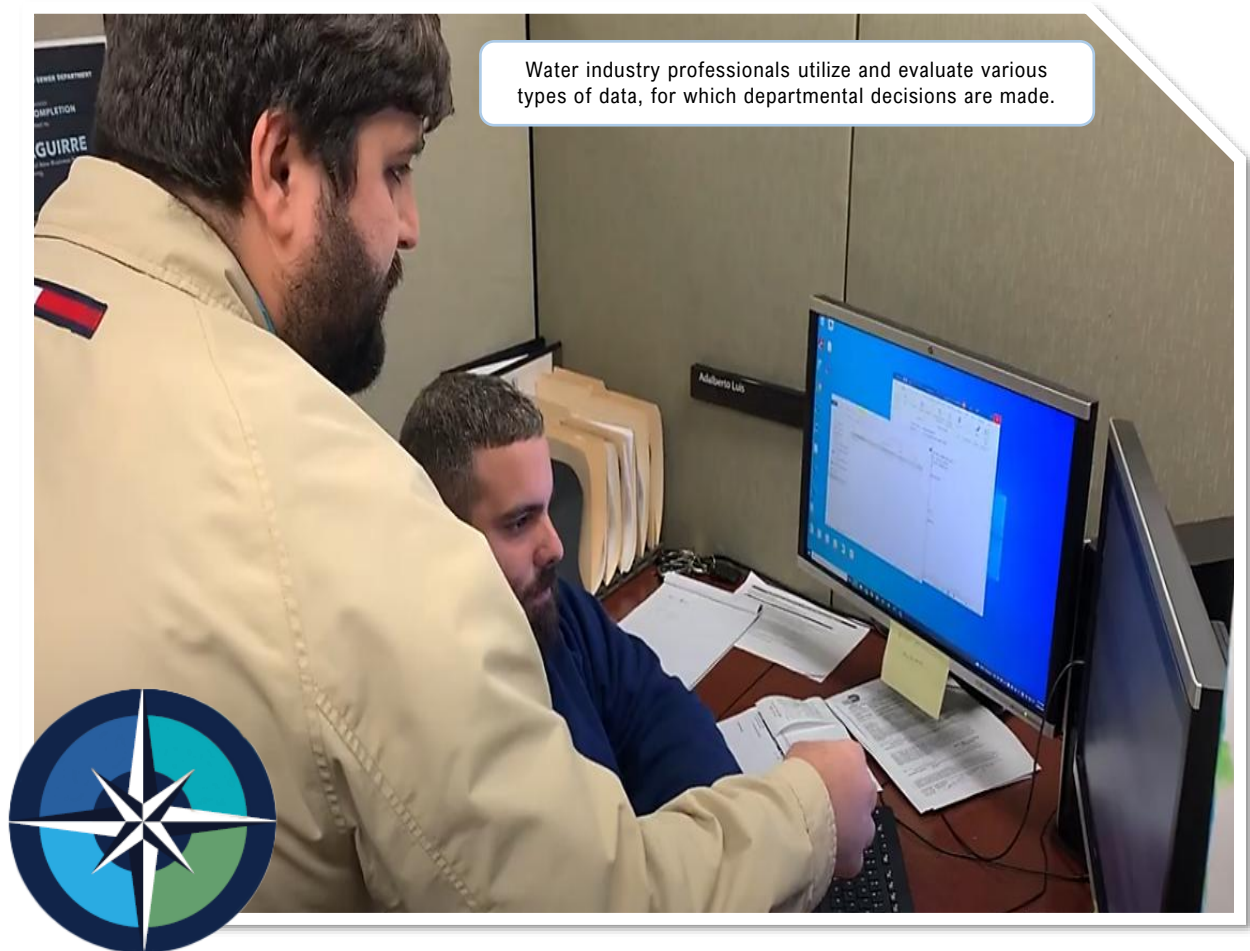
Deliver timely, concise, and clear updates during emergencies as well as routine transparency through publications on water quality, water use permits, annual budgets, comprehensive financial reports, new emerging rules and regulations.

Share information on water conservation that educates customers and promotes the Department's indoor and outdoor water conservation rebates and other water use efficiency behaviors.



Public engagement efforts at WASD begin with some of our youngest consumers. Mayor Danilla Levine Cava, along with the Board of County Commissioners and former WASD Director Roy Coley, recognized students who submitted winning entries in WASD's Annual Children's Conservation Poster Contest- "Every Drop Counts".

Continue to explore expanding the self-service application, which currently offers varied user-friendly options. These include the ability for commercial customers to enter their sub-meter readings, functionality for customers to reconnect their service, and the ability to make payments directly through WASD's application instead of a third-party vendor.



Improve the customer experience with the enhancement of customer tools to monitor water usage through our Water Smart Program for customers participating in our Advanced Metering Implementation (AMI) project.

WASD will continue its partnership with the Information Technology Department (ITD) to expand solutions that will enhance WASD's self-service application, improving the back-end Customer Care and Billing (CCB) system interfaces. This will continue to increase utility customers' access to typical service requests, which will help reduce telephone or walk-in center traffic and offer 24/7 access to simple inquiries.

WASD's online messaging system, "Chatbot," was launched in 2016 to provide transactional services to WASD customers. However, the tool has underperformed and has not effectively resolved many transactions. As a result, WASD is working with ITD to review the tool's current functionality and to better allow our utility customers to receive real-time responses to inquiries and other program enhancements. Once the Chatbot upgrade is completed, WASD will work to promote its use, through our partnership with our WASD Office of Public Engagement (OPE), to customers who prefer online solutions to resolve their service questions.

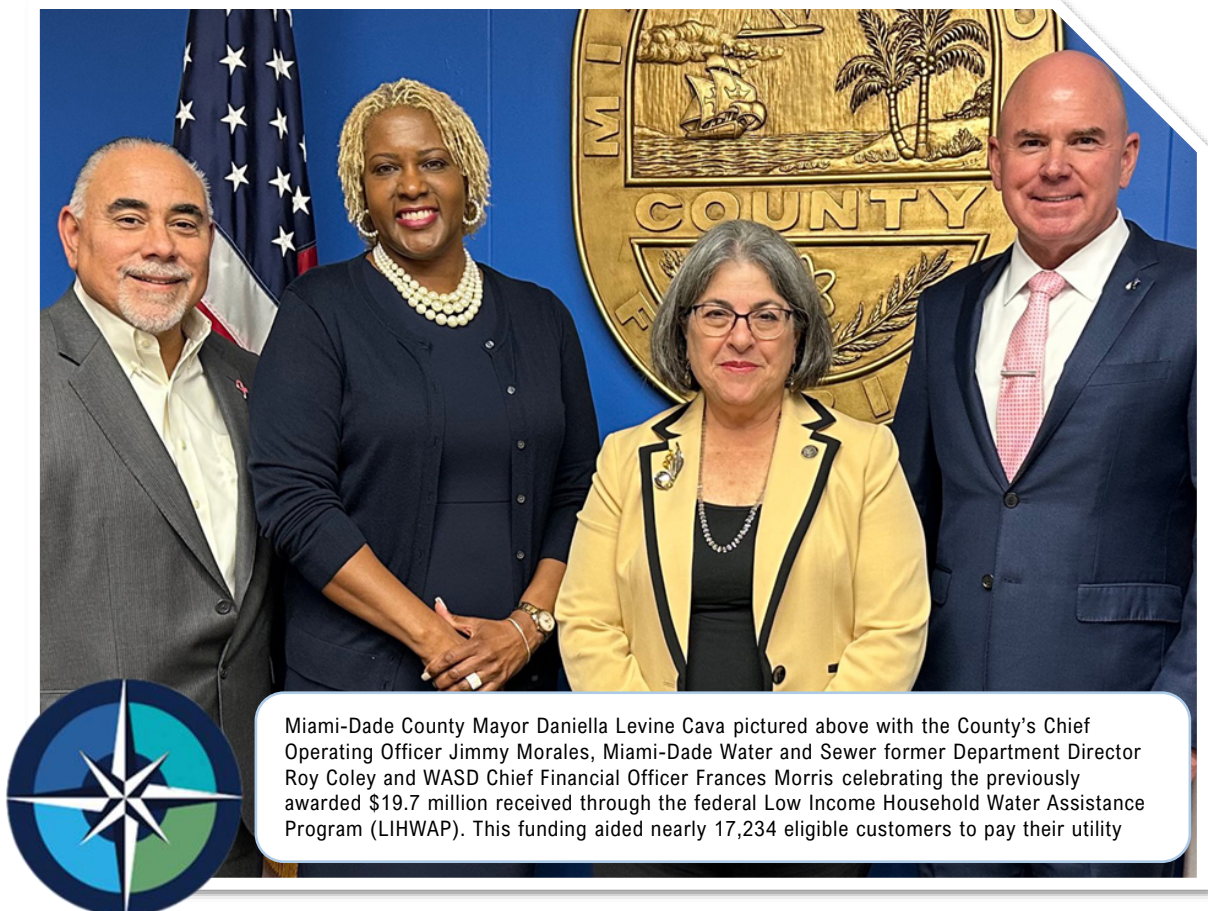


Analyze and evaluate the quantity and quality of employee/customer interactions to improve the customer experience, including migrating from the current and dated Call Center Interactive Voice Response (IVR) system to Cisco's Artificial Intelligence (AI) IVR system, which could intuitively predict concerns and offers immediate solutions and resolutions.

Objective GG1-2: Facilitate community outreach and engagement to promote better decision-making in County government

WASD has continued to partner with agencies to investigate opportunities to secure subsidy assistance on behalf of County residents who need financial relief. Through the receipt of the Low-Income Household Water Assistance Program (LIHWAP) funds, the Department has been able to assist 17,234 eligible customers with utility bill payments that support their access to reliable and safe drinking water. The County received more than \$19.7 million of the \$55 million awarded to the State of Florida through this federal program.

LIHWAP is a first-come, first-served program that provided much-needed support to low-income families who spent large proportions of their household income on water utility services. WASD's Finance Division and the Office of Public Engagement (PIO) in conjunction with the Community Action and Human Services Department (CAHSD) successfully executed the program to completion and will continue to collaborate on similar projects in the near future.



Partnering with the Communications and Customer Experience Department, campaigns are created to advise customers of available assistance programs, including state and federal sources and the County's WASD Cares Program.

Goal GG2: Excellent, engaged, and resilient workforce

Objective GG2-1: Attract and hire new talent to support operations.

A vibrant organizational culture is a cardinal direction of WASD's business strategy outlined in the WAVE. So, it is of prime importance for WASD to implement a comprehensive staffing and succession plan to mentor, train, and transfer historical knowledge to new employees before workers in critical areas retire.

WASD will actively engage with educational, youth, and community-based organizations to increase awareness and pathways to water sector careers.

Florida International University and the University of Miami are assisting with targeted and sustained efforts to reach students and schools at all levels, including those in disadvantaged communities and others seeking career changes, with information on the value and benefits of these jobs and accessible career pathways to access them.

The partnership between WASD and Florida International University continues to provide support for department programs while fostering practical experience for undergraduate students and professional staff in the water utility sector.



Additional recruitment efforts, such as open-competitive job opportunities, provide for attracting diverse and highly skilled candidates who will play a role in WASD's achievement of its strategic goal efforts.

WASD Human Resources staff participate in the Mayor's Career & Job Fairs, which rotate within different sections of Miami-Dade County, providing WASD with a diverse applicant pool reflective of the communities the Department serves. These monthly fairs include opportunities for on-the-spot interviews that focus on expediting hiring for hard-to-fill entry-level positions. Moving forward, WASD will continue demonstrating a strong presence at the Mayor's Career & Job Fairs and implementing other new recruiting efforts.

Objective GG2-2: Promote employee development and leadership.

Continue implementing Employee Development Plans (EDPs) to motivate and inspire all employees to reach their full career potential, including 24 professional development hours— as part of the performance review process.



Continue to engage all newly hired WASD employees with a formal, departmental "New Hire Onboarding Process" managed by the WASD Training and Development Section. This process lays the groundwork for developing new County water industry professionals at all levels of the WASD organization.

Extend WASD's commitment to creating and maintaining a workforce valued and accepted for their differences and professional contributions.

Continue to provide workplace training to frontline and supervisory personnel to maintain awareness of WASD's safe work environment policies extended to all employees.

Promote professional development, which focuses on preparing subordinate-level employees with the necessary skills to become leaders.

Position the Department as an "Employer of Choice" through initiatives that promote accountability and growth opportunities for all employees.



The Internal Services Division Leadership Team gather to honor and congratulate Internal Services Divisional staff members who have successfully completed their Lean Six Sigma Green Belt Certification.



Goal GG4 – Effective leadership and management practices

Objective GG4-2: Effectively prioritize, allocate and use resources to meet current and future operating and capital needs for all our residents.

Continue implementing the WAVE, which will drive the development of a more efficient and innovative organization that will successfully address WASD's water and sewer infrastructure and resource needs through the year 2050. Additionally, this effort will transform WASD's current business practices to maximize operational efficiency and decision-making regarding future capital improvements.

Continue to seek funding to support the expansion of sanitary sewer and drinking water systems to address the needs of residents with vulnerable septic tank systems and contaminated drinking water wells. Continuing to work together under a unifying mission to serve our great community while benefitting from the generation of ideas, solutions, experience and varied perspectives of WASD employees.

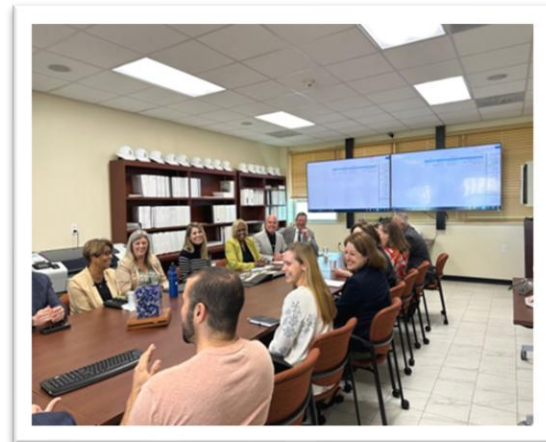
Capital Planning personnel Pearle Khadar, Gladisbel Miranda, Guerda Montinard, and Yamirys Battle proudly represent the Department at the 18th Annual Women in Construction Leadership and Networking Conference.



RECENT ACCOMPLISHMENTS

The Miami Dade Water and Sewer Department not only delivers reliable water and wastewater utility services to its customers each day, but it has also established benchmarks of excellence in policy, service delivery, fiscal responsibility as well as other sustainable and resilient practices.

Under the stewardship of Ms. Frances Morris, WASD Chief Financial Officer, innovative financial mechanisms have been implemented. These calculated steps have led to WASD receiving the first ever bond tender refunding in the State of Florida! The S&P Global Ratings upgraded WASD Water and Sewer Revenue Bonds to an AA rating from AA- with a stable outlook and in fiscal year 2023, Fitch Ratings upgraded WASD Water and Sewer Revenue Bonds from A+ rating to an AA- rating with a stable outlook. Obtaining two consecutive bond rating upgrades is a monumental accomplishment particularly since the department is in the process of a large-scale construction plan. Stronger ratings help secure the needed funding at lower interest rates by attracting larger groups of investors, thus saving ratepayers dollars.



WASD's Capital Improvement Program performance has met the 75% execution ratio target of the adopted capital budget for the fiscal year. The Department, working collaboratively with water and sewer industry experts on capital projects, has surpassed its performance target for three consecutive years starting in FY 2022 with 78%, in FY 2023 at 76%, and in FY 2024 at 80%. In this timeframe, the Department invested \$1.78 billion dollars in capital projects creating 1.2 billion in assets and completing 585 projects.

The WASD Customer Service Department was acknowledged by Miami Dade County Mayor, Daniella Levin Cava, at the WASD 10th Annual "Imagine A Day Without Water" event as a model County department for customer service responsiveness. During FY 2024, our Retail Customer Service Division implemented a planned business strategy focused on our call center agent's average call-handle time. Part of this strategy included utilizing and reviewing customer service database reports for inefficiencies with key staff members,

increasing our workforce while using customer service focused hiring practices, and employing the use of interactive team meetings to engage the staff on best practices to set and meet divisional goals and objectives. As a result, in November 2024, our agents recorded an average handle time of less than 8 minutes, reducing the unit's handle time by over 15%. These improvements, which directly support the Department's customer service Key Performance Indicators (KPI's), have resulted in significantly lower call-wait times, abandon rates, and an increase to almost 78% of all calls answered within 2-minutes, resulting in higher customer satisfaction levels. Customer satisfaction surveys have also been introduced. Currently, the WASD Customer Care Center is averaging 4.65 out of 5 score in customer satisfaction.



Water transmission and distribution staff are best prepared to ensure Miami-Dade's fire hydrants are fully operational and well-maintained. Until 2023, Miami-Dade Fire and Rescue (MDFR) was responsible for the inspection and annual flow of approximately 37,195 hydrants. Previously, WASD was responsible for installing or inspecting contractor-installed fire hydrants, maintaining a calibrated fire flow model per the International Organization for

Standardization (ISO), and maintaining adequate fire flow at the water main.



Through an agreed transfer of responsibilities, WASD will continue its successful, in-place hydrant responsibilities, including the sole assumed responsibility for the inspection and maintenance of all hydrants from MDFR. This consists of annually inspecting, flowing, and making all hydrants free from debris in accordance with Florida Statute 633.312. WASD

aims to have no hydrant out of service for more than seven days. To achieve this task, WASD has hired and trained 18 hydrant crews, 2 crew supervisors, and will provide all needed tools and equipment to accomplish this duty.

KEY ISSUES

HUMAN RESOURCES/ FILLING VACANCIES

Recruiting and retaining individuals with the necessary qualifications to deliver government services effectively and efficiently continues to be one of the public sector's most significant issues. Consequently, WASD is experiencing difficulties finding and attracting qualified candidates for essential classifications due to several factors, including the lack of qualified candidates and intense competition from the private sector for the same pool of applicants. Although salary ranges have been updated for some of WASD's key positions to make them more competitive, that action has not solved the problem.



To alleviate the situation, WASD has engaged in monthly County sponsored career fairs featuring on-the-spot interviews to expedite the hiring of hard-to-fill entry-level positions such as semiskilled Laborers (SSL), Maintenance Repairers (MR), and Heavy Equipment Operators (HEO) requiring Commercial

Driver's licenses (CDL) as a minimum requirement for the classification. WASD has also worked closely with the Human Resources Department's compensation specialists to initiate salary reviews for positions that have counterparts in the private sector.

The Department has implemented internship programs to attract skilled and talented graduates from local schools and colleges. WASD has also developed apprenticeship programs for treatment plant operators in collaboration with agencies such as the Florida Rural Water Association and the Florida Water and Pollution Control Operators Association.

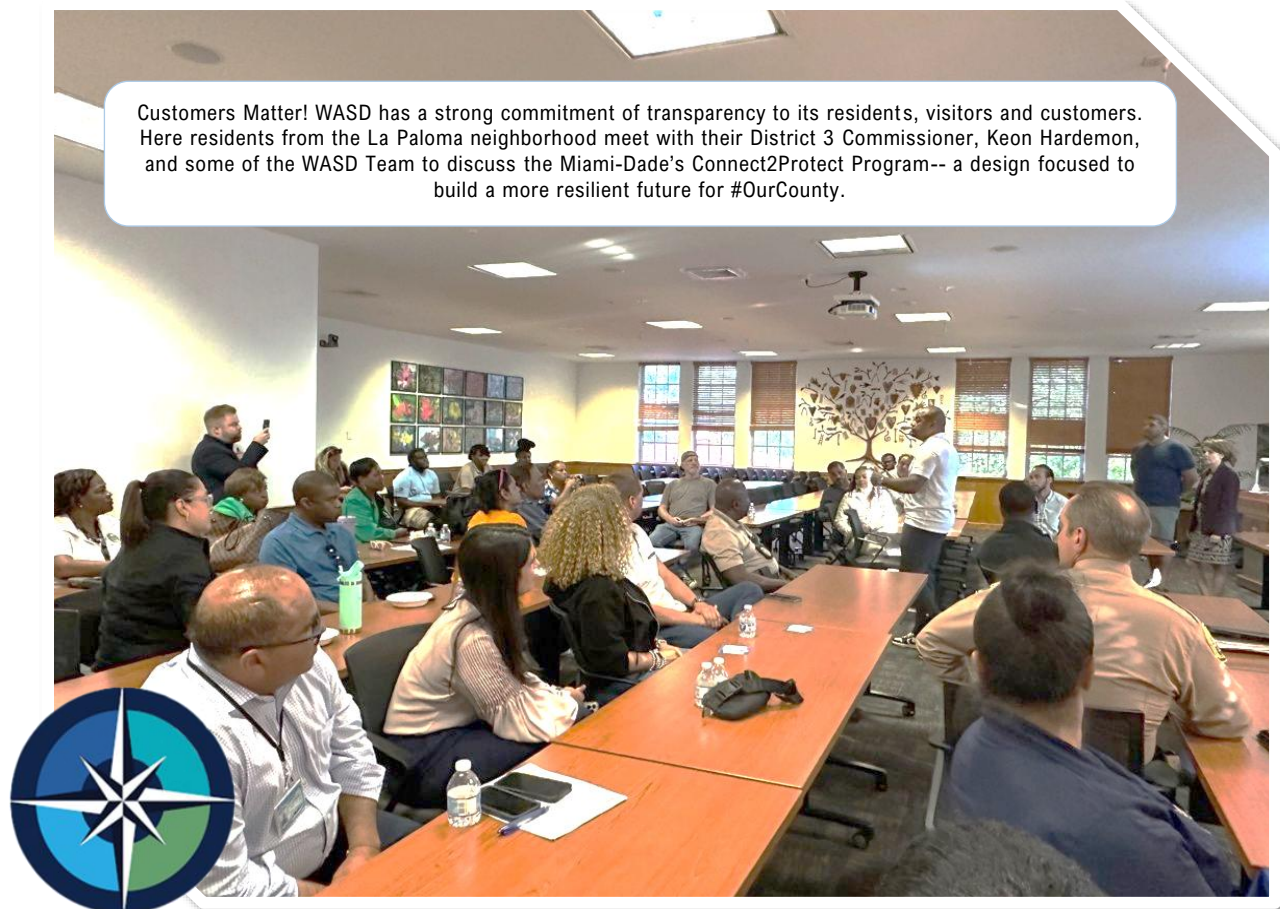
As its existing workforce continues to evolve, WASD has emphasized providing competitive salaries for its current employees, as well as for those candidates entering the organization. The recruitment team has prioritized trainee positions with processes in place to start a focused program for developing internal talent pools and career paths.



To equip the WASD workforce with the skillsets necessary to deliver first-class service to our community, WASD has established a policy to pay for staff training and skill tests, as well as paying the fees for them to obtain required licenses. This will make the Department more competitive in a labor market where water and wastewater professionals are in short supply.

CUSTOMER DEMANDS AND EXPECTATIONS

Customer service expectations continue to evolve due to technological advancements and changing consumer preferences. Some key trends involve hyper-personalization. Hyper-personalization creates fine-tuned, customized, and targeted experiences through data, analytics, Artificial Intelligence (AI), and automation. Today's customers expect to receive tailored experiences across all touchpoints using Artificial Intelligence and data analytics. WASD's Customer Contact Center must balance customer needs, their privacy concerns, and ensure data security while offering personalized interactions. As a result, the Department has partnered with the Miami Dade County Information Technology Department (ITD), and with Cisco, our contracted partner responsible for updating our telecommunications equipment. Through this collaboration, the call center Interactive Voice Response system (IVR) is being replaced to further improve the customer experience.



Customers compare WASH interactions to their interactions with other utilities or businesses. As a result, the Department must be prepared to rise to the occasion by getting the service experience right the first time. Accordingly, the First Call Resolution (FCR) has been initiated. The FCR strategy can help WASH meet customer service expectations. In 2024, the WASH Customer Care Center's First Call Resolution ratio stood at 80%, 10% above the targeted goal. Customer

satisfaction surveys have also been introduced. Currently, the Customer Care Center is averaging 4.65 out of 5 in customer satisfaction. WASD is committed to enhancing the Self-Service solutions we offer to our customers. Increasing our use of Frequently Asked Questions (FAQs) and implementing additional AI driven tools to handle common issues will allow simple customer service requests to be addressed more quickly, increase customer satisfaction rates and reduce the number of customers who require speaking with a live agent.

WASD employees are the frontline of our organization and are often the gauge for first impressions with our stakeholders. Employees must be engaged, feel appreciated, be committed to our collective goals and understand the importance of their role in the Department, to optimize our overall success. With this in mind, the utility has started its department-specific strategic planning process, which includes input from staff at all levels of the organization to create actionable strategies. Leadership is also currently analyzing the results of a recent WASD employee survey to identify areas of improvement for the organization.



WASD offers and prioritizes training and professional development for all levels of its workforce. A well-developed team enables us to promptly meet our customer's needs and is an asset to the Department.

Fair and balanced workloads and the tools to help staff better perform their jobs — including proper staffing, employee training, employee recognition, and technology that facilitates their ability to do their work — all matter. Still, the fact is that WASD competes with other career options, departments, and employers in today's competitive job market. However, due to our improved hiring practices, we've decreased our turnover rate by 3% from the last fiscal cycle.

INFORMATION TECHNOLOGY & THE NEED FOR INNOVATIVE SOLUTIONS

While centralizing information technology services for the County, ITD has sought to increase efficiencies by systematically implementing “one size fits all” solutions across the enterprise. However, for WASD, this approach has been less than ideal. It has led to delays in employing more suitable or timely solutions that other utilities of comparable size have already validated.

WASD’s current Interactive Voice Response (IVR) system is outdated, cumbersome, and slow. Therefore, the Department needs to procure a platform that is dependable and easy to use, which provides effective and efficient results. The right customer service software should integrate with WASD’s other systems to reduce unnecessary wait times, customer frustrations, and erroneous solutions.

A state-of-the-art, user-friendly, intuitive system with functionalities that allow for customer preferences and efficient resolutions to their issues is the path WASD seeks to deliver a positive customer experience. Multiple platforms, for example, Chatbox, outbound messaging, and Smart Meter dashboards are popular and effective consumer trends for utilities across the country. WASD seriously requires much-needed software implementation catered to the needs of our Department.

WASD utilizes water meters to collect usage data, providing a source for a consumption-based billing system. Advanced Metering Infrastructure (AMI) leverages modern technology to transmit near real-time data to the Department. With the implementation of an AMI system, the Department can transition to monthly billing (currently, bills are processed quarterly) which can significantly improve WASD’s operations.



The data provided by AMI can be used to maximize efficiency, conduct proactive system improvements, and remedy leaks. It can significantly improve customer service by improving the quality of our call center, providing customers with a modern utility interface, and notifying rate payers of potential issues. For example, the AMI system would have the ability to notify a customer of a possible leak within their privately owned plumbing system if the meter registers a persistently low flow.

CONTRACTOR SCARCITY

WASD plans to execute projects averaging \$786 million annually over the next five years. However, this output level can only be achieved if the construction sector provides adequate resources. The industry continues to be impacted by volatility in material prices, increased labor costs, and an ongoing shortage of qualified, skilled workers.



As a result, during FY 2023-2024, WASD continued to experience construction contractor scarcity. These industry conditions have significantly reduced competition, and if current industry conditions persist or worsen, WASD will be limited in its ability to complete its multi-year capital program as currently planned. It would also jeopardize the utility's ability to meet mandated regulatory obligations.

As a mitigation measure, WASD has established quarterly construction forums to engage the industry, provide upcoming project information, and offer a platform to collaborate and incentivize bidding.

A CHANGING ENVIRONMENT

The Department has been remarkably successful in continuing operations and maintaining service levels, even during extreme events such as 1992's devastating Hurricane Andrew and the destructive force of Hurricane Irma in 2017. The impact of hurricanes and other climate-related influences will continue to increase due to sea level rise, directly impacting groundwater and storm surge levels. This poses a particular threat to coastal WASD infrastructure and operations staff. These changes also pose a risk to the long-term water supply by increasing the rate of saltwater intrusion.

WASD is experiencing increased impacts from heavy and prolonged precipitation events, which cause wastewater flow rates to increase beyond system design through stormwater inflow and infiltration into the sanitary sewer system. These climate-induced issues are complex and crosscutting. Therefore, WASD continues collaborating with municipalities, County departments, regional stakeholders, state and federal agencies, and professional scientific and engineering industry partners to assess, plan and execute mitigation measures to reduce risks to water and wastewater infrastructure and operations.

Water is essential for life and the amount of fresh water on earth is limited. Preserving the quality of fresh water is important for the drinking-water supply, food production and recreational water use. The team at WASD is committed to ensure that our County has an ample supply of potable water for many years to come.



WASD is proactively taking measures to increase the system's ability to weather severe storms through various pump station hardening projects and developing flood mitigation criteria for all water treatment plant assets. Additionally, the Department has multiple programs in place that address renewal and replacement needs, system capacity, and system modernization, such as the Small Water Main Replacement Program (SWRP), the Large Diameter Force Main Program (LDFP), Connect 2 Protect, and the Water Reset. These programs are expanded in this plan's "Priority Initiatives" section.

CONNECT 2 PROTECT FUNDING CHALLENGES

Miami-Dade County's Connect 2 Protect is a countywide program that provides sanitary sewer service to residents with septic systems. There are about 120,000 properties served by septic systems across Miami-Dade County, and about 9,000 of those are vulnerable to compromise or failure under current groundwater conditions. This number is expected to increase to approximately 13,500 by 2040 due to sea level rise. Compromised septic systems can cause health risks, environmental impacts, and impacts on private properties.



A well thought out, team-based approach by WASD operational staff plays a pivotal role with ensuring the job is done right the first time!

Expanding the public sanitary sewer system is estimated to cost from \$50,000 - \$60,000 per property, in addition to private property connection costs, including the plumbing and abandonment of the septic tank system, which is

estimated at \$10,000 - \$15,000 per property, depending on the location of the system and specific property characteristics. Therefore, fully addressing this issue and expanding the infrastructure will take time.

County ordinances and implementing orders establish strict rules for using funds to expand the sanitary sewer system. These restrictions and the lack of an identified funding source require that WASD seek alternative funding sources to address these needs. The Department continues to apply for grants, leverage alternate financing mechanisms, and work with municipal partners and other community stakeholders to support the continued execution of necessary infrastructure projects to ensure a sustainable future for the residents of Miami-Dade County.



The County is prioritizing where investments will have the most significant environmental impact. As funding becomes available, the County prioritizes the conversion of parcels based on the greatest likelihood of an impact from failure. The County continues to seek funding, having been awarded more than \$75 million in grants and a \$190 million Water Resources Reduction Act Congressional authorization.

WASTEWATER TREATMENT PLANT COMPLIANCE AND I&I REDUCTION

The State of Florida issues permits to WASD to treat wastewater flow, which is defined as domestic and industrial wastewater that flows from customers to the County's wastewater treatment system. Consistent with other wastewater utilities in the nation, inflow and infiltration (I&I) triggered by groundwater tables, illegal connections, rainfall, and flooding can dramatically increase wastewater flow in our system and at our wastewater treatment plants.

WASD is dedicated to meeting our compliance parameters and reducing infiltration and inflow. The Florida Department of Environmental Protection and the Consent Decree outline requirements that directly address these concerns. Programs such as Capacity, Management, Operation, and Maintenance (CMOM), Nominal Average Pump Operating Time (NAPOT), and the Volume Sewer Customer Ordinance work to ensure we systematically inspect and repair our wastewater system. At our treatment facilities, employee training, system and equipment upgrades, automation, and asset management and maintenance programs ensure we meet or exceed our treatment goals.



WASD is working to optimize our processes and extend the life of our equipment. Our treatment plants are subject to excessive corrosion due to saltwater and sulfides in the wastewater. Additionally, due to the size of our facilities, many new processes are only used in larger utilities. These complexities are driving WASD to upskill our staff by increasing training, adding tools and automation, conducting hands-on testing and data review, establishing key performance indicators and improving overall effluent quality.

BIOSOLIDS & THE FDEP NUTRIENT MANAGEMENT PLAN

Biosolids are nutrient-rich organic materials produced as a byproduct during the wastewater treatment process. The removal of biosolids is essential to protect human health, meet regulatory compliance and maintain effluent quality.

Recently, regulations have significantly impacted WASD's ability to "land apply" Class B biosolids WASD produces approximately 700 wet tons of Class B biosolids, and WASD has contracted haulers responsible for transporting and applying those biosolids. The market disruptions due to the newly enacted regulation, Nutrient Management Plan, significantly decreased the number of available land application disposal facilities. This reduction has intensified competition among utilities for limited hauling and disposal services, driving up costs and decreasing vendor availability.

In August 2023, WASD's contracted haulers were unable to haul 100 percent of the biosolids that WASD produces. Consequently, vendors under MDC Contract 7122-1/23 stopped hauling biosolids, leading to accumulation and unpleasant odors affecting residents, leading to the declaration of two emergencies in order to secure means to dispose of backlogged biosolids and meet the daily hauling demands.

WASD is pursuing temporary and permanent solutions. As a temporary solution, WASD is requesting vendor pricing for wide range of alternatives to further treat or dispose of biosolids including composting and onsite Class A/AA treatment options. WASD is investigating long-term solutions to switch from Class B to Class A or AA options by commissioning a business case evaluation and the development of a biosolids master plan.

- ◆ Class B is generally recognized as a basic, cost-effective solution to treat organic solids in wastewater processing. Class B biosolids significantly reduce pathogens but are not as stable; they are generally used as fertilizer in agriculture or forestry. They can also be incinerated or disposed of at a landfill.
- ◆ Class A treatment is recognized as an intermediate treatment; pathogen levels are similar to those found in native soil, with less odor and more stable. Class A biosolids can fertilize home lawns, gardens, parks, and golf courses.
- ◆ Class AA is like Class A but has the strictest limits for pathogen and heavy metal reductions.

UNPRECEDENTED FUNDING OPPORTUNITIES

The Infrastructure Investment and Jobs Act provides unprecedented water and wastewater funding that will allow WASD to modernize and strengthen its infrastructure and operations. Over \$55 billion will be made available for a variety of needs, including lead service line replacement, addressing emerging contaminants, hardening plants and systems to storms and sea level rise, expanding the sewer system to allow for the removal of legacy septic tank systems, smart water supply management through storage and other operational strategies.



From May 2022 through May 2023, WASD submitted ten applications totaling \$42 million for funding through grants and legislative appropriations. Through these efforts, the Department has received notice of \$222,152,972 in grant awards and authorizations.

In November 2024, The State of Florida Department of Environmental Protection (FDEP) and Miami Dade County have entered into a Drinking Water State Revolving Loan Agreement for planning, design and construction projects, which have estimated costs at \$80.6 million. The FDEP Drinking Water State Revolving Fund (DWSRF) will assist the Department with the compliance of the Lead and Copper Rule (LCR) requirements that public municipalities must take to further reduce the potential for lead exposure through drinking water. This loan agreement includes a principal forgiveness clause of \$39.5 million, or approximately 49%. The Department is in compliance with the development of the initial inventory discovery requirements and is now further conducting a comprehensive line verification approach.

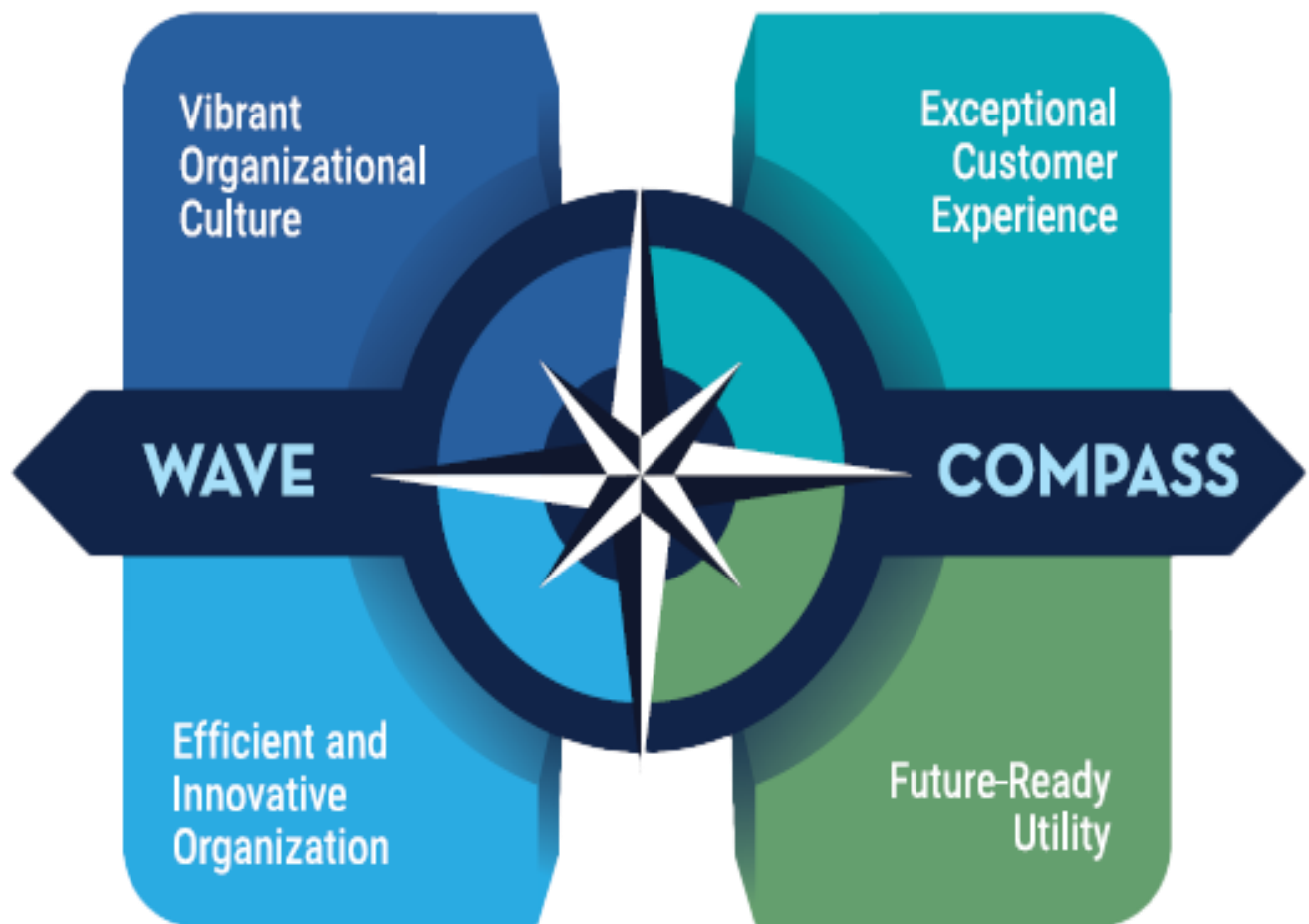


WASD continues aggressively seeking funding for its priorities to leverage and complement existing revenues and funding sources that address priorities and goals, including increasing infrastructure resilience, expanding the sanitary sewer system, and enhancing energy, water, and waste reduction strategies.

PRIORITY INITIATIVES

THE WAVE STRATEGIC PLAN

WASD is advancing the implementation of the WAVE Strategic Plan with a people-centered approach that prioritizes the well-being, development and engagement of its workforce. Through initiatives aligned with the **WAVE's four cardinal directions**, the Department is preparing for the future while building on the progress achieved to date.



VIBRANT ORGANIZATIONAL CULTURE

WASD envisions becoming Miami-Dade County's employer of choice by fostering a vibrant organizational culture that supports employee growth, enhances morale, and inspires collaboration.

This transformation will be achieved by developing innovative programs, refining ongoing initiatives, and embedding recognition, leadership, and safety into the fabric of the organization. This also entails providing robust, accessible, and effective employee training and development programs, recognizing employees for their stellar performance, and fostering communication and collaboration across the entire Department.



SUCCESSION PLANNING & EMPLOYEE DEVELOPMENT

As part of its overall business plan, WASD has adopted a comprehensive employee development and retention strategy, which supports one of the County's Strategic Priorities and Goals under the area of General Government— an excellent, engaged and resilient County workforce.

Preparing for leadership continuity and ensuring workforce readiness remain critical priorities. The Department will continue developing its comprehensive succession planning framework, which will include:

- ◆ **Developing Job Clarity:** Refining and updating job descriptions to reflect current and future expectations.
- ◆ **Identifying Future Leaders:** Creating pathways for high-potential employees to prepare for mission-critical roles.
- ◆ **Fostering Knowledge Retention:** Strengthening cross-training and institutional knowledge transfer to preserve expertise.
- ◆ **Customizing Growth Opportunities:** Offering targeted training and certifications to ensure employees are equipped for advancement.

To this end, the Department provides training opportunities for all employees to enhance their skills and chart a career pathway. However, a critical issue is



that several of the Department's senior employees with vast institutional knowledge are approaching retirement age.

To retain this crucial knowledge, WASD provides on-the-job training and develops standard operating procedures and work instructions for new employees. WASD also develops Standard Operating Procedures (SOP's) and electronic operations and maintenance manuals for all water and wastewater treatment plants to provide employees with easy access to vital information.

Potential internal candidates suited for mission-critical and hard-to-fill positions are identified and provided with the opportunity for training and career development. In addition, overage requests are needed for certain vital positions requiring external hiring so new hires can shadow and learn from senior employees before they retire.

As WASD looks to the future, equipping leaders with the skills to navigate change and inspire teams is a top priority. A comprehensive Leadership Development Program will focus on building competencies in cultural intelligence, communication, and collaboration while strengthening alignment with the Department's strategic goals. Ongoing engagement with executive leadership will reinforce these practices, creating a unified vision and a leadership team that models the values of a vibrant organizational culture.

These efforts aim to future-proof the Department, ensuring a pipeline of capable leaders ready to meet evolving challenges.

EMPLOYEE RECOGNITION PROGRAM

Recognizing and celebrating excellence is vital to building an engaged and motivated workforce. While department-wide and division-specific recognition efforts are already underway, WASD is planning the next evolution of this initiative. The Excellence Amplified: Empowering WASD Divisions to Celebrate Excellence program will be central to these efforts, focusing on:

- Expanding participation and engagement in recognition initiatives across all divisions.
- Supporting divisions in designing tailored recognition events that reflect their unique cultures and accomplishments.
- Establishing a sustainable recognition framework that embeds appreciation into everyday operations.



This approach is intended to strengthen employee morale, foster a sense of belonging, and align individual contributions with organizational goals by elevating recognition to a core priority.

WASD is committed to creating a workplace where employees feel valued, empowered, and prepared to meet future challenges. Through the WAVE Strategic Plan's focus on Vibrant Organizational Culture, the Department is laying the groundwork for a resilient, future-ready workforce that drives operational excellence while fostering a supportive and collaborative environment.

EXCEPTIONAL CUSTOMER EXPERIENCE

The Department is recognized as a world-class, one water utility that prioritizes exceptional customer experiences.

The Department will put its customers' needs at the forefront of all decision making. This will require understanding customer pain points and increasing personalization of all customer interactions, increasing access to information and customer service through diverse channels, increasing proactive partnership and engagement with all stakeholders, and ensuring the Department's mission and vision are well understood by ratepayers and other decision-makers.



WASD's Water Conservation Ambassador, D-ROP

The construction industry stands at the forefront of transformation, embracing changes and innovative ideas that promise a brighter, more efficient, and sustainable future.

Collaboration is also being revolutionized through integrated project reviews, fostering stronger partnerships with the construction industry and smoother workflows.

System transparency in workflows and timelines are essential for fostering trust, improving collaboration, and ensuring accountability among stakeholders. By providing clear visibility into each stage of a workflow/process and associated timelines, WASD can manage expectations, identify bottlenecks, and allocate resources more effectively.



A transparent system enhances efficiency, builds confidence among the WASD team with the customers, contractors, and developers, and helps ensure that projects are delivered on time. This collaboration has not only streamlined workflows but has also improved overall project quality and customer satisfaction, setting a new standard for industry engagement through various efforts:

- ◆ Collaboration meetings between sister county agencies and municipalities
- ◆ Holding quarterly industry meetings to discuss challenges and innovative initiatives
- ◆ Quarterly roundtable with municipal building officials
- ◆ Pre-application meeting with developers on scope project and infrastructure requirements

Industry partners and other stakeholders have successfully worked in concert with the Department to deliver top-notch services to its customers. These continued collective efforts will allow WASD to attract key contributing contractors and partners needed to produce innovative and affordable solutions for County residents and businesses.

The Water is Life Campaign is a values-based initiative, launched by the Department in 2024, that aims to bridge the gap between the essential services provided by Miami-Dade Water and Sewer and the moments that matter most to the community.

Through traditional advertising and social media engagement, the campaign's intent is to promote stories that highlight water's role in both significant milestones and everyday routines. These stories foster a deeper connection with residents, businesses, and other stakeholders, emphasizing the essential nature of water services.



The Water Is Life campaign touches all, including our very own staff! Christina Garcia-Alario, P.G.

This campaign aligns with the One Water vision, reinforcing the importance of protecting and conserving resources. Additionally, it highlights the need to invest in water infrastructure to ensure reliable services 24/7, 365 days a year. The overarching theme centers on the idea that water is essential for life, and our resources are worth conserving and protecting. The campaign will further support the One Water vision by including strategic collaborations between WASD and other County Departments to show the important role water plays in the everyday lives of our residents.

The campaign also aims to demonstrate that the Department's work is critical to the well-being of the community, making both extraordinary and everyday moments possible. By sharing stories—from healthcare professionals saving lives to artists pursuing their dreams—the campaign creates a meaningful connection between the services provided and the people who rely on them.

In 2024, the Water is Life campaign reached over 15 million impressions across digital, transit, and social media platforms. With additional community events and partnerships planned for FY 2024-25, Phase 2 will continue to expand the campaign's reach, further promoting water conservation practices and resource stewardship.

At the Miami-Dade Water and Sewer Department, protecting public health and ensuring the safety of our community is our top priority. We are dedicated to the treatment and delivery of safe, high-quality drinking water to all our customers. Building upon this commitment, the “Know Your Pipes” initiative has been implemented to align with U.S. Environmental Protection Agency (EPA) regulations and reinforce the Department's dedication to transparency and compliance that serves our County with a population of more than 2.8 million residents.


KNOW YOUR PIPES

REMINDER
We Need Your Help!

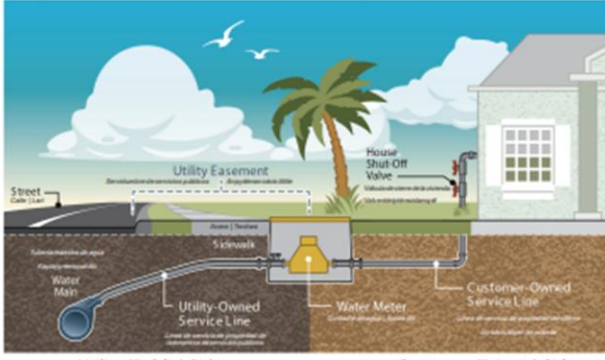
The U.S. Environmental Protection Agency (EPA) recently released Lead and Copper Rule Revisions, which require all water systems in the nation to verify water pipe materials, including customers' private water service lines.

We need your help in identifying the material of your water service line to complete our inventory.

What Do I Need to Do?




1. Scan the QR code or follow the URL.
2. Complete a brief survey to identify your service line material. You would need a camera or smartphone and internet access.



Utility (Public) Side
Lead or in compliance with existing public utility (public) | No water side a public

Customer (Private) Side
Lead or in compliance with existing private utility (private) | No water side a private

Learn more about the LCRR and Know Your Pipes Program
Questions? Call the **Know Your Pipes Customer Care Center** at 786-258-6944, or email us at knowyourpipes@miamicity.com



In 2021, the EPA announced additional regulations, called the Lead and Copper Rule Revisions (LCRR), to strengthen the regulatory framework on lead in drinking water to support the overarching goal of proactively removing lead service lines and more equitably protecting public health. Specifically, the revision establishes more monitoring, testing, and reporting parameters to address health risks from lead exposure in drinking water. The regulations require all U.S. utilities with water distribution systems to develop a comprehensive water service line material inventory, implement new compliance sampling standards, and make the results publicly available.

To meet the requirements of the LCRR, the Miami-Dade Water and Sewer Department has launched Know Your Pipes. This program will ensure that WASD continues to monitor and test its drinking water per the strengthened regulations, as well as proactively informing and engaging customers throughout the compliance process.

EFFICIENT AND INNOVATIVE ORGANIZATION

The Department will set the standard of practice for increasing organizational efficiency by improving processes and integrating innovation.

The Department will optimize its internal business systems, CIP, and daily operations while integrating innovation to the greatest extent possible. This will require improving recruitment procedures, enhancing the effectiveness of standardized policies and work processes, decreasing procurement hurdles and fulfillment times, decreasing execution time for IT support, optimizing the CIP and asset management programs, and integrating innovative tools and programs across the organization.

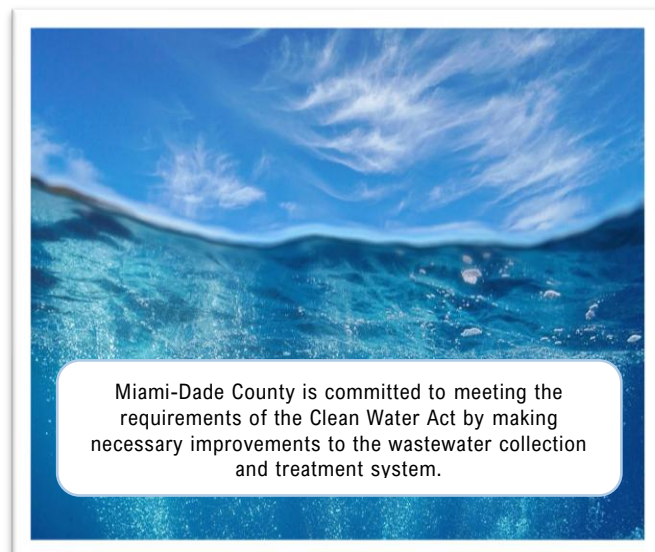
CONSENT DECREE PROGRAM

The County negotiated a Consent Decree with the United States Environmental Protection Agency (EPA) and the Florida Department of Environmental Protection (FDEP), lodged with the U.S. District Court on June 6, 2013, and entered on April 9, 2014. This Consent Decree is designed to build on the successes achieved by the Department under previous Consent Decree programs. The overarching goal of the Consent Decree is to reduce sanitary sewer overflows and meet the effluent limit requirements of the Clean Water Act.

The Consent Decree requires the Department to upgrade its collection, transmission, and treatment facilities by completing 81 capital improvement projects throughout the wastewater system. It also requires the County to implement Capacity, Management, Operations, and Maintenance (CMOM) programs to continue improving its systems and to eliminate, reduce, prevent, or otherwise control sanitary sewer overflows (SSOs).

CMOM programs will help WASD achieve these improvements in the following ways:

- ◆ Development of asset management programs and software
- ◆ Implementation of a SCADA master plan.



- ◆ Inspecting, maintaining, and upgrading our systems to extend the life of departmental assets and prevent premature failure

As of Nov. 30, 2024, the County's Consent Decree Program has completed 62 capital improvement projects at approximately \$912 million. Currently, 14 projects are under construction at an approximate cost of \$893 million, and five projects, estimated at \$203 million, are in the planning, design, permitting, and procurement phases.

Implementation of the Consent Decree is underway, and the County remains fully committed to completing the mandated Consent Decree Capital Improvement Projects by 2028 despite ongoing supply chain issues brought on by inflationary pressures and the economic environment, extreme weather events, and other issues.

OCEAN OUTFALL LEGISLATION PROGRAM

In 2008, the Florida Legislature approved, and the Governor signed a law



requiring all wastewater utilities in Southeast Florida to utilize ocean outfalls for disposal of treated wastewater to reduce nutrient discharges by implementing advanced wastewater treatment by 2018 or equivalent, cease using the outfalls by 2025 and reuse 60 percent of the wastewater flows by 2025.

In 2013, the statute was amended to provide greater flexibility in meeting reuse requirements by allowing the use of the ocean outfalls for peak flow management, with

the condition that discharge comprises less than 5 percent of annual baseline flows. Because of this law, the Department has analyzed several compliance options. Each option includes the additional projected capacity to meet future average daily and peak flow demands, although permitting time challenges remain an issue for the North District WWTP.

After considering various options, the Department's recommended choice provides for upgrades to both the Central and North District WWTPs. The upgrades will include the addition of deep-injection wells at the Central and North District WWTPs to eliminate the normal use of ocean outfalls for the disposal of treated wastewater.

As part of the Department's normal planning activities, WASD thoroughly re-evaluated its 2035 projections, including average daily flows, peak hour flows (PHF), and influent solid loadings.

Through the Department's continued water conservation efforts, together with its Inflow and Infiltration Program, wastewater flows have remained flat for the past fifteen years, reducing the current and future need for system capacity. The updated projections have pushed the need for a new plant beyond the initial 2025 target. Therefore, the addition of a proposed West District WWTP, part of the Department's 2013 Ocean Outfall Legislation Compliance Plan, will not be needed to comply with the legislation, nor will it be required by 2025, as initially planned, for capacity purposes.

Nevertheless, the facility is still included within WASD's 20-year planning horizon.

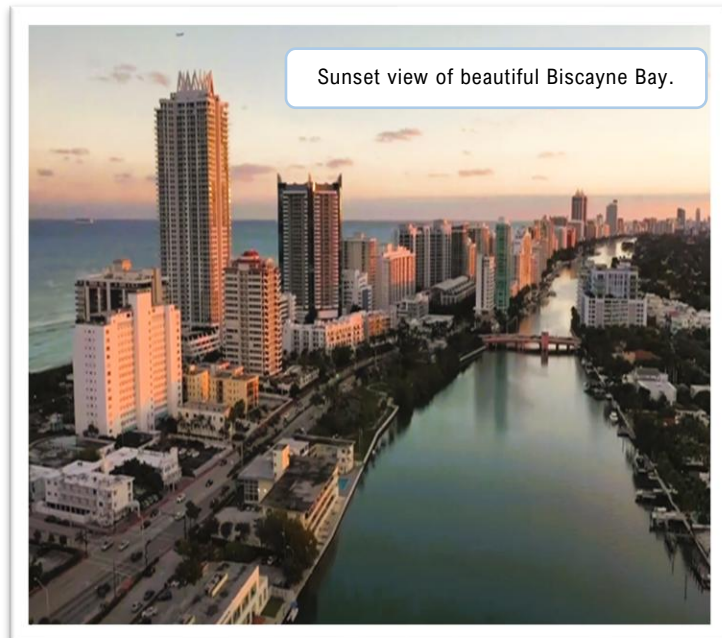
The Department has implemented an equivalent to that which Advanced Wastewater Technology (AWT) would have achieved if the requirements were fully implemented beginning Dec. 31, 2018, and continued through Dec. 31, 2025. This has been accomplished by

reducing the nutrients (total nitrogen and total phosphorus) disposed of through the ocean outfall and maximizing the flow sent to the existing wells at the North District WWTP and the new wells at the Central District WWTP.

Since 2008, the Department has used the existing deep-injection wells at the North District WWTP to reduce the flow to the outfall. Additionally, in November 2019, the Department was authorized to start the operation of two new industrial deep-injection wells at the Central District WWTP. These wells have allowed the Department to divert approximately 30 million gallons of treated wastewater per day from the Central District WWTP's ocean outfall.

With the wells, the Department met the goal of reducing total phosphorus discharges by 2.9 million pounds in March 2023 and is on track to reducing total nitrogen discharges by approximately 54 million pounds by the end of 2025. The goal of 59.9 million pounds will be met in early 2027.

The Department is implementing an innovative effluent energy recovery system, which will result in the reuse of approximately 15 million gallons per



day. When combined with the existing in-plant reuse and the FPL collaboration agreement, the Department will reuse 117.5 million gallons per day and become the largest reuse utility on the East Coast.

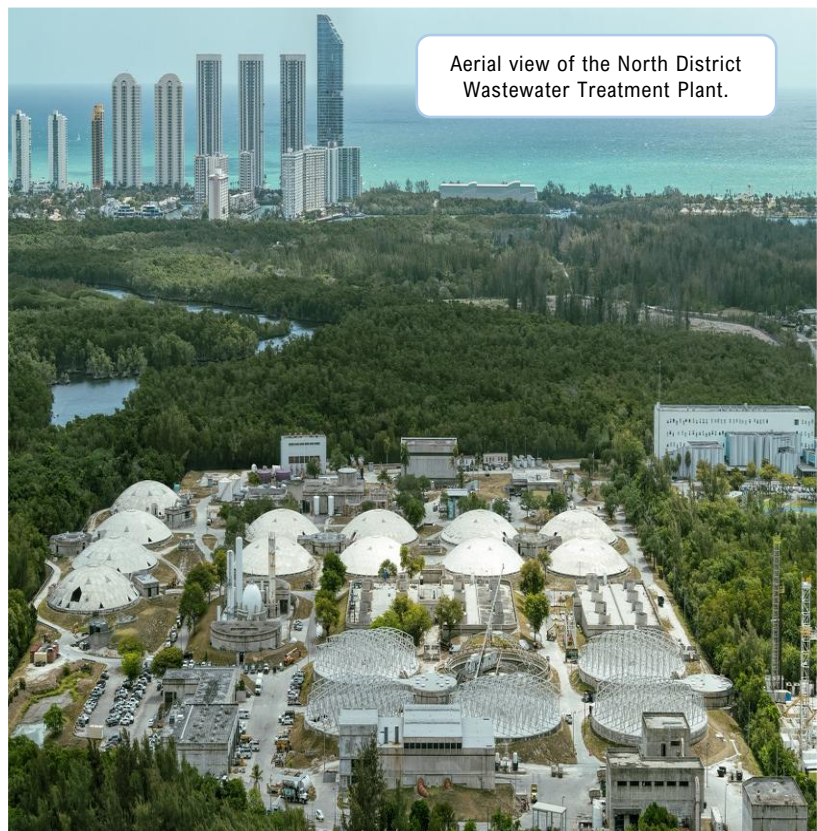
The Department has made significant progress towards completing the construction of the South District Wastewater Treatment Plant Expansion Project. This will increase the average daily flow capacity to 112.5 to 131 million gallons per day and the peak hourly flow capacity to 305 million gallons per day. The expansion will allow for continued service area growth, and the improvements will increase the facility's resilience. It is scheduled to be completed by June 2026.

The construction activities at the North District WWTP started with the installation of five deep injection wells, which were completed in August 2024. The installation of the deep injection wells is being followed by site development activities. The site development activities project received notice to proceed in May 2024 and will prepare the site for the construction of new treatment units and support infrastructure. The design of the new treatment units and support infrastructure are in the final design phase.

At the Central District WWTP, the Department completed the construction of 9 deep injection wells in November 2024 and started the construction of a new electrical distribution building.

This project will provide the Central District WWTP with a new electrical distribution building equipped with eight diesel engine generators, fuel storage facilities, maintenance facilities, a control room, and a safe room to be used during extreme weather events.

The new building will provide electrical power and backup power to existing and proposed facilities.



The Water Reset Program was developed to be a forward-looking, flexible and comprehensive tool to address aging infrastructure, capacity, and regulatory needs across the water system, while making positive impacts on:

- ◆ Life, Health, and Safety
- ◆ Legal and Current Regulatory Compliance
- ◆ Future Regulatory Compliance
- ◆ Essential Improvements
- ◆ Strategic Alignment
- ◆ Infrastructure Risk Management and Resilience
- ◆ Financial and Operational Benefits
- ◆ Shovel Ready Status

The intent of this innovative strategy was to create guidelines that objectively prioritize multiple projects that are part of the Water Reset while accounting for several conditions that have not yet been fully defined. These include:

- ◆ PFAS (Per- and polyfluoroalkyl substances)
- ◆ GWUDI (Groundwater Under the Influence of Surface Water)
- ◆ Various capacity modification scenarios
- ◆ Disinfection Alternatives

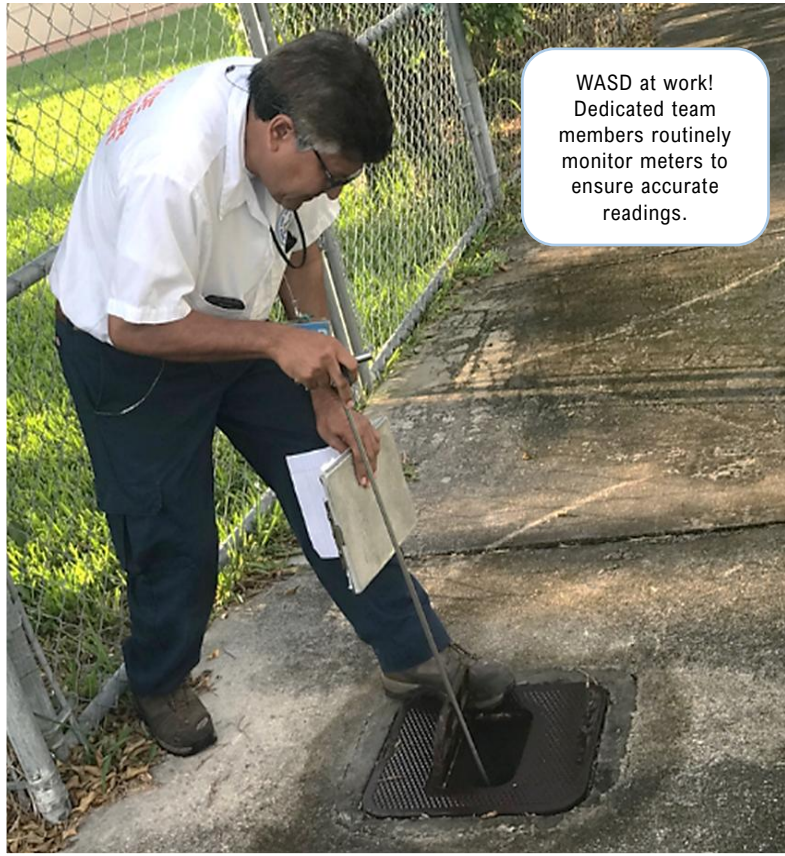
The Water Reset budget is approximately \$2 billion. Currently, the program has approximately \$875 million in active or completed projects, consisting of 13 projects in construction, 40 projects in study, design, permitting or procurement, and 9 projects completed. The remaining projects are programmed to be implemented over a ten-year period.

WASD's former Director and now county Chief Utilities and Regulatory Services Officer, Roy Coley, previously toured the historic Hialeah Water Treatment Plant with the City of Hialeah Council President, Jesus Tundidor, and company. The Department's Water Reset Program is working to ensure that the County's water distribution system will be strong and reliable and will serve its customers for years to come.



As mentioned previously in this document, WASD owns and operates three regional water treatment plants and provides potable water to over 2 million residents and visitors to the County through more than 495,000 metered service connections. Yet only 35-meter readers are currently assigned to read these 495,000 accounts on a quarterly or monthly basis. Consequently, the service area is split into various reading cycles, and routes are read daily throughout the month.

The current meter infrastructure combines manually read meters with readings captured via handheld devices. For this reason, the Department is embarking on an Advanced Metering Infrastructure (AMI) to convert the existing water meters and meter reading system to a state-of-the-art solution that leverages smart devices to improve the County's water and sewer operations.



This project includes all hardware, cloud-based software, equipment, materials, technical labor, installation labor, and related services, including testing, supervision, project management and all other items necessary to install an integrated turnkey solution for the County, with the following objectives:

- ◆ Collect and store hourly meter reading data for all water meters in the WASD service area
- ◆ Improve non-revenue water losses through enhanced analytics
- ◆ Improve the customer service experience
- ◆ Allow for monthly billing of customers
- ◆ Improve the meter-to-cash process
- ◆ Provide a customer-facing online portal for customers to view their water usage
- ◆ Provide flexibility to connect to various sensors for future expansion.

FUTURE-READY UTILITY

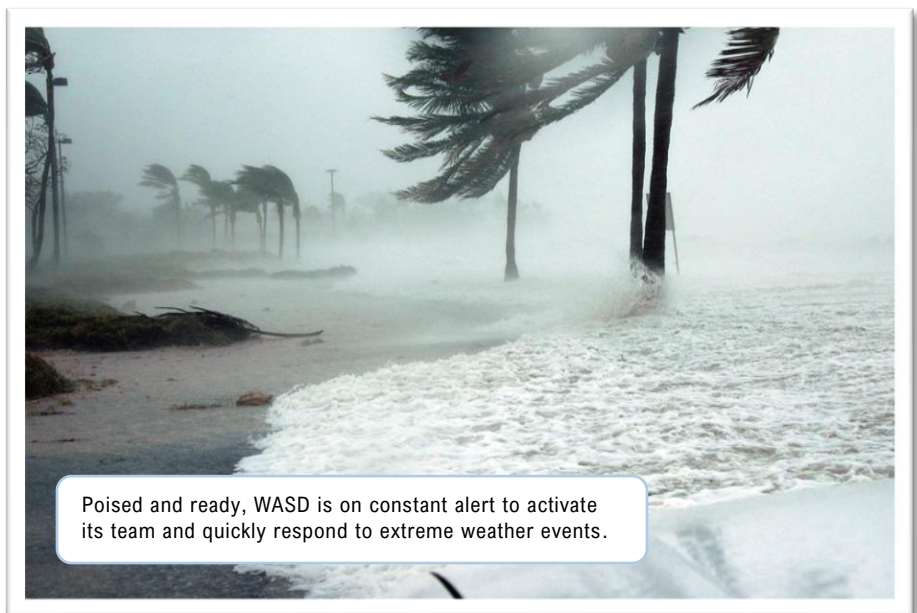
The Department is prepared for risks and uncertainties in economic and climate conditions and contributes to a thriving community. The Department will prepare the organization for emergent and dynamic future conditions. This will require the Department to enhance emergency preparedness and response, advance its resilience framework, develop strong financial systems, increase sustainable practices, and adopt a one water approach.

FUTUREPROOFING, RESILIENCE & SUSTAINABILITY

WASD has been remarkably successful in operating and maintaining service levels, even during extreme events such as 1992's devastating Hurricane Andrew and the destruction of Hurricane Irma in 2017.

But the impacts of hurricanes and other climate-related influences will continue to increase due to sea level rise, which directly influences the groundwater and storm surge levels, posing a threat to WASD infrastructure and operations staff.

In 2018, the Department developed a “Design Guide for Hardening Wastewater Treatment Facilities against Flooding from Surge, Sea Level Rise, and Extreme Rainfall” to assist engineers and consultants with designing the projects in its multi-billion-dollar Capital Improvement Program (CIP) to withstand wind, storm surge, and flood conditions based on priority criteria including personnel safety and system criticality. The infrastructure improvements planned to meet regulatory requirements, such as the Ocean Outfall Legislation and the Consent Decree, drive this work.



In addition to the regulatory work of the Ocean Outfall and Consent Decree, WASD is proactively taking measures to harden all infrastructure and increase the system's ability to weather severe storms. These projects include the hardening of Pump Station 1, Pump Station 1310, Pump Station 536, and the

Westwood Lakes Control Center through the Hazard Mitigation Grant Program (HMGP). Other critical hardening projects are being funded through the Resilient Florida Grant Program. As part of this program, the Department is working to develop flood mitigation criteria for all water treatment plant assets. Once these criteria are finalized, all future projects will be designed to meet these criteria.

Beyond the hardening work, WASD has developed various infrastructure programs that address R&R needs, system capacity, and system modernization. These programs include Small Water Main Replacement Program (SWRP), the Large Diameter Force Main Program (LDFP), Connect 2 Protect, and the Water Reset, which have been previously mentioned in this plan. All these programs are underway, with eight system betterment projects being designed as part of the SWRP, seven large-diameter force mains in design within the LDFP, and seven septic-to-sewer projects in Connect2Protect.

Along with WASD's efforts to maintain, harden, and expand water and wastewater infrastructure, legislative solutions are being made to ensure a sustainable supply of top-quality water to meet the future needs of our growing community. Miami-Dade County has approved legislation authorizing the execution of a Capacity Allocation Agreement in Phase 1 of the C-51 Reservoir. Phase 1 construction was completed at the end of 2024, providing the Department with a 15 million gallon per day allocation of alternative water supplies through at least 2065.

Notwithstanding the asset-related and legislative solutions underway, the need to harden existing assets remains essential to protecting infrastructure and personnel.



This is particularly critical at pump stations and the three coastal wastewater treatment plants, where more than 70 percent of the assets are vulnerable to storm surge.

Therefore, it is essential to seek all available funding opportunities to advance hardening initiatives to decrease the risk to existing infrastructure, as these are the weakest links in WASD systems.



Miami-Dade County's Connect 2 Protect is the County's approach to extending sanitary sewer service to residents with septic systems to protect properties, health, and natural areas such as Biscayne Bay.

Septic systems effluents are one source of nutrients that can travel into our ground and surface water even when the systems are properly cared for. Improving Biscayne Bay's water quality requires significant pollution reduction within its watershed.

Excess nutrients in the water system can lead to a shift to an algae-based ecosystem that impacts fish, birds, marine mammals, and other marine species' habitats.

Compromised and failing septic systems can cause public health risks, environmental impacts, and impacts to private properties. Rising groundwater from sea-level rise will only increase the threat to human health and the quality of ground and surface waters including those that discharge to Biscayne Bay.

Approximately 120,000 properties are served by septic systems. Of that, 9,000 septic systems are vulnerable to compromise or failure under current groundwater conditions. This number increases to approximately 13,500 by 2040.

As of Fall 2024, more than 8,000 connections are in various stages of design, permitting, or construction. In the next few years, these 8,000+ septic tanks will be removed, eliminating the threat they pose to our County's environment and waterways.

In support of this effort, the Septic to Sewer Trust Fund was launched by the Miami-Dade Water and Sewer Department in December 2024. This program was created to provide additional financing options for eligible homeowners to assist with the costs associated with transitioning from septic tank systems to the County's centralized sewer infrastructure. This initiative aligns with the County's Connect 2 Protect vision, focusing on safeguarding public health and reducing the environmental risks associated with aging and vulnerable septic systems. Currently, the program has \$5 million available in funding and eligible homeowners can qualify for up to \$15,000 in grants and/or zero-interest or low-interest loans, as determined by household income.

WASD is committed to helping residents reduce the burden of conversion costs, protect their property, enhance their quality of life, and contribute to the environmental health of Miami-Dade County. By providing tailored financial solutions and guidance to our customers, the program empowers residents to make essential infrastructure upgrades that improve their homes and protect the environment. Transitioning to the County's centralized sewer system not only minimizes the introduction of nutrients to groundwater and protects local waterways like Biscayne Bay but also strengthens community resilience against flooding and sea-level rise.

By investing in modern sewer infrastructure, homeowners gain long-term benefits, including improved sanitation, reduced maintenance costs, and increased property value. The Septic to Sewer Trust Fund demonstrates WASD's pledge to build a healthier, more sustainable Miami-Dade County for generations to come.



A 72" Sanitary Sewer Force Main being replaced. Capital projects, like this one, are helping WASD upgrade our wastewater system.



OUTLOOK

EMERGING & CHANGING REGULATIONS

In April 2024, the EPA established national limits for six types of perfluoroalkyl and polyfluoroalkyl substances (PFAS). Under the new regulations, two types of PFAS (PFOA and PFOS) cannot exceed



four parts per trillion in public drinking water, and three additional PFAS cannot exceed 10 parts per trillion in public drinking water. As of April 2024, public water systems have three years to begin monitoring for PFAS, and then two additional years (until 2029) to become compliant with the new limits.

The Department first began sampling for PFAS — then an unregulated contaminant — in 2015 and has continuously tested quarterly since 2019, meeting the EPA's then Health

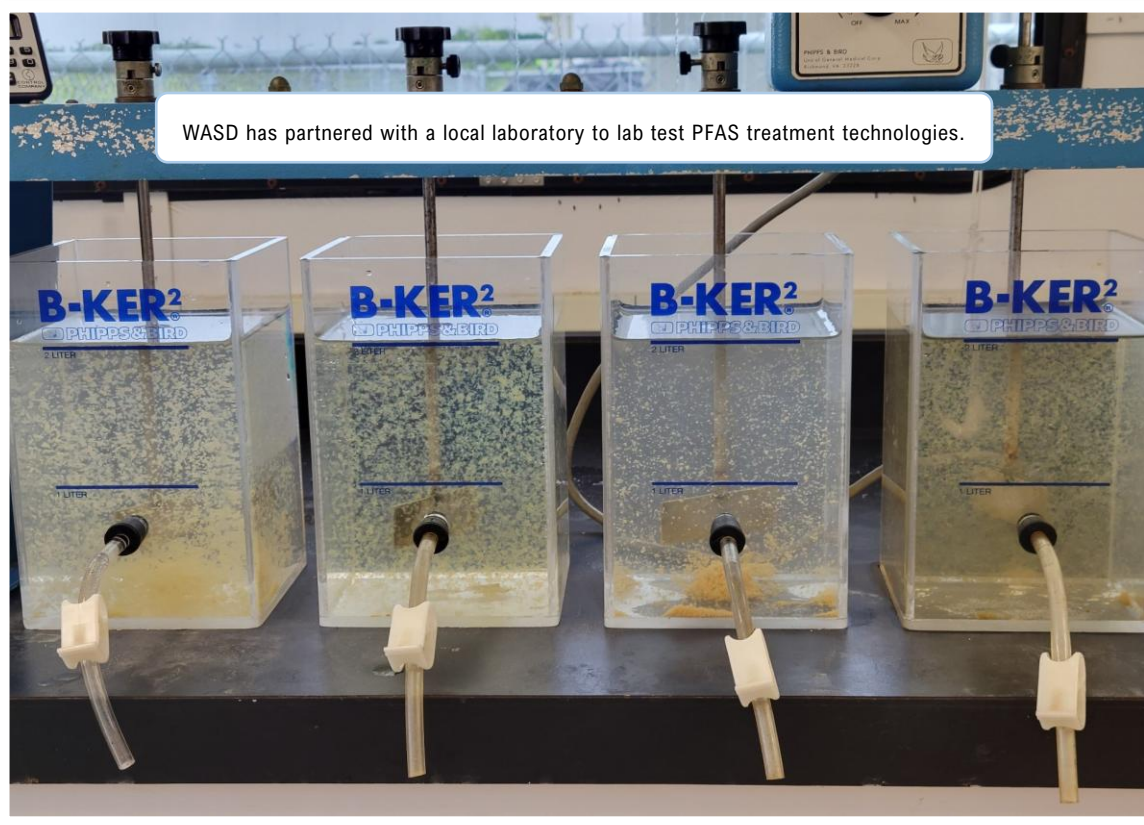
Advisory Levels for PFAS instituted in 2016, which was 70 parts per trillion. The Department has sampled and included the results of PFOA and PFOS in its Water Quality Report since 2019. These were the only two PFAS compounds that the EPA had Health Advisory Guidelines for at the time (since 2016). When the EPA announced in 2022 that additional PFAS-related compounds were being considered, the Department proactively began sampling for them despite there being no established criterion.

WASD pursued available mitigating efforts to minimize the introduction of PFAS to water at the plants, based on the existing infrastructure and technology at the plants. By utilizing water from specific wells with known lower PFAS levels, the department was able to “blend” the water source to result in the lowest PFAS concentration of finished water being delivered to customers.

Continuing with a proactive approach, WASD engaged consultants to conduct preliminary assessments of PFAS monitoring data at our Water Treatment Plants (WTPs), at our production wells, and provided recommendations for future monitoring. Reviewing national and state-level PFAS regulations may serve as models for future PFAS regulation impacting WASD.

The Department is in the process of initiating bench scale testing of treatment technologies (granular activated carbon, reverse osmosis, nanofiltration, ion exchange systems and direct wellhead treatment activities) to remove PFAS from the water. Until technology(ies) has been selected, the cost can be estimated to range between \$1 to \$4 billion dollars. Safeguarding the public's drinking water supply while keeping needed upgrades affordable will require a

multidisciplinary approach. The Miami Dade Water and Sewer Department will continue aggressively pursuing available funding opportunities to offset the costs associated with PFAS compliance upgrades.



ECONOMIC UNCERTAINTIES

Any overall economic slowdown or potential recession could present challenges for the Water and Sewer Department, limiting WASD's ability to meet desired service levels and execute anticipated infrastructure improvement projects.

Currently, the Department manages a diverse funding portfolio with a solid financial profile to tap into during adverse conditions. Still, it would cut into the planned budget if reliable funding were limited or restricted. Moreover, at this point, the Department would be faced with the impossible task of choosing between investments to comply with new regulatory requirements to replace deteriorating assets or to prepare and harden infrastructure for the next hurricane. WASD strives to mitigate this risk and to continue to provide sustainable, equitable, and efficient service by implementing improved asset management, best accounting practices, and strategic financial planning while evaluating the economic outlook and forecasts before engaging in new investment programs.

AGING INFRASTRUCTURE

The American Society of Civil Engineers grades America's infrastructure every four years, and it has recognized a stark reality and troublesome path forward. U.S. drinking water systems received a C- and wastewater systems a D+. Much of this is because water and wastewater system funding nationwide has not kept pace with the need to address aging infrastructure — and Miami-Dade County is no different.

The Miami-Dade County Water and Sewer networks are one of the largest in the country. Portions of the system and associated equipment are from the original construction era, are nearing or have already surpassed their useful life. In the coming years, Miami-Dade will face a significant investment in replacing substantial portions of the network.

A growing population further compounds this need with greater demand and stricter, newly emerging regulations. Without reliable and significant investment in drinking water and wastewater infrastructure, it will become increasingly more challenging to operate the system, maintain a high level of service, and meet customer expectations.

