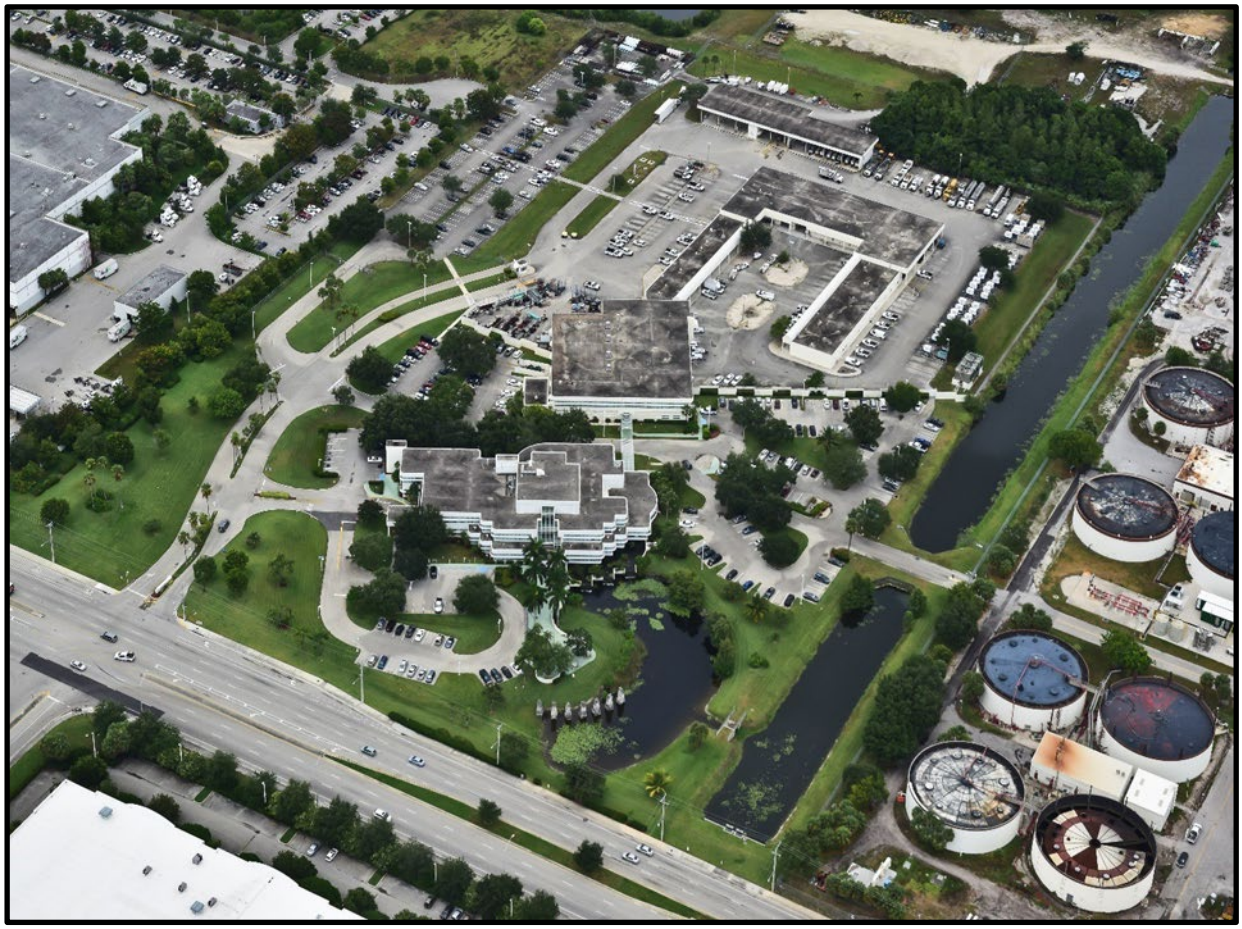
BROWARD COUNTY WATER AND WASTEWATER SERVICES

ANNUAL REPORT

FISCAL YEAR 2024

"Our Best in Every Drop"



Final Report Prepared July 2025 by
Brown and Caldwell, Inc. and
C Solutions, Inc.

BROWARD COUNTY FLORIDA

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Section 1 - Introduction

The purpose of this Engineer's Report for Water and Wastewater Services (WWS) of Broward County, Florida (County) is to provide the following:

- A review of the management and organization of WWS, which operates the County's water and wastewater systems (collectively, the Utility)
- A description of the Utility.
- A financial review of the Utility regarding historical and prospective debt service coverage, insurance requirements, and future system funding needs; and
- A summary of projections of future impacts on the Utility, projections of revenues and expenses, and a review of the planned capital improvements of the Utility.

This report provides descriptions and observations of the Utility; the primary operating activities including the retail water and wastewater system, which provides water and/or sewer service to approximately 58,435 customers accounts; the North Regional Wastewater System (NRWWS), which provides transmission, treatment and disposal services to other utilities on a wholesale basis; the Regional Raw Water System, which provides raw water to other utilities; the water and wastewater capital improvement program (CIP); and the financial operations of the Utility.

Section 2 - Administration and Management

2.1 History and Organization of Water and Wastewater Services

The Broward County Utilities Division (the incipient organization leading to the current WWS) was established on January 31, 1962, with the County's purchase of a small, investor-owned water and wastewater utility. Between 1962 and 1975, the County acquired additional private utilities. In 1972, the Utility commenced construction of the North Regional Wastewater Treatment Plant (NRWWTP), and in 1975, the Utility began providing wholesale wastewater treatment service to Large Users (LUs), which include certain municipalities and utility districts in northern Broward County. In 1976, the County established uniform rates throughout its service areas to achieve fiscal consolidation.

The water utility service area is divided into three separate geographic districts; District 1 is served by Water Treatment Plant (WTP) 1A, District 2 is served by WTP 2A and District 3 is served by purchased water from the City of Hollywood, Florida.

Subsequent reorganizations created the current WWS consisting of five divisions. These divisions are Water and Wastewater Operations, Water and Wastewater Engineering, Water Management, Water and Wastewater Information Technology, and Business Operations. WWS operates within the Public Works Department, and is responsible for planning, construction, operation, maintenance, customer service, water management, and financial management of the Utility. Currently, WWS employs 420 people, including 25 certified water operators, 21 certified wastewater operators, 9 registered professional engineers and 2 certified public accountants. Included are 6 employees who are dual-certified as both water and wastewater operators. In addition, numerous employees hold recognized industry-specific certifications. An organizational chart, Figure 2-1, is provided below.

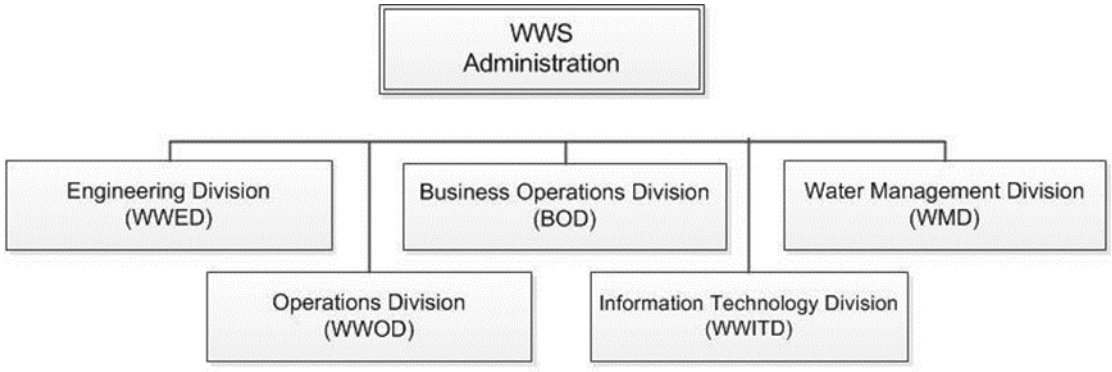

Figure 2-1. Water and Wastewater Services Organizational Chart

Under the County Code of Ordinances, the County exercises exclusive jurisdiction, control and supervision over the utility system or any part of a utility system owned, operated, or maintained by the County. The Board of County Commissioners of Broward County, Florida (the Board) has the specific legal authority to fix, charge, and collect from its customers, rates, fees, and charges, and to acquire, construct, finance and operate the Utility without supervision or regulation by any other political subdivision of the State (provided that compliance with applicable environmental rules and regulations as described herein is accomplished).

2.2 Mission

The mission of WWS is to perform as a benchmark comprehensive utility providing exceptional retail and regional water and wastewater management services and programs to its customers; and supporting continuous improvement while maintaining the quality of life in Broward County through sound environmental practices.

The overall goals established by WWS are as follows:

- To provide high quality and cost-effective services.
- To treat customers professionally and with the utmost respect.
- To operate the facilities and execute programs in a manner that protects the environment.
- To protect and enhance the natural resources of Broward County.
- To create and maintain a workplace in which employees are provided the opportunity to develop to their maximum potential.
- To maintain honesty and integrity in every aspect of the operation.

2.3 Water and Wastewater Services Administration

Water and Wastewater Services Administration manages and directs the activities of the five WWS divisions: Engineering, Operations, Business Operations, Information Technology, and Water Management. Administration approves operating and capital budgets, assures rates, fees, and charges are sufficient to support fund activities and debt service requirements, while providing appropriate coverage to maintain or enhance bond ratings; and develops and implements financing plans for the successful implementation of the capital plan and policies to ensure environmentally safe water resources. Administration coordinates activities to identify efficiencies and synergies to reduce overall costs and enhance the delivery of services.

The administration also manages relationships with Large Users of the North Regional Wastewater System and the Regional Raw Water System. Administration coordinates the response to information requests from the County Commission and the general public. Administration promotes water conservation programs to benefit customers, preserve water resources and protect the environment; and monitors legislative and regulatory issues at local, regional, state and federal levels.

WWS Administration highlights included:

- Water and Wastewater Services' water and sewer utility bonds maintained strong ratings—"Aa1", "AA+" and "AA+" — from the three major rating services: Moody's, Fitch, and Standard & Poor's.

The Retail Rates increased compared to the previous fiscal year.

- The Regional Rates for wastewater and raw water were recalculated in conformance with Large User Agreements and recommended rates were approved by the Board for Fiscal Year 2025.

2.4 Water and Wastewater Operations Division

Water and Wastewater Operations Division (WWOD) is committed to supplying high quality raw and potable water; providing reliable water distribution and wastewater collection services; operating dependable transmission, treatment, and disposal of wastewater services to Large Users in the north region of the County; and ensuring all services are delivered in a safe, efficient and cost-effective manner.

WWOD operates and maintains water treatment plants, re-pumping and storage facilities, lift stations, underground water distribution and sewage collection systems, and other support facilities. The division is responsible for the preparation and submittal of reports to comply with federal, state and local requirements (such as the Safe Drinking Water Act) and to ensure the reliable production of high-quality, safe, potable drinking water for our citizens. The division provides raw water from two regional wellfields to five Large Users and to Broward County's retail operations, as well as operates two retail wellfields that supply water to the County's 1A and 2A Water Treatment Plants.

WWOD is also responsible for providing wastewater transmission, treatment and disposal services to 11 Large Users and Broward County through the operation and maintenance of a regional wastewater treatment facility and related regional pumping stations. The division operates a reclaimed water facility, which provides reclaimed water to both industrial and retail customers. In addition, WWOD operates a state-certified laboratory, an Industrial Pretreatment Program (IPP) and provides a critical environmental service through operating and maintaining a Septage Receiving Facility.

2.5 Water and Wastewater Engineering Division

Water and Wastewater Engineering Division (WWED) is committed to the administration and management of the WWS Capital Improvement Program (CIP) by ensuring that projects, which provide cost-effective, reliable infrastructure, inclusive of water distribution, wastewater collection, water treatment, wastewater treatment and raw water production, are implemented and available to meet current and projected demands.

WWED is also responsible for coordination of developer-donated facilities, maintenance of record information for water and wastewater facilities, and administration of water and sewer easements and permits required to connect to the water and wastewater plants operated by WWS. WWED also provides general water and wastewater engineering support for Broward County to ensure compliance with the County's minimum standards for construction and integrity of WWS systems.

WWED administers the following projects:

- The Local Utility Program (LUP) consists of numerous smaller localized utility replacement projects that cover an overall area of 1,479 acres and include installation of approximately 54 miles of pipeline. Construction started in 2009. Each project is designed based on its Utility Analysis Zone (UAZ). The estimated construction cost of this project is $138 million over the next 5 years.
- Septic Tank Elimination Program (STEP), which will address the removal of all septic tanks within WWS service areas by the year 2029. Current STEP projects are estimated to be over $92 million over the next 5 years.

- North Regional Wastewater Treatment Plant (NRWWTP) is currently undergoing comprehensive rehabilitation and resilience improvements to replace and/or rehabilitate aging infrastructure. The rehabilitation will be accomplished in several phases. The first phase of improvements began in 2017. Improvements include effluent disposal rehabilitation and are estimated to be over $303 million over the next five years.
- Water treatment improvement, repair and replacements will improve reliability. These improvements are estimated at $556 million over the next five years. $408 Million is estimated to be needed to comply with the PFAS regulations adopted by EPA.
- Regional master pump station rehabilitation will address aging facilities and increase reliability of the NRWWTP transmission system. An estimated $57 million will be dedicated to this effort over the next five years. Similarly, upgrades to the retail wastewater pump stations are budgeted at $27 million over the next five years.

2.6 Water Management Division

Water Management Division (WMD) is committed to developing, managing, operating, and maintaining the surface and groundwater resources within our service area to provide recharge for water supply and wetlands; saltwater intrusion abatement; drainage and flood control; and environmental enhancements.

WMD programs in engineering, management and development review provide for the planning, design, construction and right-of-way management of waterways, culverts, pump stations and water control structures that provide surface and ground water recharge, flood protection, saltwater intrusion abatement and urban water supply. Water supply planning, well site assessments, and permitting services are provided to apply for, obtain, and assure compliance with public water supply and diversion and impoundment water use permits.

2.7 Business Operations Division

Business Operations Division (BOD) is committed to supporting all WWS divisions by providing exceptional customer service and timely and accurate billing services; supporting sound financial management; fiscal planning and rate development; and providing efficient and effective support services.

BOD provides accounting services for all divisions of WWS to provide timely financial reporting, ensure compliance with federal and state laws, professional accounting standards, and County policies and procedures. The division provides customer services including meter reading and meter repair, monthly billing and collection of revenues. The division operates a warehouse for materials and supplies used in the operation and maintenance of utility infrastructure. BOD coordinates materials management, purchasing and contract administration functions for all operational and administrative activities in WWS. In addition, BOD performs grounds and building maintenance services for over 200 locations owned and operated by WWS throughout the County. The division also coordinates the budgeting activities of all divisions of WWS, supports the development of fiscal plans and rates and fees, and charges for the services provided by WWS.

2.8 Water and Wastewater Information Technology Division

Water and Wastewater Information Technology Division (WWITD) is committed to providing WWS divisions with current industry standard technologies to automate business functions efficiently and effectively and to provide a high level of service support for those systems.

WWITD provides specialized automation services to the water and wastewater utility by acquiring, developing, and maintaining the latest technological solutions on its proprietary utility and SCADA networks. WWITD is responsible for desktop, server, and network support for the WWS segment of the County's administrative network.

The WWITD Director also manages the safety and physical security programs for WWS staff and facilities, which have been designated as critical infrastructure by the United States Department of Homeland Security.

Section 3 - Retail Water and Wastewater Utilities System

This section describes the water and wastewater retail system including the service area, results of certain physical inspections of representative utility physical assets, and review of the renewal and replacement program.

3.1 General Description

The retail water system supplies potable water to retail customers in several sections of the County and to one significant bulk water user. A summary of the Retail Water and Wastewater systems is presented in Table 3-1. Over the past ten years, the number of customers served by WWS has increased from 56,591 customers (accounts) to its present retail base of 58,435 customers. Broward County's total population is approximately 2.04 million. Of this amount, WWS's customer base represents a population of approximately 246,000. The City of Coconut Creek, a sale for resale customer, has approximately 59,700 residents. Including the City of Coconut Creek, the retail water system serves approximately 14.6% of Broward County's total population.

In the past ten years, the retail wastewater customer base has grown from 49,643 customers (connections) to its present base of 52,004 customers as shown in Table 3-1. This represents an increase of 4.76%. This number will continue to grow through the County's extension of sanitary sewers into currently unsewered areas. Treatment, transmission, and disposal management is provided by the County-operated North Regional Wastewater System (the "Regional Wastewater System" discussed in Section 4 and collectively with the retail wastewater system the "Wastewater System") and by the Southern Regional Wastewater System operated by the City of Hollywood.

Table 3-1. Summary of Retail Water System and Retail Wastewater System					
System Component	**Units**	**Fiscal Year 2015**	**Fiscal Year 2024**	**Change**	**Percent Change**
Water System:					
Customer Base	Customers	56,591	58,435	1,844	3.26%
Water Service Area	Square Miles	41.00	41.10	0.10	0.24%
Water Lines	Miles	712.00	743.60	31.60	4.44%
Water Plant Capacity:					
Plant Capacity	MGD[2]	56.00	56.00	0.00	0.00%
Avg. Daily Production[1]	MGD[2]	20.07	20.64	0.57	2.82%
Max. Daily Production	MGD[2]	24.49	25.12	0.62	2.53%
Purchased Water	MGD[2]	6.79	6.11	(0.68)	-10.01%
Wastewater System:					
Customer Base	Customers	49,643	52,004	2,361	4.76%
Wastewater Service Area	Square Miles	40.20	40.40	0.2	0.50%

[1] Water demand management efforts were implemented in 2007. These consist of water conservation initiatives including, when necessary, year-round lawn watering restrictions. Reduced water demand translates to reduced billed wastewater.

[2] MGD = Million Gallons Per Day.

Source: Broward County Water and Wastewater Services

3.2 Service Area and Customer Base

The retail water system is divided into three service areas known as Districts 1, 2 and 3. These areas collectively cover approximately 41 square miles. Additionally, operations within District 2 include water sales to the City of Coconut Creek, which re-sells it to its customers.

WWS operates two water treatment plants (WTPs). Located in District 1 and District 2, the plants have a combined physical water treatment capacity of 56 MGD (million gallons per day). Treatment capacity, however, is constrained by available raw water supply. WWS holds a 20- year term consumptive use permit from the South Florida Water Management District (SFWMD) for conventional raw water supply from the Biscayne Aquifer and a longer duration permit for waters identified as “alternative water supplies (AWS)”. Based on the current permit, the Biscayne Aquifer’s (the commonly used surficial aquifer system) annual average allocation is 27.45 MGD through Fall 2040, which includes Districts 1, 2 and the North Regional Wellfield.

Additionally, 6.0 MGD of AWS from the C-51 Reservoir, which is intended to be supplied through the Biscayne Aquifer wells at the South Regional, District 1, and District 2/North Regional Wellfields, is permitted for supply through December 27, 2065. The Utility’s five-year Capital Improvement Program (CIP) is predicated upon these allocations. Water for District 3 is provided by the City of Hollywood through a water for resale agreement.

The County has a reserve allocation of 7.42 MGD of Upper Floridan Aquifer withdrawals within District 1 and District 2/North Regional permits. These reservations are not permitted and are backup options. No facilities to treat this high-chloride water source are planned because current demand projections can be met by the traditional Biscayne Aquifer water sources and the newly permitted C-51 Reservoir offset allocation.

The water distribution systems in the three Districts contain approximately 743.6 miles of water distribution and transmission mains ranging in diameter from 2-inches to 54-inches. Figure 3-1 shows the geographic location of each service district and the City of Coconut Creek. Table 3-2 summarizes information on the production wells, treatment plants, and water system storage capacity in each district.

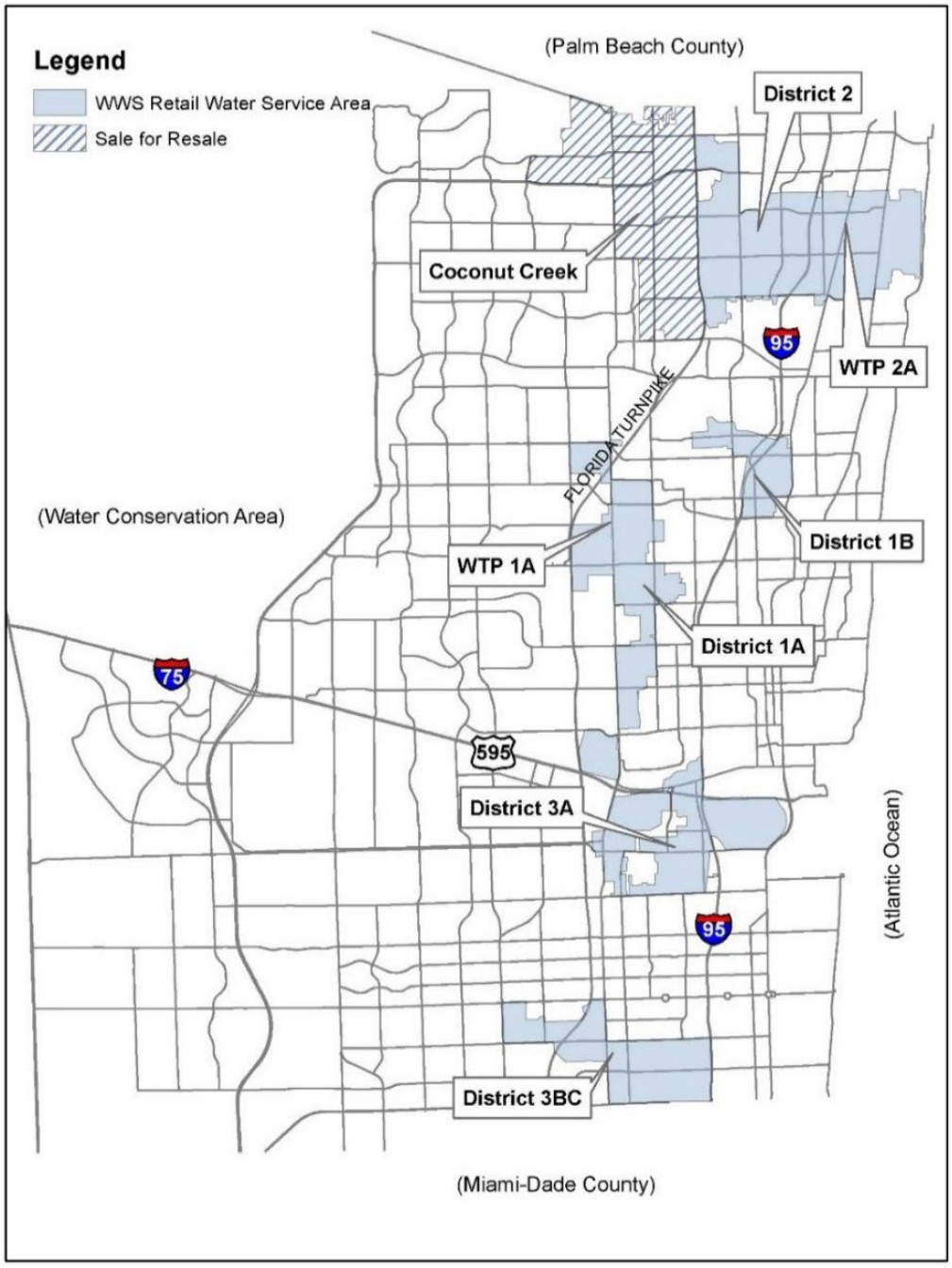

Figure 3-1. WWS Retail Water Service Areas
Source: Broward County Water and Wastewater Services

Table 3-2. Summary of Retail Water System Facilities and Capabilities as of September 30, 2024

	District 1	District 2	District 3	Total
Production Wells:	9	7	0	16
Wellfield Firm Capacity, (MGD)[1,2]	19.60	21.30	0	40.90
Treatment Plants[3]	1	1	0	2
Permitted Plant Capacity (MGD)[2,4]	16.00	30.00	0.00	46.00
Current Permitted Allocation (MGD)[2,4]	10.04	17.41[5]	0.00	27.45
Storage Capacity (Million Gallons)[3]	9.80	11.85	8.50	30.15
Distribution Mains (Miles)	247.60	262.20	233.80	743.60
Service Area (Square Miles)	11.90	14.90	14.30	41.10
Purchased Water (MGD)[2]	0.00	0.00	6.11	6.11
Produced Water (MGD)[2]	7.18	13.46	0.00	20.34

[1] Firm Capacity refers to the available flow with the largest well in each district out of service.

[2] MGD = Million Gallons Per Day

[3] Includes clearwells on site and distribution storage facilities.

[4] Permit allocations are less than permitted treatment plant capacity.

[5] Combined permits with North Regional Wellfield and include finished water sold to Coconut Creek.

Source: Broward County Water and Wastewater Services

The water system supplies water primarily to retail customers but also serves the City of Coconut Creek under a resale agreement. Without prior approval by the County, the City of Coconut Creek is prohibited from buying or otherwise providing water within its service area from any source other than the County during the term of the resale agreement and cannot provide more than 100,000 gallons per day of water to any customer unless approved by the County. Presently, there appears to be no practical or economic incentive for the City of Coconut Creek to pursue development of its own facility or to develop alternative sources of supply. The County cannot charge rates to Coconut Creek greater than those charged to other customers in the same class. Billing based upon water meter readings is provided monthly.

A historical summary of treated water sold and consumption data, including service to the City of Coconut Creek, is shown in Table 3-3. Values for annual average daily consumption will differ from the sum of production plus purchased water due to system losses.

Table 3-3. Summary of Treated Water Sold as of September 30, 2024					
Fiscal Year	**Average Number of Units[1]**	**Average Number of Metered Customers[2]**	**Total Billed Treated Water (1,000 GAL)**	**Total Billed Water for Resale (1,000 GAL)[3]**	**Annual Average Daily Consumption (MGD)**
2015	89,066	56,591	8,738,889	1,789,374	23.94
2016	88,712	56,695	8,502,167	1,736,453	23.29
2017	89,605	57,037	8,714,099	1,844,111	23.87
2018	90,559	57,314	8,756,729	1,885,328	23.99
2019	90,234	57,310	8,964,965	2,029,009	24.56
2020	90,231	57,693	8,829,810	2,029,803	24.19
2021	91,364	57,921	8,343,924	1,863,639	22.86
2022	91,496	58,064	8,868,938	2,044,921	24.30
2023	91,971	58,197	8,841,775	1,959,987	24.22
2024	92,234	58,435	8,991,658	1,976,026	24.63

[1] The term "unit" means individual living unit for residential (single family), multifamily, hotel/motel and mobile home categories. Several units may be served through one connection. For commercial, the term means the number of connections.

[2] Included in Average Number of Metered Customers are sewer only customers.

[3] Included in the total water billed; primarily represents service to the City of Coconut Creek

Source: Broward County Water and Wastewater Services

Table 3-4 presents a five-year history of water usage by customer type.

Table 3-4. Water Usage – Five Year History (1,000 gallons) as of September 30, 2024					
Customer Class	**Fiscal Year 2020**	**Fiscal Year 2021**	**Fiscal Year 2022**	**Fiscal Year 2023**	**Fiscal Year 2024**
Residential	4,592,337	4,511,089	4,583,576	4,635,615	4,700,220
Commercial	1,810,299	1,636,305	1,882,829	1,873,286	1,931,652
Irrigation	397,371	332,891	357,612	372,887	383,760
Sale For Resale	2,029,803	1,863,639	2,044,921	1,959,987	1,976,026
Total	**8,829,810**	**8,343,924**	**8,868,938**	**8,841,775**	**8,991,658**

Source: Broward County Water and Wastewater Services

The retail wastewater system service area covers approximately 40 square miles with approximately 460 miles of gravity sewers, 246 lift stations, 8 retail master pump stations and approximately 114 miles of force mains. Figure 3-2 shows the service districts for the retail wastewater system. Table 3-5 presents retail wastewater system characteristics. A 10-year summary of the Retail Wastewater System customers and billed wastewater flows is presented in Table 3-6.

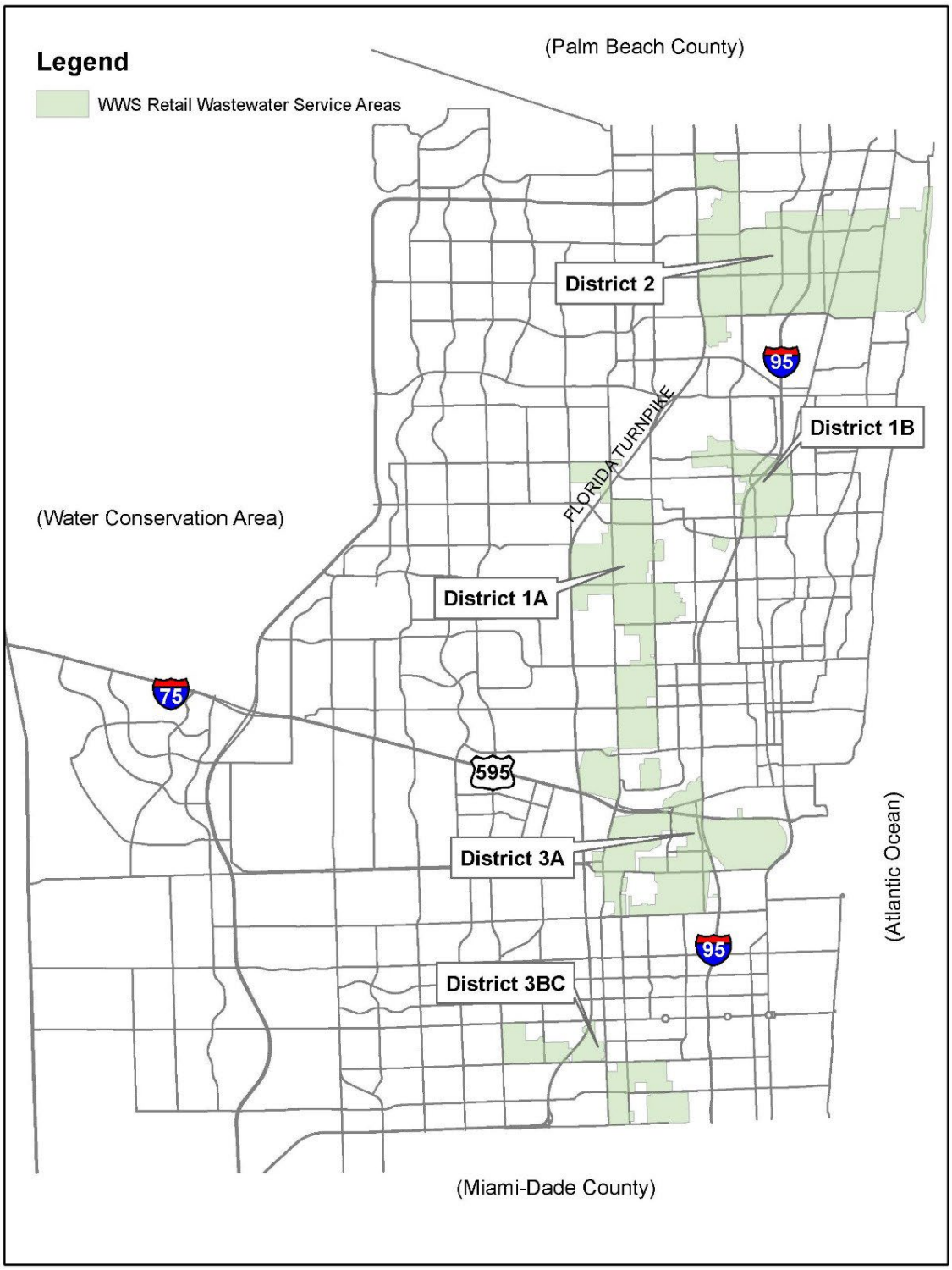

Figure 3-2. WWS Retail Wastewater Service Areas
Source: Broward County Water and Wastewater Services

Table 3-5. Retail Wastewater System Characteristics as of September 30, 2024				
	District 1	**District 2**	**District 3**	**Total**
Service Area (Square Miles)	12.9	15.7	11.8	40.4
Gravity Sewer (Miles)	188.6	179.5	92.1	460.2
Lift Stations	73	104	69	246
Force Mains (Miles)	41.2	36.9	35.5	113.6
Retail Master Pump Stations	0	5	3	8
Source: Broward County Water and Wastewater Services				

Table 3-6. Summary of Billed Wastewater – Retail as of September 30, 2024				
Fiscal Year	**Average Number of Units[1]**	**Average Number of Metered Customers**	**Total Billed Treated Wastewater (1,000 GAL)**	**Annual Average Daily Flow (MGD)**
2015	80,995	49,643	5,372,243	14.72
2016	81,144	49,999	5,339,240	14.63
2017	82,105	50,547	5,445,514	14.92
2018	83,141	50,832	5,385,410	14.75
2019	82,989	50,850	5,928,824	16.24
2020	83,441	51,206	5,813,777	15.93
2021	83,856	51,394	5,653,808	15.49
2022	84,191	51,538	5,777,795	15.83
2023	84,757	51,762	5,398,859	14.79
2024	85,163	52,004	5,949,292	16.30
[1] The term "unit" means individual living unit for residential (single family), multifamily, Hotel / Motel, and mobile home categories. Several units may be served through one connection. For commercial, the term means the number of connections and does not include large users				
Source: Broward County Water and Wastewater Services				

3.3 Water System Regulatory Requirements

The Safe Drinking Water Act (SDWA, 1974) and the Safe Drinking Water Act Amendments (SDWAA, 1986) authorized the United States Environmental Protection Agency (EPA) to establish national primary and secondary drinking water standards to regulate maximum permissible levels of contaminants in finished drinking water. These standards were incorporated into the State of Florida's Water Quality Regulations beginning in 1993 and modified to address state-specific concerns. By doing this and meeting other specific requirements, the State was given the primary authority (primacy) to enforce SDWA requirements within its borders. The Florida Department of Environmental Protection (FDEP) is the state agency with primary enforcement responsibility.

The Water and Wastewater Operations Division (WWOD) tri-annually performs a complete analysis of primary and secondary drinking water standards on raw and finished water as required under applicable sections of the SDWA and the State of Florida's Water Quality Regulations (Chapter 62-550, Florida Administrative Code (FAC)). No primary maximum contaminant levels (MCLs) were exceeded. WWS tests raw water quality only for the development of baseline data and as required under the Ground Water Rule as described hereinafter MCL limitations do not apply for any raw water monitoring outside of fecal indicator triggered monitoring required under the Ground Water Rule.

The annual Consumer Confidence Report, which summarizes the results of drinking water quality testing results, is available at
https://www.broward.org/WaterServices/WaterQuality/Pages/WaterQualityReportLatest.aspx

The Disinfectants and Disinfection Byproducts Rule (D/DBPR) requires all water treatment plants to comply with MCLs for byproducts of several common disinfectants. For WWS water treatment plants, byproducts of chlorine and chloramines, specifically total trihalomethanes (TTHMs) and five haloacetic acids (HAA5), are of primary interest. Stage II of this rule requires that the rolling annual average of TTHM and HAA5 levels be below their respective MCLs at each sampling site in the distribution system. Since Stage II compliance reporting began in February 2012, WWS' WTPs have satisfied all D/DBPRs requirements.

The Ground Water Rule (GWR) was promulgated in 2009. This rule, which was adopted by reference in FAC 62-550.828 in December 2011, provides two compliance options: triggered monitoring and 4-log virus treatment/inactivation. Triggered monitoring uses sampling under a separate Total Coliform Rule (TCR) to trigger additional sampling requirements for raw water wells if needed. If any of the wells test positive for one of three fecal indicators, action must be taken, which typically includes issuing a precautionary boil water order for the affected area.

Groundwater plants that achieve approved certification of 4-log (99.99%) virus treatment are not required to conduct triggered monitoring but instead must maintain treatment conditions specified in its 4-log treatment authorization. Presently, the 1A WTP, 2A WTP and 3A WTP (storage tank) are utilizing certified 4-log treatment/inactivation to comply with the GWR.

In FY 2024, WWOD maintained continuous compliance with the Ground Water Rule throughout the 1A, 2A, 3A, and 3BC systems.

In 2021 the Lead and Copper Rule was revised. It required that a service line inventory be completed by October 2024. WWS completed the requirement, and no lead lines were identified.

In March 2023, the EPA announced a proposed National Primary Drinking Water Regulation (NPDWR) to establish MCLs and MCLGs for six per- and polyfluoroalkyl substances (PFAS). The final regulation was announced on April 10, 2024. The MCLs (enforceable) and MCLGs (health-based and non-enforceable) can be found in Table 3-7 below.

Table 3-7. Summary of Final MCLs and MCLGs		
Compound	**MCL (enforceable levels)**	**MCLG**
PFOA	4.0 parts per trillion	Zero
PFOS	4.0 parts per trillion	Zero
PFHxS	10 parts per trillion	10 parts per trillion
PFNA	10 parts per trillion	10 parts per trillion
HFPO-DA (GenX Chemicals)	10 parts per trillion	10 parts per trillion
Mixtures containing two or more of PFHxS, PFNA, HFPO-DA, and PFBS	1 (unitless) Hazard index	1 (unitless) Hazard index

The MCLs and MCLGs for mixtures containing two or more of PFHxS, PFNA, HFPO-DA, and PFBS are calculated using the Hazard Index (HI) Formula which essentially takes the monitored concentration of each compound and divides it by the health-based water concentration that the EPA as established. The total of these four values is the HI and it cannot exceed 1.

The rule also requires that public water systems monitor for the above listed PFAS by 2027 followed by ongoing compliance monitoring. Notification to the public on levels of these PFAS in drinking water begins in 2027. Also, public water systems have until 2029 to implement solutions to reduce PFAS if monitoring shows that the system exceeds the MCLs. Beginning in 2029, public water systems containing these PFAS in levels higher than the MCLs must take action to reduce the levels and provide notification to the public of the violation.

On May 14, 2025, EPA announced its intent to revise the drinking water PFAS MCLs in several ways. EPA announced its intent to rescind individual MCLs for PFHxS, PFNA, and HFPO-DA (GenX) as well as the Hazard Index MCL, which includes these three compounds plus PFBS. While it is assumed that regulation of these four compounds will be eliminated, EPA is stating that they need more time and data to set appropriate regulations for these compounds. EPA announced its support for the individual MCLs for PFOS and PFOA, both set at 4.0 ng/L. Based on UCMR5 data, the vast majority of public water systems impacted by PFAS are impacted by these two compounds and these individual MCLs; so it is unlikely that many PWSs that had an issue with the original PFAS MCLs will no longer be directly impacted by the revised MCLs. EPA also announced its intention to extend the compliance schedule by an additional two years, to the spring of 2031. EPA committed to establishing effluent limitation guidelines for PFAS to help to protect source waters, and the development of a new program called PFAS OUT, aimed at providing resources, tools, funding, and technical assistance for water systems.

While this announcement will provide some relief to public water systems, it is important to note that this announcement is not an official policy and the existing PFAS MCLs are currently approved regulations. EPA intends to publish the draft revised rule in the Federal Register in the fall of 2025, and following a public comment period, will finalize the revised rule in the spring of 2026. Once the final revised rule is published in the Federal Register will the rule become official regulation.

As of July 1, 2025, Florida has enacted a statewide ban on adding fluoride to public drinking water systems. The County has complied and stopped adding fluoride to its drinking water on June 23, 2025.

The FDEP is currently working to develop new rules regarding potable reuse to be included in the Potable Reuse section of the Florida Administrative Code (FAC), notice of which was published June 9, 2023. This upcoming rule applies to rules for potable reuse based on the recommendations of the Potable Reuse Commission's 2020 report "Advancing Potable Reuse in Florida: Framework for the

Implementation of Potable Reuse in Florida". The potable reuse rules will address contaminants of emerging concerns and ensure potable reuse water meets or exceeds federal and Florida drinking water quality standards. The new rules, once developed, will be listed under Chapter 62-565 of the FAC, with updates to Chapters 62-610, 62-550, and 62-555. The Department extended the due date for publication of the proposed rules on March 5, 2024 in order to evaluate public comments received about the draft rule language and to consider any necessary changes based public input.

3.4 Water Supply

The primary source of water supply for WWS is the Biscayne Aquifer. A summary of the County's wellfield water use permits from the SFWMD is provided in Table 3-8. Presently, WWS operates wellfields to supply water to Water Treatment Plants 1A and 2A, with firm capacities of 19.6 and 21.3 MGD, respectively. Additional water is provided to Water Treatment Plants 2A by the North Regional Wellfield, which has a firm capacity of 18.1 MGD. A physical description of the regional system and its wellfields is provided in Section 5. Water for District 3 is provided primarily by the City of Hollywood.

In 1979, the Biscayne Aquifer was designated as a "sole source" drinking water supply by the United States Environmental Protection Agency (EPA). In this context "sole source" does not mean only source; rather, it refers to primary source. Alternatives exist. The water in the aquifer is primarily replenished by rainfall but is also recharged by water flowing from Lake Okeechobee and conservation areas through an extensive regional water conveyance system. Presently, the Biscayne Aquifer is also the primary source of raw water supply for municipalities in Broward County, Miami-Dade County, Monroe County, and the southern portion of Palm Beach County.

Section 3.2 of the Source Specific Criteria of the South Florida Water Management District (SFWMD) Applicant's Handbook for Water Use Permit Applications (September 2015) limits raw water usage from the Biscayne Aquifer for public water supply to the maximum quantity of water withdrawn over a consecutive 12-month period during the five years preceding April 1, 2006. This regulation is generally referred to as the 2007 Regional Water Availability Rule (RWAR). Water supplies necessary to satisfy any demand which exceeds the maximum allowable withdrawal must come from an alternative water supply (AWS) source, such as captured/stored water, the Upper Floridan Aquifer, harvested stormwater or reclaimed wastewater to offset withdrawal impacts to the Everglades Water Bodies.

Due to the reliability and cost-effectiveness of the relatively shallow Biscayne Aquifer, this aquifer is expected to remain the County's primary source of raw water supply. Should future growth in water demand necessitate an increase in supply (beyond the limitations of the Water Availability Rule), Broward County can access waters from the Floridan Aquifer (a deeper, brackish aquifer), or from captured stormwaters, or both.

With regard to the latter alternative, a captured stormwater regional water supply project known as the C-51 Reservoir has been planned and partially constructed. The County, Palm Beach County, several municipalities, and the SFWMD are moving forward with an option for this regional water storage reservoir project located in Palm Beach County. This project would expand the availability of Biscayne Aquifer raw water by offsetting impacts to the Regional Water System. The project is being constructed by a private sector company known as Palm Beach Aggregates, LLC and would be operated by a not-for-profit entity. The program as envisioned would capture stormwater currently lost to tide for re-introduction into the hydrological system during dry periods, thereby expanding the regional water supply quantity and satisfying the RWAR.

The Broward County Board of County Commissioners approved Resolution No. 2015-195 on April 7, 2015 supporting the C-51 Reservoir Project, and encouraged water utilities to consider participating

in the project to secure alternative water supply and receive long-term raw water permit allocations from the South Florida Water Management District. Broward County Commission approved the Capacity Allocation Agreement with Palm Beach Aggregates, LLC on March 14 and May 2, 2017 (with revisions), the First Amendment on March 28, 2019, and the Second Amendment on January 28, 2020.

The C-51 Reservoir project requires the participation of other utilities to ensure economic feasibility for the private sector owner. The necessary threshold of signed Capacity Allocation agreements with Palm Beach Aggregates, LLC, was reached in the summer of 2020. Financing of the project was completed in February 2021 allowing for the formal groundbreaking of construction. Construction was completed in September 2023 and water withdrawals were available as of that date.

3.5 Water Supply Regulatory Requirements

The volume of raw water withdrawal from the Utility's wellfields is regulated by the SFWMD. Each wellfield is governed by a Water Use Permit (WUP) that stipulates the annual and monthly withdrawals that are allocated to each wellfield. As stated previously, the 2007 RWAR requirements limit withdrawals from the Biscayne Aquifer to the highest consecutive 12-month period in the five years prior to April 2006. Water demand above the Biscayne limitation will be supplied by an AWS. The County has accounted for the uncertainty that this rule represents in the water supply planning process by pursuing various AWS options, such as the treatment of brackish upper Floridan Aquifer water, regional system water availability offsets using C-51 reservoir water storage, use of reclaimed water to offset potable water irrigation uses, and encouragement of system-wide water conservation.

The potential need to develop the AWS will have implications for future treatment technologies, capital investments, and operation and maintenance costs. The Utility will evaluate the fiscal and environmental factors associated with each potential alternative supply source and will make timely decisions concerning water source and treatment development.

The County is permitted by the SFWMD to withdraw approximately 43.09 MGD of groundwater from their combined Biscayne Aquifer wellfields, including the retail and regional raw water wellfields. The County holds three permits from the SFWMD for Wellfield 1A, the 2A/North Regional Wellfield (NRW), and the South Regional Wellfield (SRW). The permit for the combined 2A/NRW wellfields was renewed for a 20-year duration in October 2020 and the permit for the District 1A wellfield was renewed for a 20-year permit duration in September 2020. The Biscayne Aquifer and emergency Floridan Aquifer allocations expire in the fall of 2040. These permits also contain a total of 3.0 MGD of C51 offsets that separately expire after a 50-year term in December 2065.

The SFWMD renewed the SRW permit on March 7, 2018. The permit was issued with an expiration date of December 27, 2065 as a result of the inclusion of AWS from the C-51 Reservoir. However, the renewal of the base condition (not including offset water from the C-51 Reservoir) will be required prior to March 7, 2038. The SRW permit governs the withdrawal of raw water from the Biscayne aquifer for sale to coastal raw water Large Users (Dania Beach, Hallandale Beach, Hollywood and FPL) and the permit allocation is based on the projection of raw water demands for each Large User.

Table 3-8. Summary of SFWMD Wellfield Permits as of September 30, 2024			
Description	**1A**	**2A/NRW**	**SRW Temp**
Permit Period:			
Issuance	9/15/2020	10/29/2020	3/7/2018
Total Biscayne Aquifer Allocations[1]:			
Annual Average Daily (MGD)	10.0	17.4	15.6
Maximum Month (MG)	10.9	19.1	17.5
Biscayne Aquifer Withdrawals			
Annual Average Daily (MGD)	10.0	17.4	15.6
Maximum Monthly (MGD)	10.9	19.1	17.5
Expiration	9/15/2040	10/29/2040	3/7/2023[2]
C51 Reservoir Offset			
Annual Average Daily (MGD)	1.0	2.0	5.0
Maximum Monthly (MGD)	1.1	2.2	5.6
Total Biscayne Allocation with C51 Reservoir Offset			
Total Average Daily (MGD)	10.9	17.4	16.6
Total Maximum Month (MG)	11.9	19.1	18.6
Expiration	12/27/2065	12/27/2065	12/27/2065
Floridan Aquifer Wells[3]			
Annual Average Daily (MGD)	2.86	4.56	-
Maximum Monthly (MG)	3.1	5	-
Number of Wells – proposed	4[4]	4	-
Diameter (Inches)	16	16	-
Depth (Feet)	1,200	1,200	-
Expiration	9/15/2040	10/29/2040	-

[1] Includes temporary allocations from the SFWMD that would expire once the C-51 Reservoir becomes operational.

[2] Permit for SRW expires on December 27, 2065 for the C-51 Reservoir offset flows; base condition must be re-permitted by March 7, 2038. Permit includes first five-year allocation of 15.6 MGD average daily demand and 17.5 MGD maximum monthly.

[3] Implementation dates for Floridan aquifer alternative water supply development continue to be extended due to demand management efforts and lower than expected growth.

[4] Construction of two test wells was completed in 2014.

Source: Broward County Water and Wastewater Services

Monitoring of wellfield and individual well withdrawals, groundwater levels, and chloride concentrations are required as part of the WUPs issued for each wellfield. Monitoring information is reported to the SFWMD in their ePermitting system monthly to ensure each permit remains compliant.

Long-term water supply in South Florida may also be affected by the Comprehensive Everglades Restoration Plan (CERP) undertaken by the U.S. Army Corps of Engineers (ACOE) in coordination with the SFWMD and by regional water supply planning undertaken by the SFWMD and the FDEP. The intent of CERP is to provide multiple benefits to the South Florida ecosystem.

While restoration of the Everglades is a primary objective of the plan, it also includes a provision for ensuring a reliable, adequate supply of fresh water for use by the environment, public water supply and agriculture while maintaining flood protection. The effect of CERP will be to reserve water resources for restoration of the Everglades without impacting existing legal users.

Implementation through the Lower East Coast Water Supply Plan (LECWSP) accounts for future needs of water utilities by utilization of new surface water reservoirs and by implementation of Aquifer Storage and Recovery (ASR) wells. A decision by the State to endeavor to acquire the property owned and farmed by US Sugar as part of the CERP may limit the option of utilities to store and use excess stormwater as an alternative to water supply.

New water supply technologies could be delayed or could be less effective than SFWMD and ACOE expect. Recognizing this, the Utility has taken multiple steps to ensure that a continuous adequate raw water supply is available:

- The County actively participated in the Lower East Coast Regional Water Supply Plan (LECWSP) Update, which was completed in October 2018. The next update to the Plan began in 2022 and stakeholders began their review workshops in May 2023.The plan update for 2023-2024 was approved by the South Florida Water Management District Governing Board in September 2024. The County is currently completing its 2025 update to the Water Supply Plan.
- The County is actively participating in the CERP and the SFWMD regulatory revision process.
- A new surface water pump station has been designed to improve the effectiveness of the existing raw water recharge system by increasing aquifer recharge through the canal system. Bids were received for the project in May 2025 and are currently being evaluated.
- The County recently expanded the facility to 26 MGD and currently operates a 26 MGD wastewater reuse facility to reduce potable water demand for non-potable uses.
- The County continues to implement the Integrated Water Resources Plan (IWRP) to maximize the utilization of available water.
- The County continues to review potential use of the Upper Floridan Aquifer as an Alternative Water Supply (AWS) and/or storage source.
- The County is engaged with the SFWMD and Palm Beach Aggregates to develop C-51 Storage Reservoir Project as an alternative water source to offset Regional Water impacts. The County purchased 6 MGD from Phase I of this project. The project was completed in September 2023.
- The County continues to promote water conservation within the utility service areas and County-wide.

Over the last three years, the FDEP has been developing stormwater management rules to update the stormwater design and operation regulations for environmental resource permitting. The revisions proposed to Chapter 62-330, Florida Administrative Code include the following provisions to strengthen Florida's water resource protections:

- Updated rule language to provide stormwater design performance criteria and to establish updated practices to ensure increased removals of nutrients from stormwater discharges.

- New permitting requirements for consistent application of the net improvement performance standard
- Increased requirements for stormwater operation and maintenance regulations, including new minimum inspection and permitting requirements for entities performing operation and maintenance of permitted stormwater management systems.

The rule adoption hearing took place in March 2023 and the final rules were filed with the Department of State in April 2023. These rules were ratified by the Florida Legislature and became effective on June 28, 2024.

3.6 Overview of the Water System Facilities

3.6.1 District 1

District 1 has a combined service area of 11.9 square miles, FDEP permitted treatment plant capacity of 16 MGD, and 247.6 miles of water distribution and transmission mains. WWS maintains District 1 water system interconnections with the City of Fort Lauderdale, the City of Tamarac, the City of Plantation, and the City of Lauderhill to provide emergency potable water supply.

3.6.2 District 2

District 2 includes the Utility's largest wholesale water customer, the City of Coconut Creek. The District, not including the City of Coconut Creek, has a service area of 14.9 square miles, FDEP permitted treatment plant capacity of 30 MGD and contains 262.2 miles of water distribution and transmission mains. The facilities of District 2 are interconnected with the City of Deerfield Beach, the Town of Hillsboro Beach, the City of Pompano Beach, and Palm Beach County, to provide for emergency water supply.

The County has an agreement with the City of Coconut Creek under which the County has agreed to provide the City of Coconut Creek with potable water for a term that exceeds by one year, the last payment of any potable water system debt obligation of the County. The City of Coconut Creek constitutes approximately 22% of the total potable water consumption by customers of the Utility and pays compensation amounting to 4% of the Utility's gross water revenues. The agreement provides that, except by written consent of the County or for emergency purposes, the City of Coconut Creek will not purchase water other than from the County or pump water into its water distribution system from its own facilities. The County has agreed not to sell water to anyone else within the defined service area and the City of Coconut Creek is not permitted to increase its water service area without the written consent of the County.

3.6.3 District 3

District 3 is the southernmost service area of the County and is geographically separated into subdistricts referred to as 3A and 3BC. 3A and 3BC receive potable water through connections principally with the City of Hollywood. District 3 has a combined service area of approximately 14.3 square miles and contains 233.8 miles of transmission and distribution mains. Subdistrict 3A has interconnects with the City of Fort Lauderdale, the City of Hollywood, and the City of Dania Beach, to provide for emergency water supply. Subdistrict 3BC has interconnects with the City of Hollywood for its primary water supply, and the cities of Pembroke Pines and Miramar to provide emergency potable water supply.

3.7 Overview of the Retail Wastewater System Facilities

3.7.1 District 1

District 1 has a service area of 12.9 square miles and includes 188.6 miles of gravity collection sewers and 73 lift stations. There are 41.2 miles of force mains. Transmission, treatment and disposal of wastewater are provided through the Utility's Regional Wastewater System.

3.7.2 District 2

The size of the District 2 service area is 15.7 square miles. The collection system consists of 179.5 miles of gravity sewer, 104 lift stations, 5 retail master pump stations, and 36.9 miles of force mains. Transmission, treatment, and disposal of wastewater are provided through the Utility's Regional Wastewater System.

3.7.3 District 3

District 3 serves an area of 11.8 square miles. The gravity collection system has 92.1 miles of gravity sewer, 69 lift stations and 3 retail master pump stations. The force main network contains 35.5 miles of pipe that delivers the wastewater from this area to the Southern Regional Wastewater Treatment Facility operated by the City of Hollywood. District 3A and District 3BC wastewater are treated by the City of Hollywood under a Large User wastewater agreement with the County. The County has 5.883 MGD of reserved capacity in the Southern Regional Wastewater Treatment Plant. The City of Hollywood has 55.5 MGD of plant capacity.

The agreement between the County and the City of Hollywood contains several major provisions including identification of the service area; requirements for the use of metering devices; reserve capacity requirements; restrictions on excessive flows; and charges for damages to the system. Debt service and operation and maintenance costs are paid on an actual flow basis. The agreement can be terminated by either party with a 365-day notice, if all financial requirements have been met. The City of Hollywood may not terminate the agreement, unless there shall be a readily available alternative means of treating and disposing of County wastewater.

3.8 Visual Inspection and Review

The visual inspection includes the water treatment plants for District 1 and 2 and the former District 3 Water Treatment Plan (WTP) (currently operated as a pumping station and booster chlorination facility), as well as distribution system storage and pumping stations 3B and 3C (part of the 3BC system). These inspections were performed by C Solutions, Inc.

3.8.1 Water Treatment Plant 1A

WTP 1A was originally constructed in 1960 with a treatment capacity of 3.0 MGD, which was expanded to 10.5 MGD in 1979, and then to 16.0 MGD in 1994. Overall, the plant is in good condition. Water quality standards were maintained at WTP 1A throughout the year. During the visual inspection of the plant, it was operating in a satisfactory manner. The following summarizes the observations resulting from the visual inspection performed on June 4, 2025, by C Solutions, Inc:

District 1 Raw Water Wells –Biscayne Aquifer

- Well 1 has a vertical turbine well pump with the wellhead, valves, above ground piping and electrical equipment housed on top of a concrete slab within a secured fence at the WTP 1A site. The well appeared to be in excellent overall condition. The wellhead and associated piping and valves were in good condition. The electrical equipment was in good condition. The fencing enclosure was in good condition.

- Well 2 has a vertical turbine well pump with the wellhead, valves, above ground piping and electrical equipment housed on top of a concrete slab within a secured fence at the WTP 1A site. The well appeared to be in overall good condition. The wellhead and associated piping and valves were in good condition with very minor signs of corrosion at the pump discharge. Electrical equipment was in good condition. The concrete slab was in good condition. The fencing enclosure was in good condition.

- Well 3 has a vertical turbine well pump with the wellhead, valves, above ground piping and electrical equipment housed on top of a concrete slab within a secured fence just outside the WTP 1A site. The well appeared to be in overall excellent condition. The wellhead, associated piping and valves were in excellent condition. Electrical equipment was in good condition. The concrete slab was in good condition. The fencing enclosure was in good condition.

- Well 4 has a vertical turbine well pump with the wellhead, valves, above ground piping and electrical equipment housed on top of a concrete slab within a secured fence at the WTP 1A site. The well appeared to be in overall good condition. The wellhead and associated piping and valves were in good condition. Electrical equipment was in good condition. The concrete slab was in good condition. The fencing enclosure was in good condition.

- Well 5 has a vertical turbine well pump with the wellhead, valves and above ground piping housed inside a building surrounded by a fenced area. The well appeared to be in fair overall condition. The well was operational, but the wellhead and piping had significant signs of corrosion. Piping from the check valve was in good condition and appeared to have been rehabilitated. Electrical equipment was in good condition. The building interior and exterior appeared to be in good condition. The fencing enclosure was in good condition.

- Well 6 has a vertical turbine well pump with the wellhead, valves and above ground piping housed inside a building surrounded by a fenced area. At the time of inspection, the well was not in service with the well pump and motor undergoing rehabilitation. The wellhead and associated piping and valves were in good condition. Electrical equipment was in good condition. The building interior and exterior appeared to be in excellent condition. The fencing enclosure was in good condition.

- Well 7 has a vertical turbine well pump with the wellhead, valves, above ground piping and electrical equipment housed on top of a concrete slab within a secured fence at the WTP 1A site. At the time of inspection, the well was not in service with the well pump and motor undergoing rehabilitation. The wellhead, associated piping and valves were recently painted and appeared to be in excellent condition. The electrical equipment was in good condition. The concrete slab was in good condition. The fencing enclosure was in good

condition.

- Well 8 has a vertical turbine well pump with the wellhead, valves and above ground piping housed inside a building surrounded by a fence. The well was in overall excellent condition. The wellhead, associated piping and valves were in excellent condition. Electrical equipment was in good condition. The building interior and exterior appeared to be in excellent condition. The fencing enclosure was in good condition.

- Well 9 has a vertical turbine well pump with the wellhead, valves and above ground piping housed inside a building surrounded by a fence. The well was in overall good condition. The wellhead and associated piping and valves appeared to be in good condition. Minor signs of leaks were observed around the pump shaft, but the well was reported to be operating with no issues. Electrical equipment was in good condition. The building interior and exterior appeared to be in excellent condition. The fencing enclosure was in good condition.

- District 1 Floridan Aquifer Wells

  - Floridan Well 1 is located at the WTP 1A site. Currently there is just a sample tap for monitoring purposes with no permanent wellhead piping. At the time of inspection, there were no plans to put the well into permanent service.

  - Floridan Well 2 is located at the WTP 1A site. Currently there is just a sample tap for monitoring purposes with no permanent wellhead piping. At the time of inspection, there were no plans to put the well into permanent service.

- District 1 Treatment Units

  - Softener No.1 was in fair overall condition. The unit was offline to undergo scheduled rehabilitation and cleaning. The influent piping appeared to be recently painted and was in good condition. The exterior and interior of the concrete tank were in fair condition and require new painting. The walkway and handrails showed some minor signs of corrosion and will also be rehabilitated under current maintenance work. The basin components, including the cone, rake, mixers and launders were in fair condition with heavy signs of corrosion. Electrical equipment and control panel appeared to be in fair condition with signs of corrosion. The sludge transfer pumps, and associated piping, valves, and equipment were in fair condition.

  - Softener No. 2 was recently rehabilitated and was in excellent overall condition. The unit was online at the time of inspection. The influent piping appeared to be in fair to good condition with signs of corrosion at the flanges. The exterior and interior of the concrete tank were in good condition. The walkway and handrails were in good condition. The visible parts of the unit interior were in good condition. The effluent launders were recently replaced with stainless steel launders and were in excellent condition. The drive unit was in good working condition. Electrical equipment and control panel appeared to be in good condition. The sludge transfer pumps and associated piping appeared to be in good condition.

- Filters
  - Filters No. 1-4 were in fair overall condition.
  - Filters No. 5-8 were in good overall condition.
  - The filter gullet, flumes, wash troughs, and surface wash mechanisms with associated valves and piping for all filters seemed to be in good condition.
  - The top of the filter media appeared level and uniform for all filters with no indication of organic fouling.
  - The filter gallery piping was in good condition. All associated valves and motorized actuators were reported to be new. At the time of inspection, there was no evidence of leaks on the pipes or valves for any of the filters.
  - The control and electrical panels, and sampling instruments for all units were in good condition.
- The filter backwash pumps, piping, valves, gauges, and appurtenances appeared to be in good condition. The system is comprised of four pumps. All pumps were in good condition however two are currently not in operation. Associated electrical equipment was in good condition.
- Disinfection and Finished Water Storage. The two operational Clearwell Transfer Pumps along with associated piping and valves were in good condition with small signs of corrosion at the pump bases. Electrical equipment appeared to be in good condition.
  - The transfer piping, flow meters, valves and valve actuators appeared to be in good condition
  - The 2 MG ground storage tank was in service and appeared to be in good condition. Associated piping and valves were also in good condition.
  - The 1 MG ground storage tank was in service and appeared to be in good condition. Associated piping and valves were also in good condition.
  - The 0.3 MG ground storage tank was air-gapped and not in service at the time of inspection and is scheduled for demolition.
- High Service Pumping
  - High service pumps (HSPs) 1, 3 and 5 and associated piping, valves and variable frequency drives (VFDs) are located outside the control room building, were recently rehabilitated and were in excellent overall condition.
  - HSPs 2, 4, and 6 are located inside the main HSP building. Pumps, piping and valves were in good overall condition. HSP 2 operates on VFD. HSPs 4 and 6 operate at constant speed. Electrical and control panels for all pumps were in good condition.
- Solids Handling

- The gravity thickener appeared to be in good overall condition. The interior and exterior of the concrete tank were painted within the last six months and were in excellent condition. The thickener sludge pump station was in good condition and the progressive cavity pumps recently replaced. The decant pumps appeared to be in good condition. The plant has a spare solids holding tank which appeared to be in good condition.

- Vacuum filters 1 and 2 appeared to be in good condition. At the time of inspection, Vacuum Drum No. 1 was in operation. Vacuum Drum No. 2 was offline due to curtain replacement. Associated pumps, piping, and electrical equipment for both drums appeared to be in good condition.

- Primary and Emergency Power

  - Both generators and diesel day tanks appeared to be in good condition. At the time of inspection, one generator was down for coolant replacement.

  - Both diesel storage tanks were in excellent condition, as well as associated piping.

  - The control room and all electrical equipment were in good condition. The SCADA system was upgraded within the last two years along with all PLC programming.

- Chemical Feed and Storage Systems

  - At the time of inspection, one Lime Slakers was online and operating, with the other unit offline for rotation. The visible exterior walls and interior cone of the lime silo appeared to be in good condition. The cone silo was recently painted. Both lime feeders and vibrators appeared to be in good condition. Lime Slakers 1 and 2 were in excellent condition.

  - The dry polymer mixing units appeared to be in good overall condition. Make-down and dilution units were in good condition. Metering pumps, associated piping and valves appeared were recently rehabilitated and were in good condition. At the time of inspection, one unit was operational with two backup units.

  - The bulk vertical storage tank was in good condition along with the containment area. The ferric chloride feed and storage system was in good condition. Both day tanks appeared to be in good condition. Metering pumps along with associated piping and valves were in good condition. At the time of inspection, one unit was online with two backup units. The control panel for tank pump control 3 was in bad shape with signs of corrosion. The control panels for systems 1 and 2 were in excellent condition.

  - At the time of inspection, Tank 1 was offline for rehabilitation. The carbon dioxide refrigerated storage tanks and vaporizers appeared to be in good condition. Carbon dioxide pumps were exposed and in good condition. The solution feeder panels appeared to be in good condition.

  - Sodium Hypochlorite bulk storage tanks and day tanks were in fair condition with some minor signs of corrosion at the concrete bases. The containment area was in good condition. The chemical transfer pumps and piping appeared to be in excellent condition. One of the two room wall mounted ventilator fans was broken; however, no nuisance fumes were detected. Metering pumps, along with associated piping and valves appeared to be in good condition.

- The ammonia feed and storage system appeared to be in good condition. The ammonia bulk storage tank is located away from the chemical room and appeared to be in good condition. The ammonia detection system, ammoniators, piping, valves, equipment and control panel located in the metering room appeared to be in good condition.
- The use of Fluoride discontinued as of June 23, 2025 to comply with a new Florida law that bans the use of Fluoride in public water systems starting July 1, 2025. The system consists of two vertical bulk storage tanks located in the same containment area as the bulk ferric chloride storage tank, a vertical day tank located in the fluoride chemical metering room, metering pumps, metering pump control panels, and associated piping and valves. Considering that this system will be discontinued by the submission of this report, no rehabilitation recommendations will be made.

- Backup generators, diesel tanks and associated equipment remain in good condition after a recent rehabilitation. The fuel port was recently upgraded and is in good condition. The above ground storage tanks were recently repainted. Additionally, the day tank is in good condition.
- The new electrical switchgear room remains in excellent condition.

3.8.2 Water Treatment Plant 2A

WTP 2A was originally constructed in 1975 with a treatment capacity of 20 MGD. In FY 1994, the treatment capacity was expanded to 40 MGD with permitted capacity of 30 MGD. Water quality standards were maintained at WTP 2A throughout the year. Overall, the plant is in good condition and appeared to be operating satisfactorily at the time of the site inspection. The following summarizes the observations performed for major subsystems resulting from the visual inspection performed on May 30, 2025, by C Solutions Inc.

- District 2 Raw Water Wells Biscayne Aquifer
  - Well 4 is reported to have been fully rehabilitated in 2021 or 2022 and was in excellent overall condition. The security fencing was in good condition. The wellhead and associated motor, pump shaft, piping and valves appeared to be in good condition. A new magnetic flow meter was recently installed and is in excellent condition. The electrical equipment was in good condition. The concrete slab was in good condition.
  - Well 6 was reported to have been fully rehabilitated approximately six (6) years ago and was in good overall condition. The building interior and exterior were in good condition. The wellhead and associated pump shaft, piping and valves were in good condition per recent rehabilitation. The electrical equipment was in good condition.
  - Well 7 was in good overall condition and is reported to be delivering its expected design flow. The security fencing was in good condition. The wellhead and associated motor, pump shaft, piping and valves appeared to be in good condition, with minor signs of corrosion present at time of inspection. Electrical equipment was in fair condition. The concrete slab was in fair condition. This well is scheduled for rehabilitation in the near future.
  - Well 8 was not in service at the time of inspection but appeared in excellent overall condition. At the time of inspection, the well pump and motor were removed with their replacement scheduled within the next couple of weeks. The new pumps and motors were

noted to have been delivered and onsite at WTP 2A's high service pump room. The vault vent heads appeared to be in good condition. The wellhead and associated pump shaft, piping and valves were reported to be in good condition. The electrical equipment was in excellent condition. The concrete slab and security fencing were in excellent condition.

- Well 9 was in excellent overall condition. At the time of inspection, the well was out of service due to an ongoing motor replacement which should be completed in the near future. The vault vent heads appeared to be in good condition. The wellhead and associated pump shaft, piping and valves were reported to be in good condition. The electrical equipment was in excellent condition. The concrete slab and security fencing were in excellent condition. This well is an underground well.

- Well 10 was in good overall condition and recently painted. At the time of inspection, the well was out of service due to an ongoing pump motor and wellhead replacement. The piping and valves appeared to be in good condition. Electrical equipment was in good condition. The concrete slab and security fencing were in good condition. This well is an underground well.

- Well 11 was in good overall condition. The wellhead and associated motor, pump shaft, piping and valves appeared to be in good condition. The column base, piping and valves were recently coated and were in good condition. The electrical equipment was in good condition. The concrete slab and security fencing were in good condition. The access hatch for the metering vault had minor signs of corrosion.

- District 2 Treatment Units

  - Softener No. 1 was in good overall condition. At the time of inspection, the unit was offline to undergo scheduled preventative maintenance and cleaning. The influent piping appeared to be recently painted and was in excellent condition. The influent venturi flow meter and associated equipment also appeared to be in good condition. Both the exterior and interior of the circular concrete tank were in excellent condition. The walkway and aluminum handrails showed some areas of minor corrosion but were in good condition. The interior metallic components including the reaction well cone, effluent launders, turbine baffles mixer, rotating drum, and sludge scrapper rakes were in good condition with minor signs of corrosion. The drive unit was reported to be in good working condition and the oil was being replaced as part of the scheduled maintenance. The electrical and control panels also appeared to be in good condition. The sludge transfer pumps were recently replaced and are in excellent condition. The effluent pipe from the treatment unit to the filters appeared in excellent condition.

  - Softener No. 2 was in excellent overall condition and was recently fully rehabilitated. The unit was online at the time of inspection. The influent piping appeared to be in excellent condition. The influent venturi flow meter and associated equipment also appeared to be in good condition. Both the exterior and visible interior of the circular concrete tank appeared to be in excellent condition. The walkway and aluminum handrails appeared relatively new and were in excellent condition. The visible interior of the metallic reaction well cone appeared to be in good condition with expected signs of minor corrosion at the water interface. The effluent launders were recently replaced with stainless steel launders and were in excellent condition. The rotor impeller mixer was reported to be in good

condition but not visible given the unit was in operation. The drive unit was in good condition. The electrical and control panels also appeared to be in good condition. The sludge concentrator piping, isolation valves and blowoff valves were aged but appeared to be in good condition. The blowdown wetwell appeared to be in good condition. The sludge transfer pumps and associated piping and valves were aged but appeared to be in good condition. The effluent pipe from the treatment unit to the filters appeared to be in excellent condition.

- Filters
  - The plant typically operates three filters at a time. Filters 1, 2 and 5 were in service while Filters 3, 4 and 6 were not in operation. All six filters appeared to be in good overall condition.
  - The filter gullet, flumes, wash troughs, and surface wash mechanisms with associated valves and piping for all filters seemed to be in good condition. All the filter influent gullet isolation valves seemed to be in operable condition although the isolation valves / actuator attachment stems had signs of corrosion and should be scheduled for at least rust removal and re-painting.
  - The top of the filter media appeared level and uniform, and no indication of organic fouling was evident. Lime carryover from the clarifiers was evident in varying degrees for all filters but did not appear to be at a level that would seem problematic. The filter underdrains were reported to be in good condition and no signs of nonuniform water distribution were evident from the visual inspection of the media surface.
  - The filter gallery piping and associated valves and motorized actuators were in good to excellent condition. At the time of inspection, there was no evidence of leaks on the pipes or valves for any of the filters. The filter influent piping is not located within the filter gallery but directly connects from the clarifiers into the filter flumes at the top level of the filters and appeared in good condition. The overall structure for the filters appeared to be in good condition. The control and electrical panels, and sampling instruments were in good condition.
- Filter backwash fill pumps 1, 2,3 and 4 are vertical turbines and all associated motor, piping, valves and equipment appeared to be in good condition. The elevated backwash storage tank appeared to be in good condition upon distant observation.
- Disinfection and Finished Water Storage
  - Clearwell Transfer Pumps No. 1,2,3 and 4 appeared to be in good condition, along with all associated piping, valves and appurtenances. Electrical and control equipment appeared to be in good condition. The transfer piping, flow meters, valves and valve actuators appeared to be in good condition. The disinfection sampling and monitoring room appears to be in excellent condition.
  - Ground Storage Tank No. 1 (GST No. 1) is the older tank and was in service at the time of inspection. The tank's exterior paint is in poor condition and the tank is scheduled for rehabilitation. Ground Storage Tank No. 2 (GST No. 2) is the newer tank and was recently rehabilitated and painted. GST No. 2 appeared in excellent condition.

- Finished Water Distribution

  - East HSP Building - All HSPs in this area received new electrical switchgear and Control panels approximately two years ago in an electrical refurbishment project. HSPs 1 and 3 received a new variable speed magnetic drive control panel with new added soft starters. Both HSP 4 and 5 received new motors that were replaced to accommodate new VFDs. The pumps are aged but in working condition for all these HSPs. The motors, piping, gauges, valves and appurtenances for all these HSPs are in good to excellent condition except for piping for HSP 3 which is in fair condition and requires cleaning and painting.

  - Building 9 HSPs- The pumps, motors, piping, gauges, valves, and appurtenances for HSP 6 are in excellent condition. The control and electrical panels for HSP 6 are in good condition. The pumps, motors, piping, gauges, valves, appurtenances for HSP 7 appeared new are in excellent condition. The pumps, motors, piping, gauges, valves and appurtenances for HSP 8 were in fair condition with signs of corrosion and it is reported to be scheduled for renovation in the near future. The Electrical and Control Panels for both HSP 7 and HSP 8 appeared to be in good condition.

- Solids Handling

  - Gravity Thickener No. 1 appeared to be in good overall condition, including structure, rake and drive, and auxiliary pumps. The thickener sludge pump station was in fair but working condition. The progressive cavity sludge transfer pumps were recently replaced and were in excellent condition. Piping, valves, and appurtenances are aged and require rehabilitation. The decant pump system was in excellent condition. The decant pumps were new and recently replaced. Associated decant piping and valves were well coated and in excellent condition.

  - Gravity Thickener No. 2 appeared to be in good overall condition, including structure, rake and drive, and auxiliary pumps. The progressive cavity sludge transfer pumps and associated piping and valves were in good condition. The decant pump and associated decant piping and valves were in good condition.

  - Three Eimco Vacuum filters onsite (one smaller and two larger diameter units). The associated vacuum pumps, piping, and electrical equipment appeared to be in good condition. The vacuum drums appeared in good condition. The filter cloth for one of the two larger units (Vacuum Unit No. 2) was missing but the filter cloth over the other vacuum drums were intact and appeared in good condition. At the time of inspection, Vacuum Unit No. 3 was in operation.

- Primary and Emergency Power - The emergency generators are aged. Much of the primary electrical equipment including the Automatic Transfer Switches and Generator Control panel were replaced new, and the generators upgraded to interface with a new PLC.

  - New Switchgear was recently provided and appeared to be in excellent condition. The generators are aged but were reported to have been fully rehabilitated and appear to be in good condition. The generators upgraded to interface with a new PLC. The Automatic Transfer Switches and Generator Control panel were replaced new and appeared to be in excellent condition. The diesel fuel storage tank located outside the HSP room appeared to be in good condition.

- Chemical Feed and Storage Systems

  - At the time of inspection, both Lime Slakers No. 1 and No. 2 were online and operating. The visible exterior walls and interior cone of the lime silo appeared to be in good condition. Both lime feeders and vibrators appeared to be in good condition. Lime Slakers 1 and 2 were in excellent condition.

  - Polymer system was in excellent overall condition. The dry polymer make-down and feed systems were in good overall condition. Make-down and dilution units appeared to be in excellent condition. Metering pumps were in good condition. Units are underutilized as not much polymer is needed for this treatment process. Although the system consists of seven pumps, only one pump is used at a time.

  - Ferric Chloride feed system was in overall good condition. The ferric chloride feed and storage system was in good condition. Metering pumps were functional. The piping was in good condition.

  - At the time of inspection of Carbon Dioxide, one of the units was offline for maintenance. The carbon dioxide refrigerated storage tanks and vaporizers appeared to be in good condition. The pumps were exposed and in fair condition, with corrosion evident around the pump bases and motors. The solution feeder panels are located away from the horizontal liquid storage tanks appear to be in good to excellent condition.

  - Sodium Hydroxide is not utilized in the treatment process and there are currently no plans to put this system into service. The system consists of a vertical bulk storage tank located in the same containment area as the bulk ferric chloride storage tank and chemical metering pump system. The bulk storage tank appeared to be in fair condition and the containment area was in good condition. Upon visual inspection the sodium hydroxide system appeared to be in good condition.

  - Sodium Hypochlorite bulk storage tanks were in good condition. Tank No. 5 was recently patched and missing the identification plate. The containment area was in good condition. The containment area, walkways and stairs were in excellent condition. The chemical transfer pumps and piping appeared to be in excellent condition. Day Tank No. 1 appeared to be in good condition. Day Tank No. 2 was out of service due to reported leaks in the tank with visible evidence of a previous leak evident. Metering pumps appeared to be in fair to good overall condition. Pump 7 was recently replaced. Most of the pump bases show signs of corrosion. Additionally, the chemical metering room does not have an adequate ventilation system and nuisance fumes were detected at the time of inspection. Upgrades to the ventilation system for the chemical metering room should be considered.

  - The ammonia system was in good overall condition. Ammoniators, piping, valves, equipment and control panel appeared to be in good condition. The single storage tank was in good condition as well. The gaseous ammonia system is in good overall condition. Ammoniators and bulk storage tanks were in good condition. The four ammoniators appeared to be in good condition. Control panels are in excellent condition.

  - Fluoride is currently added to water to help in the prevention of tooth decay. The use of Fluoride discontinued as of June 23, 2025 to comply with a new Florida law that bans the use of Fluoride in public water systems starting July 1, 2025. The vertical bulk storage

tank and containment area appeared to be in fair to good condition. The vertical day tank shows signs of corrosion and is in fair to poor condition while the containment area is in good condition. The fluoride metering pumps, and associated discharge piping and valves appeared to be in poor condition. The fluoride metering pumps electrical, and control panels were in poor condition.

3.8.3 Water Distribution System 3A

In December 2001, the City of Hollywood began providing water for resale to the County in System 3A. The water treatment facilities were removed and replaced with re-pumping facilities. This facility stores finished water supplied by the City of Hollywood and repumps it to the 3A distribution system, which includes the Fort Lauderdale/Hollywood International Airport.

The existing 3A facility includes one 2.0 million gallon (MG) above ground storage tank, one 2.5 million gallon (MG) above ground storage tank, a new high service pump station, and a new secondary disinfection system. The secondary disinfection system consists of liquid ammonia and sodium hypochlorite storage and feed systems located in separate but adjacent rooms. A single building contains a high service pump room, electrical control room, emergency generator room, and two separate chemical rooms for liquid ammonia and sodium hypochlorite.

The current construction project will provide a new high service pump station (HSP), a secondary disinfection system providing four log certification, improved piping connections between the ground storage tanks, and rehabilitation of the existing tanks is nearing final completion. Temporary secondary disinfection facilities have been constructed and are currently active awaiting the final acceptance of construction for the new secondary disinfection facilities. The new HSP has been put into service and the old HSP has been deactivated and is awaiting demolition. The final construction completion for the secondary disinfection system is expected shortly after the resolution of some identified punch list items. The rehabilitation of the existing 2.0 MG storage tank is nearing the stage for the final painting and completion. Following completion of the rehabilitation of the 2.0MG tank the newer 2.5 MG tank will be cleaned.

The facility was inspected by C Solutions, Inc. on June 3, 2025. Most of the facilities under construction have already been finished but the new secondary disinfection system has yet to be put into full service and the rehabilitation of tanks has not been completed. Most of the facilities are essentially new and are in overall excellent condition.

Observations from the site visit are summarized below.

- Yard Piping -The Connection Station piping, flow meters, and valves appeared to be in good condition and were functional. The 4-log piping, injection points, and valves appeared to be in good condition. The new above ground flow meter (mag meter) and ammonia injection points appeared to be in excellent condition. The above ground influent piping and valves for the old 2.0MG tank was in fair condition with signs of corrosion and require rehabilitation. The above ground influent piping and valves for the new 2.5MG tank was in excellent condition. The HSP suction and discharge yard piping appeared in excellent condition where visible.
- High Service Pump Room - The old high service pump station was already out of service and is scheduled to be demolished. The HSP and secondary disinfection building interior and exterior were in excellent condition. The new high service pumps were operational and in excellent condition. The suction and discharge piping and valves were in excellent condition. The sampling lines and analyzers were in excellent condition. The new sump pump for the

sample lines located inside the HSP trench was out of service. Staff currently bypasses the sump pump with an above ground pipe to an existing drain located just next to the trench. High service pumps (HSP) 1, 2 and 3 were in excellent condition. Signs of minor corrosion were observed on HSP 4 and 5. All associated piping, valves and equipment were in excellent condition.

- Electrical and Control Room - The new electrical switchgear, MCCs, PLCs with HMI, and VFDs were in excellent condition. The new PLC was online and can be controlled and monitored from WTP 1A.
- Emergency Generator - The emergency generator was in excellent condition. The 5,750-gallon diesel storage tank located outside the building was in excellent condition. The liquid ammonia room contains bulk liquid ammonia (40% ammonium sulfate) storage tanks, chemical metering pumps and associated piping and valves. The new liquid ammonia room was new and in overall excellent condition. Both bulk storage tanks and all associated pumps, piping, valves and electrical panels were in excellent condition. The system was tested and has not yet been accepted and placed into service. Emergency eye-wash stations were in excellent condition.
- Sodium Hypochlorite Room - The sodium hypochlorite room contains bulk storage tanks, chemical metering pumps and associated piping and valves. The new sodium hypochlorite room was new and in overall excellent condition. All four bulks storage tanks and associated pumps, piping, valves and electrical panels were in excellent condition. The system was tested and has not yet been accepted and placed into service. Emergency eye-wash stations were in excellent condition.
- Ground Storage Tanks - The old 2.0 MG storage tank was undergoing rehabilitation. The Contractor was on site and finalizing the pressure cleaning following the crack preparation and filling. The rehabilitation efforts appeared to be proceeding well. The new 2.5 MG storage tank appeared to be in good condition. It is scheduled to be pressure cleaned and repainted once the old tank rehabilitation is finalized.
- Temporary Facilities - A temporary disinfection system was active at the time of inspection and will provide secondary disinfection until the final construction acceptance of the new secondary disinfection system which is in the process of final testing and resolving outstanding punch list items. The temporary secondary disinfection system consists of the old gaseous ammonia system, a newly constructed temporary sodium hypochlorite bulk storage and feed facility (part of construction project), and a temporary sampling room located within the temporary sodium hypochlorite metering pump room. The old ammonia (gas) room was in poor condition. The injection process is completely manual and will be abandoned once the new ammonia room is placed in service. The temporary sodium hypochlorite storage and feed facility was in good condition. The system will be demolished once the new sodium hypochlorite system is placed in service. The area will be sodded. The temporary sampling room and equipment were in good condition.

3.8.4 Water Distribution System 3BC

The 3B area of the 3BC distribution system water supply is fed primarily by the City of Hollywood through two 12-inch potable water interconnects. A separate connection from the City of Pembroke Pines supplies water to the North Perry Airport perimeter. The County owns and operates in-line

booster pump stations to increase the pressure from the City of Hollywood interconnects to approximately 80-psi. The booster pump stations are as follows:

- Pump Station I3B8 – Located within the City of Hollywood Public Works facility at 1600 South Park Road, Hollywood
- Pump Station I3B9 – Located at 1751 SW 57th Avenue, Hollywood

The booster pump stations were inspected by C Solutions, Inc. on June 13, 2025. Observations from the site visit are summarized below.

- Pump Station I3B8: The station underwent and completed rehabilitation recently.
  - The pump was operational and in good condition. Associated piping, valves and appurtenances were in good condition.
  - The secondary disinfection system was operational and appeared to be in good condition.
  - The electrical panels and equipment were in good condition.
  - The building's exterior was in good condition. The building interior was recently painted. The floor grating was damaged and uneven and should be replaced. The concrete pedestal used as feed pump supports have portions of the rebar exposed and should be rehabilitated. Staff reported that there are plans to completely remove the floor grating and concrete pedestal, fill the floor to an even elevation, and mount pumps close to the wall to optimize room space and minimize tripping hazards.
- Pump Station I3B9: The station underwent and completed rehabilitation recently.
  - The pump was operational and in good condition. Associated piping, valves and appurtenances were in excellent condition.
  - The secondary disinfection system, including chemical storage tanks and metering pumps were all operational and appeared to be in good condition. A chemical truck was observed on site to refill the chemicals.
  - The electrical panels and equipment were in good condition.
  - The building's exterior was in good condition. The building interior was recently painted. The floor grating was damaged and uneven and should be replaced. The concrete pedestal used as feed pump supports are in bad shape. The building area is surrounded by a perimeter fence which was in good condition.

3.8.5 3B Storage and Pumping Facility

The 3B storage and pumping facility was inspected June 3, 2025. In general, the 3B facility appeared to be in good condition. Observations from the site inspection are provided below.

- High Services Pumps
  - All three pumps appeared to be in good condition. The station was reported to have no problems.
  - Piping and valves associated with HSP 1 were in good condition. The pump base had

some signs of corrosion.

- Piping and valves associated with HSP 2 were in good condition.
- Piping and valves associated with HSP 3 were in fair to good condition with signs of corrosion at the discharge piping and surge protection valve.
- The building interior and exterior were in excellent condition

- Secondary Disinfection System
  - The bulk storage tank is in good condition
  - The feed pumps were in good condition. The pumps are located inside the building.
  - The liquid ammonium sulfate storage tank and feed pumps were in good condition. The system is located outside the building within a fenced area.
  - The recirculating pump along with associated piping and valves were in excellent condition.
  - The instrumentation to monitor the disinfection process was in excellent condition.
- Ground Storage Tank
  - The 2.5 million gallon ground storage tank appeared to be in good condition.
- Electrical and Control Room
  - The control room and electrical equipment appeared to be older but in good condition. The instrumentation to monitor the disinfection process was in excellent condition. The station can be monitored and controlled from WTP 1A.
- Emergency Power
  - The emergency generator and belly tank appeared to be in good condition.

3.8.6 3C Storage and Pumping Facility

The 3C facility was a water treatment plant that was replaced with a water storage tank and pump station in 2010. The pump station is supplied with water from the City of Hollywood and repumps it into the 3BC distribution system.

The 3C storage and pumping facility was inspected June 3, 2025. In general, the 3C facility appeared to be in good condition. Observations from the site inspection are provided below.

- Yard Piping
  - The piping within the control valve vault was observed to be in good condition with very minor signs of corrosion. The vault contains a sump pump which was in good condition.
  - The influent meter vault and associated piping were in good condition. The vault contains a sump pump which was in good condition.
  - The effluent meter vault and associated piping were in fair to good condition with minor

signs of corrosion. The vault contains a sump pump which was in good condition.

- High Service Pumps
  - All three pumps were in good condition.
  - Piping and isolation valves for all pumps were in fair to good condition and showed signs of corrosion. The new coating was reported to be scheduled for a near future service.
  - Check valves for HSP 1 and 2 appeared to be new and in excellent condition.
  - The discharge effluent piping located inside the trench was in fair condition with signs of corrosion.
  - The building interior and exterior were in excellent condition and were recently painted.
- Sodium Hypochlorite Room
  - The sodium hypochlorite room was in excellent overall condition.
  - The two sodium hypochlorite storage tanks were in good condition. Feed pumps and associated piping were in good condition.
  - A softened water tank exists in the sodium hypochlorite room. The tank and piping appeared to be in good condition; however, the softening system was not being utilized at the time of inspection, and there are no plans for it to be used.
- Liquid Ammonia
  - The room was in excellent overall condition.
  - The two liquid ammonium sulfate tanks, feed pumps and associated piping were in good condition.
- Ground Storage Tank
  - The 1.5 million gallon ground storage tank appeared to be in good condition and was recently painted.
- Electrical and Control
  - The electrical equipment, including VFDs and motor control center and HMI screen were in good condition. This facility can be monitored and controlled by the 3A Storage and Pumping Facility.
- Emergency Power
  - The emergency generator and diesel belly tank appeared to be in good condition, with no signs of leakage.

3.8.7 Retail Lift Stations

There are 246 lift stations (LS) operated by the County. A representative set of 20 lift stations were inspected on May 14, 2025 and May 15, 2025 by C Solutions, Inc. Overall, the mechanical and electrical components (control panels, variable frequency drives, motor control centers, generators, telemetry units, pumps, pipes, and accessories) appeared to be in fair to good condition, as described on the following pages. Overall, the lift station signs were in good condition, except a few that were

in poor to fair condition. The following is a summary of the observations made during the visual inspection of the lift stations.

LS 32G – This submersible pump lift station was in overall good condition. At the time of inspection, no pump issues were reported. The wet well and valve vault were in good condition. The piping and valves had minor rust but were in working condition. Coating on all piping requires rehabilitation. There was no water present at the time inside the valve vault, which has a drain into the wet well. The electrical panel follows the single-panel standard and was in good condition. The water service was in good condition. This station does not have a perimeter fencing and has bollards near the electrical panel. A doghouse manhole contains an air release valve for the forcemain which was in poor condition.

LS 30P – This submersible pump lift station was in overall good condition. At the time of inspection, no pump issues were reported. The wet well and valve vault were in good condition. The piping and valves had minor rust but were in good condition. Coating on the wet well discharge piping requires rehabilitation. There was water present inside the valve vault, which has a french drain. The electrical panel follows the single-panel standard and was in good condition but was missing pump identification tags. The water service was in good condition, but the support plates had signs of rust. The ground below the lift station junction slab seems to have settled. This station has a perimeter fence which is in fair condition with signs of rust.

LS 30E2-1 – This submersible pump lift station was in overall fair condition. At the time of inspection, no pump issues were reported. The wet well and valve vault were in good condition. The piping and valves had signs of rust and corrosion and were in fair condition. Coating on all piping requires rehabilitation. There was no water present inside the valve vault, which has a drain into the wet well. The electrical panel follows the single-panel standard and was in good condition but was missing pump identification tags. The water service was in good condition, but the support plates had signs of rust and corrosion. This station is located on a traffic island and does not have a fence. The area was reported to be prone to floods and to require weekly maintenance and cleaning. Rags were observed to be at the top of the wet well discharge piping resulted from a flood that occurred earlier in the week.

LS 30D1 – This submersible pump lift station was in overall good condition. At the time of inspection, no pump issues were reported. The wet well and valve vault were in good condition. The piping and valves had minor signs of rust and corrosion and require rehabilitation. There was no water present inside the valve vault, which has a drain into the wet well. A small leakage was observed from the pressure gauge, which was promptly fixed. The electrical panel follows the newer double-panel standard and was in excellent condition but was missing pump identification tags. The water service was in good condition. This station does not have a perimeter fence and has the front access separated by bushes.

LS 31B – This submersible pump lift station was in overall good condition. At the time of inspection, no pump issues were reported. The wet well and valve vault were in good condition. The piping and valves were in good condition. There was no water present inside the valve vault, which has a sump pump into the wet well. The electrical panel follows the newer double-panel standard and was in excellent condition. The water service was in good condition. This station has a perimeter fence which was in good condition and is surrounded by a well contained gravel area.

LS 10R1 – This submersible pump lift station was in overall good condition. At the time of inspection, no pump issues were reported. The wet well and valve vault were in good condition. The piping and valves had signs of rust and corrosion and were in fair condition. Coating on all piping requires rehabilitation. The valve vault was full of water at the time of inspection and was reported to have a french drain. The electrical panel follows the newer double-panel standard and was in good condition but was missing pump identification tags. The water service was in good condition. This station has a black perimeter fence which was in good condition and is surrounded by a well contained gravel area. The driveway was also in good condition. The station identification plate was unreadable and needs replacement.

LS 10D2-1 – This submersible pump lift station was in overall fair condition. At the time of inspection, no pump issues were reported. The wet well was in good condition. The valve vault was in fair condition and requires the coating to be rehabilitated. The piping and valves had signs of rust and corrosion and were in good to fair condition. Coating on all piping requires rehabilitation. There was no water present inside the valve vault, which has a floor drain into the wet well. The electrical panel follows the newer double-panel standard and was in good condition. The water service was in good condition. This station has a fence with green slats which were in good condition. The station is surrounded by a poorly maintained gravel area.

LS 10D2-3 – This submersible pump lift station was in overall good to fair condition. At the time of inspection, no pump issues were reported. The wet well was in good condition. The piping and valves had signs of rust and corrosion and were in fair to poor condition and require rehabilitation. The valve vault was full of water at the time of inspection and had roots growing inside from nearby trees. The electrical panel follows the newer double-panel standard and was in good condition. The water service was in good condition. This station has a fence which was in good condition.

LS 50B2 – This submersible pump lift station was in fair to poor condition. At the time of inspection, no pump issues were reported. The wet well and the valve vault were in poor condition and require rehabilitation. The piping and valves had signs of rust and corrosion and require rehabilitation. There was no water present inside the valve vault, which has a floor drain into the wet well. The electrical panel follows the single-panel standard and was in fair condition. The water service was in good condition. The station does not have a perimeter fence and is located inside a condominium property. The wet well hatch is very close to the condominium fence and there is not enough clearance for opening it, which poses a safety concern. This station was reported to be on a rehabilitation project currently on the final permitting phase, which is expected to fix most or all of these issues.

LS 24D1-1 – This submersible pump lift station was in fair to poor condition. At the time of inspection, no pump issues were reported. The wet well was in fair condition, does not have a vent and requires new coating. The valve vault was in poor condition and requires rehabilitation. The wet well access hatch is small and not standard size. There was no water present inside the valve vault, which has a dirt bottom and therefore does not have a drain to the wet well. Piping inside the wet well seemed to have been replaced with PVC as result of corrosion. One of the discharge piping and valves inside the valve vault were in poor condition with major signs of corrosion and almost covered by the ground.

The other discharge piping seemed to have been recently replaced with new valves and coupling adapters. The electrical panel follows the single-panel standard and was in good condition. The water service was in good condition. This station is located on a house entrance driveway and does not have a fence.

LS 24E2-3 – This submersible pump lift station was in fair to poor condition. At the time of inspection, no pump issues were reported. The wet well was in fair condition, does not have a vent and requires new coating. The valve vault was in poor condition and requires rehabilitation. The wet well access hatch is small and not standard size. There was no water present inside the valve vault, which has a dirt bottom and therefore does not have a drain to the wet well. Piping inside the wet well seemed to have been replaced with PVC as result of corrosion. Piping inside the valve vault was corroded and requires rehabilitation. The electrical panel follows the single-panel standard and was in good condition. The water service was in good condition. This station is located on a house front yard and does not have a fence.

LS 20E – This submersible pump lift station was in overall fair condition. At the time of inspection, no pump issues were reported. The wet well and valve vault were in fair condition. The piping and valves had signs of rust and corrosion. Coating on all piping requires rehabilitation. There was no water present inside the valve vault, which has a floor drain into the wet well. The electrical panel follows the single-panel standard and was in fair condition. The water service was in good condition. This station does not have a perimeter fence and was reported to have access issues with other cars parking nearby and obstructing access.

LS 45B – This submersible pump lift station was in overall good condition. At the time of inspection, no pump issues were reported. The wet well and valve vault were in good condition. Piping inside the wet well had signs of corrosion and requires rehabilitation. Piping inside the valve vault was in good condition. There was no water present inside the valve vault, which has a floor drain into the wet well. The electrical panel follows the newer double-panel standard, was in fair condition and needs proper cleaning. The water service was in good condition. This station is located inside a school property and has no dedicated fence. The perimeter fence and access gate are in fair condition.

LS 25B1-1 – This submersible pump lift station was in overall good condition. At the time of inspection, no pump issues were reported. The wet well and valve vault were in fair condition. The piping and valves had signs of rust and corrosion. Coating on all piping requires rehabilitation. There was no water present inside the valve vault, which has a floor drain into the wet well. The electrical panel follows the newer double-panel standard, was in fair condition and needed cleaning. The water service was in good condition. This station has an odor control system which appeared to be in good condition. This station does not have a fence. A portable generator was on-site but not plugged-in as a result of a power outage early in the week, which was already fixed.

LS 51A3 – This submersible pump lift station was in overall fair condition. At the time of inspection, no pump issues were reported. The wet well and valve vault were in fair condition and requires new coating. The piping and valves had signs of corrosion but were in working condition. Coating on all piping requires rehabilitation. All pipe and valve supports were broken. The discharge tee and a check valve were recently replaced as a maintenance action. There was no water present inside the valve vault, which has a drain into the wet well. The electrical panel follows the single-panel standard and was in good condition but was missing pump identification tags. The water service was in good condition. The station has a perimeter fence which was in good condition and is surrounded by a well contained gravel area.

LS 51E – This submersible pump lift station was in overall fair condition. At the time of inspection, no pump issues were reported. The wet well was in fair condition and requires rehabilitation. Rust was observed on pipes in the wet well. This station has above ground discharge pipes instead of a valve vault, which are hard to access because of its odd configuration but were in good condition. The electrical panel follows the single-panel standard and was in good condition. No water service was observed at this station. This station is located on a street right-of-way and has no driveway or parking spots. The above ground discharge pipe dips into the ground at existing sidewalk which might pose a tripping hazard for pedestrians. This station was reported to be on an internal list of desired stations to be rehabilitated.

LS 28C1-3 – This submersible pump lift station was in overall good condition. At the time of inspection, no pump issues were reported. The wet well and valve vault were in good condition. The piping and valves had signs of corrosion. Coating on all piping requires rehabilitation. There was no water present inside the valve vault, which has a floor drain into the wet well. The electrical panel follows the newer double-panel standard and was making some noise but was in good condition. The water service was in good condition. The station has a black perimeter fence which was in excellent condition and is surrounded by a well contained gravel area.

LS 28C1-1 – This submersible pump lift station was in overall fair condition. At the time of inspection, no pump issues were reported. The wet well and valve vault were in fair condition and requires new coating. The piping and valves had signs of corrosion and requires rehabilitation. There was water present inside the valve vault, which has a floor drain into the wet well. The electrical panel follows the newer double-panel standard and was in good condition but appeared to be too close to the vault. The water service was in fair condition and, is located behind the electrical panel. This station has a black perimeter fence which was in good condition.

LS 23B1 – This submersible pump lift station was in overall fair condition. At the time of inspection, no pump issues were reported. The wet well and valve vault were in good condition. The piping and valves had signs of corrosion. Coating on all piping requires rehabilitation. There was no water present inside the valve vault, which has a drain into the wet well. The electrical panel follows the single-panel standard and was in good condition. The water service was in good condition. This station does not have a perimeter fence.

LS 23E – This submersible pump lift station was in overall poor condition. At the time of inspection, no pump issues were reported. The wet well and valve vault were in fair condition. The piping had major signs of corrosion and requires rehabilitation. The valves on the discharge piping appeared to have been recently replaced. The valve vault has an opening for the discharge piping instead of a wall penetration, which has led to accumulation of dirt and roots from nearby trees. There was no water present inside the valve vault, which has a floor drain into the wet well. The electrical panel follows the single-panel standard and was in good condition. The top slab for the electrical panel has settled. Additionally, there is a portion of the ground at much lower elevation between wet well and valve vault, which poses a tripping hazard. The water service was in good condition. This station has a fence which was in good condition. This station was reported to be on an internal list of desired stations to be rehabilitated.

Section 4 - Regional Wastewater System

This section describes the North Regional Wastewater System (NRWWS) including the service area, visual inspection and review of the renewal and replacement program. Visual Inspection and Review were conducted by Cordova Rodriguez & Associates.

4.1 General Description

WWS owns and operates the North Regional Wastewater Treatment Plant (NRWWTP), which has provided contract wholesale wastewater services to Large Users plus the County since 1974. The current Large Users include the Cities of Coconut Creek, Coral Springs, Deerfield Beach, Lauderhill, North Lauderdale, Oakland Park, Pompano Beach and Tamarac; and, North Springs Improvement District (NSID), Parkland Utilities, Inc. and Royal Waterworks. Service is also provided to WWS Districts 1 and 2 retail wastewater systems. The NRWWS includes 11 master pumping stations and approximately 66 miles of force mains. All the wastewater collected from retail Districts 1 and 2 and Large User customers are treated at the NRWWTP located in Pompano Beach, Florida. The plant has a permitted treatment capacity of 95 MGD of which 87.1314 MGD has been reserved by the Large Users and the County. During Fiscal Year 2024, the annual average daily flow rate at the NRWWTP was approximately 67.2 MGD, and the plant currently has sufficient capacity to meet the projected demands of all Large Users and the County to at least the year 2035.

The Large User agreements are substantially similar. Each is for a term that exceeds by one year, the last payment of any wastewater system debt obligation applicable to the NRWWS. In addition to stipulating points of connection and establishing minimum quality limitations on all wastewater, the agreements designate reserve capacity in the plant for each user and provide for the method to charge each user for the availability and provision of service. The agreements also require the Large Users to deliver all wastewater collected from their customers to the County system. Monthly, each user is billed a fixed charge depending upon the user's reserve capacity in the plant. This fixed charge is designated to recover each Large User's equitable share of debt service including required coverage (1.2 x principal and interest). The operation and maintenance costs associated with provision of treatment and transmission service, also billed monthly to each Large User, are based upon the Large User's pro rata usage of the NRWWS. Additionally, the contracts provide restrictions on excessive and peak flows, limitations on types of waste allowed to be discharged, and requirements to pay for damages caused by a Large User.

The NRWWTP was designed and constructed in accordance with a master plan approved by regulatory authorities specifically to encourage the use of regional, technologically advanced wastewater treatment processes and to discourage development and use of smaller, less efficient systems. A difficult permitting process, outstanding contractual obligations with the County, and high capital costs of constructing and operating a new facility, should discourage any Large Users from abandoning the NRWWS. The agreements, as executed by the Large Users, are binding and can only be terminated upon mutual consent of the County and the Large User.

The NRWWTP utilizes an activated sludge treatment process for liquid treatment and an anaerobic digestion system for handling the biosolids produced from the liquid treatment process. After digestion, the sludge is dewatered and disposed of by landfilling and land spreading.

The effluent from the liquid treatment process is either chlorinated and pumped through the outfall pipe into the Atlantic Ocean, disposed of in on-site deep injection wells, or chlorinated and filtered via the County's 10 MGD reclaimed water system. It should be noted that the County recently reached substantial completion with the expansion of the reclaimed water system from 10 MGD to 26 MGD and it is pending operational testing. Upon successful completion, it will be permitted as a 26 MGD reclaimed water system. The reclaimed water is used for irrigation and industrial process water at the Septage Receiving Facility and the NRWWTP, as well as for landscape irrigation at a nearby commerce center.

4.2 Service Area and Customer Base

Figure 4-1 shows the NRWWS service area. All wastewater collected from retail Districts 1 and 2 and from all Large User customers is treated at the NRWWTP located in Pompano Beach, Florida.

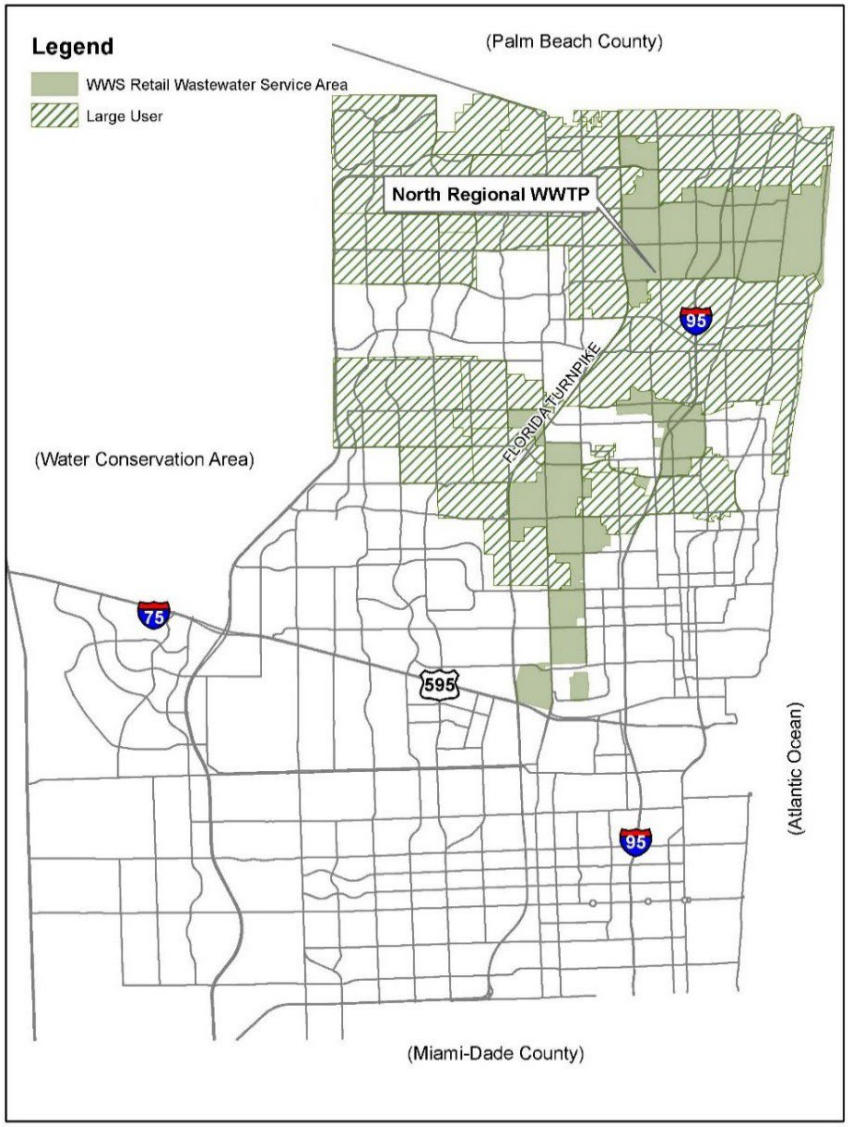

Figure 4-1. WWS Wastewater Large User Service Areas
Source: Broward County Water and Wastewater Services

The NRWWS service area provides service to 35% of the population in the County through its wholesale treatment services to Large Users and services to the County's retail customers in Districts 1 and 2. (District 3 treatment is provided by contract with the City of Hollywood at the South Regional Wastewater System.) Service is provided pursuant to individual, contractual agreements between the County and each Large User. Generally, such agreements specify each Large User's reserve capacity in the plant and provisions for billing and payment for service. As noted, the Large Users and WWS have currently subscribed to 87.1314 MGD of the 95 MGD of treatment and disposal capacity.

Table 4-1 provides a summary of historical Large User wastewater flow rates for treatment and disposal. The reserve capacity for each Large User of the NRWWS is shown in Table 4-2. Table 4-3 provides information on the wastewater annual flows for the past five years. Collectively, the system users will not exceed permitted plant capacity through at least 2035. As such, obligations to individual Large Users for wastewater flows do not currently constitute an issue from the standpoint of available plant capacity.

Table 4-1. Summary of Historical Large User Wastewater Average Monthly Flow for Treatment and Disposal (1,000 Gallons) as of September 30, 2024

Large User	FY 2022	FY 2023	FY 2024	Change From 2023 to 2024	% of Change
Coconut Creek	134,863	132,935	146,932	13,997	10.53
Coral Springs	211,713	217,230	229,048	11,818	5.44
Deerfield Beach	163,602	162,467	153,729	(8,738)	(5.38)
Lauderhill	187,459	201,017	194,316	(6,701)	(3.33)
North Lauderdale	100,267	109,818	106,111	(3,707)	(3.38)
NSID	120,711	130,952	99,861	(31,091)	(23.74)
Oakland Park	29,245	39,405	38,395	(1,010)	(2.56)
Parkland Utilities, Inc.	6,894	6,956	6,485	(471)	(6.77)
Pompano Beach	411,964	448,696	425,202	(23,494)	(5.24)
Royal Waterworks	8,896	9,624	10,582	958	9.96
Tamarac	194,598	201,494	197,632	(3,862)	(1.92)
Subtotal	**1,570,212**	**1,660,594**	**1,608,293**	**(52,301)**	**(3.15)**
Broward County	410,674	446,065	438,340	(7,725)	(1.73)
Total	**1,980,886**	**2,106,659**	**2,046,633**	**(60,026)**	**(2.85)**

Source: Broward County Water and Wastewater Services

Table 4-2. North Regional Wastewater System Reserve Capacity as of September 30, 2024 (MGD)		
Large User	**Capacity**	
	Treatment	**Transmission**
Broward County	19.4200	19.4200
Coconut Creek[1]	6.5400	4.4100
Coral Springs	9.7900	9.7900
Deerfield Beach	8.5000	8.5000
Lauderhill	7.1000	7.1000
North Lauderdale	4.4000	4.4000
N S I D	3.5300	3.5300
Oakland Park	1.5200	1.5200
Parkland Utilities, Inc.	0.3814	0.3814
Pompano Beach[1]	17.000	N/A
Royal Waterworks	0.4500	0.4500
Tamarac	8.5000	8.5000
Total	**87.1314**	**68.0014**

[1] All of Pompano Beach and portions of Coconut Creek do not use the North Regional Wastewater System transmission facilities; these wastewater flows are transmitted through separate pipelines.

Source: Broward County Water and Wastewater Services

Table 4-3. Summary of Large User Wastewater Treatment Annual Flows Five-Year History as of September 30, 2024 (1,000 Gallons)					
Large User (LU)	**Fiscal Year 2020**	**Fiscal Year 2021**	**Fiscal Year 2022**	**Fiscal Year 2023**	**Fiscal Year 2024**
Coconut Creek	1,594,695	1,682,269	1,618,356	1,595,223	1,763,185
Coral Springs	2,877,555	2,823,947	2,540,559	2,606,755	2,748,576
Deerfield Beach	2,125,405	2,066,737	1,963,225	1,949,600	1,844,752
Lauderhill	2,454,006	2,371,814	2,249,502	2,412,200	2,331,786
North Lauderdale	1,262,840	1,231,696	1,203,201	1,317,820	1,273,334
NSID	1,357,893	1,451,706	1,448,534	1,571,419	1,198,334
Oakland Park	559,710	445,371	350,941	472,864	460,743
Parkland Utilities, Inc.	81,519	97,838	82,725	83,475	77,824
Pompano Beach	5,674,980	5,066,770	4,943,569	5,384,350	5,102,320
Royal Waterworks	109,320	113,757	106,755	115,485	126,983
Tamarac	2,513,127	2,561,762	2,335,179	2,417,922	2,371,582
Total LU	**20,611,050**	**19,913,667**	**18,842,546**	**19,927,113**	**19,299,419**
Broward County	5,050,502	5,004,458	4,928,088	5,352,785	5,260,085
Total LU and County	**25,661,552**	**24,918,125**	**23,770,634**	**25,279,898**	**24,559,504**

Source: Broward County Water and Wastewater Services

4.3 Wastewater System Regulatory Requirements

Operations of the NRWWTP are regulated by the EPA, the Florida Department of Environmental Protection (FDEP) and the Broward County Environmental Protection and Growth Management Department (EPGMD). Regulatory requirements are focused on effluent management, sludge disposal, reclaimed water, and industrial pretreatment.

In Fiscal Year 2024, the North Regional Wastewater Treatment Plant (NRWWTP) had no permit violations. The NRWWTP is in compliance with permit requirements.

4.4 Wastewater Effluent Management

The NRWWTP currently disposes of treated effluent via an open ocean outfall and deep injection wells. Additionally, a portion of the effluent is treated to public-access quality and distributed for reuse via a reclaimed water system. The open ocean outfall is regulated through the Federal National Pollutant Discharge Elimination System (NPDES) permit program, administered by the FDEP. Deep injection wells are permitted by the FDEP Underground Injection Control Section.

The County's facility permit from the FDEP rates the NRWWTP at 95 MGD and acknowledges 66 MGD of effluent disposal capacity through the ocean outfall. The current NRWWTP permit was issued on June 10, 2025 and has an effective date of October 24, 2024.

The FDEP continues to promote a reduction of nutrients in the face of opposition to ocean discharges from interested groups. The agency has worked with the wastewater utilities with ocean outfalls (including Broward County) to realize such nutrient reduction through the Leah Schad Memorial Ocean Outfall Program, which became law effective July 1, 2008. This law requires that the disposal of effluent through ocean outfalls be largely eliminated by 2025. After that year, Broward County will be able to continue use of the ocean outfall for discharge of peak wastewater flows, so long as 5% of the cumulative baseline annual flow is not exceeded.

In addition to the limitations on outfall usage, the act seeks to cause an increase in the development of reclaimed water systems in southeast Florida. The County has substantially completed the expansion of the 10 MGD reclaimed water filters to 26 MGD, as well as sending additional secondary effluent to Pompano Beach OASIS facility to fully comply with this requirement.

To meet the near-term advanced wastewater treatment requirements of the rule, the County has reduced outfall discharges via diversion to the existing deep injection well system and implemented cumulative nutrient reduction strategies including modifying the existing treatment process for increased biological nutrient removal. The County also has added two additional injection wells and booster pumps to increase injection well disposal capacity.

As previously noted, the effluent management system includes Class I deep injection wells. The Operation Permit for Injection Wells 1 through 6 was issued on December 28, 2022, and is valid for five years. Additionally, Injection Wells 7 and 8 were constructed in 2014-2016.

Although construction of Injection Wells 7 and 8 is complete, construction-related issues have delayed long-term operation. The County has requested operational testing of Wells 7 and 8 from FDEP and has submitted a plan to repair construction issues. The repair plan has been approved by FDEP.

Further, and as previously noted, the County's effluent management program includes a 10 MGD system that was recently expanded to 26 MGD and is pending operational testing, which provides

disinfected reclaimed water for industrial, and landscape uses. As a requirement of the Leah Schad Memorial Ocean Outfall Program described above, the County will be required to increase production of reclaimed water by 2025. The County has entered into an agreement with Palm Beach County (PBC) for the bulk purchase of up to 15 MGD of reclaimed water. This agreement, along with other increases in reclaimed water usage both from the NRWWTP and from reclaimed water produced at the Pompano Beach OASIS facility, will enable the County to achieve the mandated 20.45 MGD of additional reclaimed water production.

The Florida Clean Waterways Act (SB-712) was signed and took effect July 1, 2023. This rule amended F.A.C. 62-600 – Domestic Wastewater Facilities to include additional requirements related to collection systems. The purpose of this rule is for sanitary sewer overflow (SSO) prevention and asset management guidelines. This rule requires all Florida utilities to adopt and implement plans for continuous collection system assessment, repair and replacement. Submission of planning documentation is required to be one year after permit renewal.

4.5 Biosolids Management

Pollutant concentrations in wastewater residuals are regulated by both federal and state sludge regulations. The federal regulation that currently regulates disposal is 40 CFR Part 503. The Part 503 rule regulates five categories of wastewater residuals disposal: agricultural land application, non-agricultural land application, distribution and marketing, monofils, and surface disposal. WWS currently employs landfilling and land-spreading for wastewater residuals disposal. The County has a current contract to dispose of biosolids by land application.

The County is currently managing most biosolids by land application of the treated residuals. Land application is a beneficial reuse of this wastewater treatment byproduct and is subject to both federal and state regulations. The County currently produces Class B residuals.

Starting July 1, 2023, Florida Statute 403.0674 was created to establish a biosolids grant program within the Department of Environmental Protect (DEP) which authorizes the department to provide grants to counties and municipalities that are working on projects to convert wastewater residuals to Class AA biosolids. The Department will review to confirm that the project minimizes the migration of nutrients and other pollutants that degrade water quality. The same House Bill, also in effect starting July 1, 2023, also amended Florida Statute 403.0855. This statute states that land application site permits may not be authorized for Class B biosolids within the subwatershed of a waterbody that is listed as impaired for nitrogen or phosphorous unless the municipality can prove that the biosolids will not add to the nutrient load in the impaired subwatershed. Starting on November 1, 2023, the Department will publish yearly updated maps designating the subwatersheds protected by this amended subsection.

In August 2010, revisions to the state regulations governing the treatment and disposal of biosolids, Chapter 62-640 F.A.C., went into effect. The NRWWTP became subject to the new regulations upon renewal of the facility's operating permit in January 2013. New land application sites were permitted under these new regulations. In June 2021, revisions to the state regulations governing the treatment and disposal of biosolids, Chapter 62-640 F.A.C., went into effect. The NRWWTP became subject to the new regulations of the facility's operating permit issued in March 2018. While land application continues to be an option, permitting of sites will likely be at greater distances, potentially making hauling to new disposal sites costlier. The County has secured alternate disposal capacity at a nearby Class I landfill, and continues to investigate cost-effective, long-term biosolids management

alternatives. Disposal at the landfill meets all current federal, state, and local regulations and, since the landfill cogenerates electricity from its methane gas production, this disposal option is currently the most carbon neutral. In 2024, the County completed a study entitled “Regional Biosolids Solution Conceptual Study”, which investigated the feasibility of building a regional solution for the eleven (11) facilities that handle biosolids in Broward County. The study was intended to reduce the current volume while finding long-term biosolids management alternatives.

4.6 Wastewater Large User Agreements

The County is under obligation to provide Large Users with capacity under the terms of Large User Agreements (Agreements) it has executed with the cities of Coconut Creek, Coral Springs, Deerfield Beach, Lauderhill, North Lauderdale, Oakland Park, Pompano Beach and Tamarac, the North Springs Improvement District (NSID), and the private utility companies of Parkland Utilities, Inc. and Royal Waterworks. The Agreements provide for wastewater transmission, treatment, and disposal services. The Agreements terminate at the end of the County’s fiscal year following the date all obligations, notes or bonds at any time issued for the NRWWTP and associated transmission and disposal facilities, or any part thereof, are retired or satisfied. The current Large User reserved capacity in the NRWWTP is set forth in Table 4-2.

The Agreements are substantially alike in form and a summary of significant provisions follows:

A. Provisions Pertaining to Connection to the County System. The Agreements require that during the term of the Agreement, each user, except the City of Oakland Park, will deliver all existing water flows collected by it to the County. Oakland Park sends a portion of their flow to the City of Fort Lauderdale’s wastewater treatment plant. The outstanding contractual obligations with the County and high capital costs of constructing and operating a new facility capable of meeting current effluent quality requirements may discourage any withdrawal of users from the NRWWS.

   The Agreements also identify the points of connection of the users’ systems to the County’s system, and state that the user will convey to the County land needed by the County for the point of connection and access thereto. The users agree to maintain their own systems, the elevation and pressure of which are required to be sufficient to deliver wastewater to the County’s facility without backing up or reversing flow. The users’ systems must include provisions to prevent excessive peak flow rates and extended periods of no flow. Each of the users must list estimates of its future flows in the Agreement and the user must submit annual updates of these estimates to the County. The County is required to use these estimates to plan future treatment capacity and to determine whether facilities should be extended or modified. The County’s obligation to provide service is limited to the capacities reserved by users, which may be increased or decreased by amendment or modification to the Agreements. The Agreements allow users to lease or sell excess capacity to other users, subject to the County’s approval. The County is required to install and maintain a meter at each point of connection to determine the volume and rates of flow and to inspect the meters at least annually to determine the accuracy thereof. The Agreements provide for credits or additional charges in the event of the inaccuracy of the meters. If the meters are inoperative, the users are required to pay an amount based on the average flow of the prior month.

B. Provisions Relating to Discharge Sampling. The Agreements specify quality limitations for wastewater discharges. A user's failure to comply with these limitations places the user in default under this Agreement and allows the County either to initiate programs to bring the user's discharge into compliance at the user's expense or to seek damages from the user. A user's system must include a sampling station, and the user must, upon receipt of a written request from the County, submit a complete laboratory analysis of a composite sample of combined wastes leaving the user's facilities. The County and the user may enter into an agreement whereby the County would accept wastewater with a strength or other characteristic that exceeds parameters listed in an existing agreement. In this case, the County may impose surcharges on the system supplying such wastewater.

C. Provisions Pertaining to Charges. The County is required to conduct an annual review of the costs of providing service to users, which will provide the preliminary basis for establishing fees, rates, and other charges for the next succeeding fiscal year. The fees and rates charged to the users constitute the full cost of the transmission, treatment and disposal services provided to the users, including operation and maintenance charges and debt service charges for both the NRWWTP and the NRWWS transmission facilities, and include an Improvement Repair and Replacement Surcharge. Such fees, rates and charges are required to be set at a public hearing by the Board, which must be held after 30 days' written notice to the users. The Board is required to consider recommendations of the individual users or the advisory board, which is composed of representatives from each of the users. The operation and maintenance charges applicable to the NRWWTP or the transmission system are included in the monthly rate charged to the users based upon the users' actual monthly flow in thousands of gallons. The rate is to be set by dividing the total annual budgeted operation and maintenance expense for each fiscal year by the number of gallons estimated to be treated or transmitted in that fiscal year and is to be adjusted at year end to reflect the actual number of gallons treated and actual operation and maintenance expense. This adjustment is either collected from, or remitted to, the Large Users in the subsequent year.

   The debt service charge included in monthly rates charged to the Large Users include principal, interest and coverage requirements on debt obligations issued at any time for the NRWWS and is computed by determining the ratio of the amount of capacity reserved by the user to the amount reserved by all users. The debt service charge for the NRWWS transmission facilities is computed by reference to transmission reserved capacity in the same manner. A user's contribution to the Improvement, Repair and Replacement Surcharge, which is part of the monthly rate charged to users, may not exceed 10% of that user's monthly bill. In addition, the Agreements provide for additional charges if a customer requests additional transmission or treatment capacity or if the monthly flow of a user exceeds the capacity reserved by such user for three consecutive months. A user that fails to pay the monthly bill within 45 days of its due date is required to pay an interest penalty on the unpaid balance; and if the payment is not made within 60 days, the user is in default of the Agreement and the County may enforce the Agreement by suit. The users agree to establish service charges or other means of obtaining funds sufficient to enable them to pay the monthly charge.

D. Provisions Pertaining to Additional Obligations of Both Parties. The Agreements provide that the County will extend and expand its NRWWS to provide for the user's scheduled flow. The users must deliver their wastewater to the County facilities for treatment and the County must accept all wastewater flows collected by the users, provided the amount of such flow does not exceed the capacity reserved by such users.

E. Provisions Pertaining to Violations and Exceptions to the Terms of Agreements. If a user violates the Agreement, the County must give written notice of the violation and allow a reasonable time to correct the violation. The user must correct the violation within the stated time. If either party violates the Agreement, that party becomes liable to the other for any expense, loss or damage occasioned by such violation, provided that any payment by the County to a user for violation of any provision of the Agreement shall be from any legally available source other than the revenues pledged to any bondholders. If there is a dispute concerning a violation that cannot be settled, the user will pay the full amount billed, and the amount in dispute will be escrowed or held in a joint trust, interest-bearing bank account and held pending settlement of such dispute. Each user agrees to hold the County harmless from costs and expenses incurred by such user or the County in any litigation resulting from the improper introduction of materials by such user into the County facility. Any temporary cessation of wastewater transmission and treatment services caused by an act of God, a fire, strikes, casualty, necessary maintenance work, breakdown of or injury to machinery, pumps or pipeline shall not constitute a breach of the Agreement. The County is required to accept and dispose of wastewater transmitted by the users, if physically possible, regardless of the degree of treatment available, until written notice to the contrary is received from a government agency.

F. Provisions Relating to the Term of the Agreements and Cancellation. The users and the County were bound by the Agreements at the date of their execution. The County and each user may terminate their Agreements by mutual written consent. Otherwise, the Agreements terminate at the end of the County's next full fiscal year after all obligations issued at any time during the term of the Agreements for the NRWWS have been retired or satisfied.

4.7 Visual Inspection and Review

4.7.1 Master Lift Stations

Five Master Lift Stations (MLS 440, 452, 455, 456 and 458) were inspected on May 21, 2025, by C Solutions, Inc. Master lift stations were selected based on their previous inspection history, and on a rotation. Priority was given to stations with the longest time since the last inspection. Summaries of the findings at each station are presented below.

- MLS 440 - The inline booster-type station was in good overall condition. The station has a total of four pumps with three primary pumps and one jockey pump. At the time of inspection, Pump No. 3 appeared to be cavitating during operation with noticeable noise and vibration. The interior station piping and pump bases were in excellent condition. Pump isolation valves, check valves, and control valves and actuators appear to be in good condition. The influent flowmeter was not working properly and was scheduled for replacement; the new replacement magnetic flow meter was observed to be onsite awaiting installation. The isolation valve

located outside the station required to bypass the flowmeter was reported to need repair and it appears that excavation toward this repair is currently underway. Electrical control panels and VFDs appeared to be in excellent condition. The backup power diesel generator appeared to be new and in excellent condition. This site has an above-ground diesel tank, which was in good condition, and at the time of inspection, no issues were reported. The seal water system was in good condition. The building interior and exterior were in excellent condition. The on-site lift station was reported to be in good working condition.

- MLS 452 – The inline booster-type station was in fair to poor condition. The station has a total of three primary pumps. At the time of inspection, Pump No.2 was out of service due to leakage at the pump volute when operational. Replacement of the pump is not currently possible since the isolation valve on the suction side of the pump was not functional, and the pump could not be isolated. Work is currently underway to provide a complete bypass of the pump station so that new isolation valves can be installed and Pump No. 2 can be replaced. It appeared that the replacement pump is already onsite. Additionally, the pump station does not have isolation valve(s) on the main pump station suction pipeline to allow easy bypass of the entire pump station. Currently, construction is underway and a temporary bypass has been installed with bypass pumps onsite so that a new station isolation valve can be added along with the replacement of Pump No. 2 and valves within the pump station. The interior piping and pump bases were in fair to poor condition with signs of corrosion. The station has two electrical/control rooms housing older electrical panels and VFDs that were in working condition. The backup power diesel generator appeared to be in good condition. The seal water system is aged but functional. Staff reported that the feed piping from the seal water pump system to the pumps was recently replaced. This site has an above-ground diesel tank within a containment wall, which appeared to be in good condition. The building exterior and interior appeared to be in good condition. The fencing was in good condition but was simply missing the pump station identification sign which should be replaced. The station was reported to experience ragging which requires additional maintenance. This station was reported to be part of an upcoming capital rehabilitation project.

- MLS 455 – The inline booster-type station was in good to fair condition. The station has a total of four primary pumps. All pumps appeared to be in good condition. Pump isolation valves, check valves, and control valves appeared to be in fair condition. The actuators on the discharge control valves appear to be new and in excellent condition. The discharge pressure control plug valve on Pump No. 4 was observed to be leaking from the actuator connection and requires repair. The interior piping and pump bases were in fair condition and had signs of corrosion. The exterior piping was in good condition. Electrical control panels and VFDs appeared to be in good condition. The PLCs have recently been replaced and are still awaiting closeout of construction punch list items. The seal water panels at the pumps and actuators on all discharge control valves appear to have been recently replaced. Separate from this project, new VFDs were recently added to the existing older VFD cabinets, and the main breaker and Automatic Transfer Switch were replaced. The backup power diesel generator appeared to be in good condition but is still awaiting integration into the newly installed PLC. The site has an above-ground diesel tank, which appeared to be in excellent condition. The seal water system was in good condition. The influent flow meter appeared to be in good condition. The building exterior was in excellent condition. The building interior was in good

condition. The fencing and driveway were in good condition.

- MLS 456 – The inline booster-type station was in excellent overall condition. The station has a total of four pumps with two primary pumps and two jockey pumps. All four pumps appeared to be in good condition. Pump isolation valves, check valves, and control valves and actuators appeared to be in good condition. The interior and exterior piping and pump bases were in good condition. Electrical control panels and VFDs appeared to be in excellent condition. The backup power diesel generator appeared to be like-new and in excellent condition. This site has an above-ground diesel tank, which was in good condition. The seal water system was in good condition. The building interior and exterior were in excellent condition. The fencing, grass and driveway were in excellent condition. This station was reported to have been completely renovated in 2018. The PLC appears to be in excellent condition; however; in observing pump operation at the PLC, it was noted that the jockey pumps are not properly varying speed (slowing down) to maintain the operational suction pressure control setpoint. It is recommended that the PLC programming be checked to remedy this control issue.
- MLS 458 – The inline booster-type station was in fair to poor overall condition. The station has a total of three primary pumps. At the time of inspection, Pump No. 2 was offline with personnel currently working on it. Pump No. 1 was operating as lead pump and was cycling on and off in less than 20 seconds which is problematic. It appeared from observing the PLC that variable speed control of the pump was non-functional. The interior piping was in fair condition. The pump bases were in poor condition with major corrosion evident. Pump isolation valves and control valves and actuators were in fair condition. The surge relief valve actuator located outside is broken. The backup power diesel generator was not working. A temporary portable generator was on site. This site has a temporary 500 gal above-ground diesel tank as a replacement for the out of service underground diesel fuel storage tank which is expected to be replaced by a larger above ground tank with the scheduled future pump station upgrades. The seal water panels at the pumps were recently replaced and are in good condition. The seal water system is aged but appears functional. The A/C in the control room was not working. The building interior and exterior were in fair condition. The on-site lift station was reported to be in working condition. This station was reported to be part of an upcoming complete pump station rehabilitation project.

4.7.2 North Regional Wastewater Treatment Plant

The visual inspection of the NRWWTP was performed on June 17, 2025, for the headworks, treatment modules, ocean outfall pump station, deep injection well pump station, thickener building, reclaimed water facilities, and backup generators. The inspection consisted of visual observation of selected major process units and supporting equipment to establish the condition and functionality of major unit processes. In general, equipment appeared to function as intended. Based on the facility's ability to continuously meet permit requirements, the facility appears to be operated in a sound manner. A summary of key observations for each process area are as follows:

- Headworks
  - The self-cleaning perforated plate screens appeared to be in good condition and were functioning normally.
  - The influent and effluent slide gates installed in each of the five channels also appeared to be in good condition.
  - A routine inspection of the headworks structure for any signs of concrete degradation is scheduled for this summer but has yet to be performed.
  - Five new Slurry Cup grit removal systems as manufactured by Hydo International have been installed within the past year to help remove grit from the primary sludge. One of the five units is not yet fully in service, but this seems imminent. The system consists of a grit sedimentation wetwell, two centrifugal transfer pumps, five Slurry Cup units, and corresponding dumpster units on the ground floor over which the degritting units are mounted. All parts of this system are like new and appear to be in working or near working condition.

Liquid Treatment (Secondary)

- Treatment Module A
  - The four aeration basins in Module A completed conversion of the basins from mechanical mixers to fine bubble diffused air in 2022 and were in service at the time of inspection. The visible exterior walls, walkways, piping, and equipment of the aeration basins appeared to be in good to excellent condition.
  - The aeration basins are supplied air from a bank of five blowers that serve both Treatment Modules A and B. The five Blowers consists of three 700hp blowers and two 500hp blowers. Typically, two blowers are in operation at any one time. All the blowers appeared to be in good condition.
  - The visible exterior walls, walkways, piping, and equipment of the clarifiers appeared to be in good to excellent condition. The rehabilitation of four clarifiers (Clarifiers A-1, A-2, A-3, and A-4) was recently completed.
  - The Return Activated Sludge (RAS) pump station appeared to be in fair condition. The pump station houses three vertical centrifugal end suction pumps, piping, valving, electrical panels, and control panels. The aforementioned equipment is aged and showed signs of corrosion.
  - All eight Waste Activated Sludge (WAS) pumps, piping, and valves were painted and appeared to be in fair to good condition.
- Treatment Module B
  - The four aeration basins in Module B completed conversion of the basins from mechanical mixers to fine bubble diffused air in 2023 and were in service at the time of inspection. The visible exterior walls, walkways, piping, and equipment of the aeration basins appeared to

be in good to excellent condition.

- The aeration basins are supplied air from a bank of five blowers that serve both Treatment Modules A and B. The five Blowers consists of three 700hp blowers and two 500hp blowers. Typically, two blowers are in operation at any one time. All the blowers appeared to be in good condition.
- The visible exterior walls, walkways, piping, and equipment of the clarifiers appeared to be in good to excellent condition. The rehabilitation of four clarifiers (Clarifiers B-1, B-2, B-3, and B-4) was recently completed.
- The Return Activated Sludge (RAS) pump station appeared to be in fair condition. The pump station houses three vertical centrifugal end suction pumps, piping, valving, electrical panels, and control panels. The aforementioned equipment is aged and showed signs of corrosion.
- All eight Waste Activated Sludge (WAS) pumps, piping, and valves were painted and appeared to be in fair to good condition.

- Treatment Module C
  - The four aeration basins in Module C completed conversion of the basins from mechanical mixers to fine bubble diffused air in 2005 and all clarifiers were in service at the time of inspection. The visible exterior walls, walkways, piping, and equipment of the aeration basins appeared to be in good condition.
  - The aeration basins are supplied air from a bank of three blowers that serve only Treatment Module C. Typically, two blowers are in operation at any one time. All the blowers appeared to be in good condition.
  - The visible exterior walls, walkways, piping, and equipment of the clarifiers appeared to be in good to excellent condition.
  - The Return Activated Sludge (RAS) pump station appeared to be in fair condition. The pump station houses three vertical centrifugal end suction pumps, piping, valving, electrical panels, and control panels. The aforementioned equipment is aged and showed signs of corrosion.
  - All eight Waste Activated Sludge (WAS) pumps, piping, and valves appeared to be in fair to good condition.
- Treatment Module D
  - The four aeration basins in Module D completed conversion of the basins from mechanical mixers to fine bubble diffused air in 2025 and at the time of inspection all basins except for one basin were online. The visible exterior walls, walkways, piping, and equipment of the aeration basins appeared to be in good condition.
  - The aeration basins are supplied air from a bank of five blowers that serve both Treatment Modules D and E. The five Blowers were recently constructed. Typically, two blowers are

in operation at any one time. All the blowers appeared to be in good condition.

- The visible exterior walls, walkways, piping, and equipment of the clarifiers appeared to be in good condition.
- The Return Activated Sludge (RAS) pump station serves the clarifiers in Treatment Module C and D and appeared to be in fair working condition. The pump station houses three vertical centrifugal end suction pumps, piping, valving, electrical panels, and control panels. The aforementioned equipment is aged and showed signs of corrosion.
- All eight Waste Activated Sludge (WAS) pumps, piping, and valves appeared to be in fair to good condition.

- Treatment Module E
  - The four aeration basins in Module E are the newest trains in the treatment plant (originally constructed in 2008) and were in service at the time of inspection except for train E-3 which was out of service for routine maintenance. The visible exterior walls, walkways, piping, and equipment of the aeration basins appeared to be in good condition.
  - The aeration basins are supplied air from a bank of five blowers that serve both Treatment Modules D and E. The five Blowers were recently constructed. Typically, two blowers are in operation at any one time. All the blowers appeared to be in excellent condition.
  - The visible exterior walls, walkways, piping, and equipment of the clarifiers appeared to be in good condition.
  - The Return Activated Sludge (RAS) pump station appeared to be in good condition. The pump station houses three vertical centrifugal end suction pumps, piping, valving, electrical panels, and control panels. The aforementioned equipment is aged and showed signs of corrosion.
  - All six Waste Activated Sludge (WAS) pumps, piping, and valves appeared to be in good condition.

Liquid Treatment (Tertiary)

- Reuse Treatment Train No. 01 (Existing) -This system consists of upflow sand filters, a single two-pass chlorine contact basin, and an open walled sampling room located under the filters. Influent secondary water is piped to each of the filters from a common valved manifold with isolation valves at the bottom of each filter where it upflows and is collected in effluent launders that transfer flow to a common channel that flows into the single chlorine contact basin and finally over the CCB effluent weir where it flows by gravity to fill onsite above ground storage tanks.
- Reuse Treatment Train No. 02 (Not Yet in Service) - This system consists of sixteen (16) DynaSand continuous backwash upflow sand filters that discharge into one of two chlorine contact basins for disinfection.
  - This system was not inspected as it has yet to be finally completed and put into service.

- Sodium Hypochlorite System 2
  - At the time of the inspection this system had yet to reach final construction completion and was not in service although it appeared to be mostly completed. Thus, this system was not inspected but all the equipment was new and in excellent condition.

Effluent Disposal

- Ocean Outfall Pump Station
  - At the time of the inspection High Head Pump No. 3 was offline with no pump or motor present.
  - The pump motors for High Head Pumps No. 2,4, and 5 were aged but appeared in good condition with exception of High Head Pump No. 3 whose motor and pump was not present. High Head Pump No. 1's motor appears to have been recently replaced and appears in good to excellent condition.
  - All of the High Head Pump's discharge piping and valves were aged but appeared to be in good functional condition with the apparent recent replacement of the check valves on two pumps which were like new.
  - The liquid rheostat system is antiquated, and the availability of replacement parts is likely becoming an increasing challenge. The system, however, was reported to be functional. The associated heat exchangers for the liquid rheostat drives were located outside and were in fair but reported working condition with visible signs of corrosion. The MCCs were aged but in good functional condition. It was noted that at the time of inspection that the PLC screen appeared to be newer but seemed to require some minor maintenance as it was not functional when it was asked to unlock and view the current operations.
  - The clearwell structure from exterior visual inspection appeared to be in good condition and no visible cracks were noted at the top slab.
- Deep Injection Well Pump Station
  - The pump motors for all the IW Pumps were aged but appeared in good condition. The pumps reportedly are all in good working condition.
  - All of the IW Pump's discharge piping and valves were aged but appeared to be in good condition.
  - The strainers on all IW Pump's seemed in good condition except for one. The strainer on IW Pump No. 2 seemed to be under maintenance at the time of inspection.
  - The VFDs were replaced recently and were reported to be operational.
- Deep Injection and Monitoring Wells
  - The wellhead piping, valves, and appurtenances showed signs of minor corrosion but were seemingly in good working condition.

- The inline booster pumps showed signs of minor corrosion but were reported to all be in working condition.
- The monitoring wells and associated pumps, piping and valves were reported to be in working condition.

- Reuse Pump Stations
  - The reuse system pumping station appeared to be in good condition.
  - The new high-head and low-head reuse pumps installed in recent years were still in excellent condition.
- Biosolids Treatment -
  - The Dissolved Air Floatation (DAF) Thickeners. The influent DAF system piping, valves, and grinder pumps were aged but appeared to be in good condition.
  - The Dissolved Air Floatation Tanks appeared to be in fair to good condition and functional.
  - The surrounding prefabricated metal building covering the Dissolved Air Floatation Tanks showed signs of corrosion and should be considered for future rehabilitation or annual structural inspection.
  - The surface skimmers for all units appeared to be in fair to good condition and functional.
  - The recycle pumps and associated piping and valves were in good condition.
  - The air saturation tanks, compressors, and air release valves appeared to be in good condition for all the DAF units.
  - The manifolded TWAS transfer pump suction piping appeared to be aged but in functional condition. The isolation valves showed signs of corrosion but appeared functional.
  - The TWAS progressive cavity transfer pumps were all in good condition.
  - The TWAS discharge piping and valves were all in fair to good condition.
  - All the specialized modulating flow control valves appeared to be in good to excellent condition.
- Anaerobic Digestors
  - An ongoing construction project is underway to rehabilitate the Digestors.
  - The visible exterior walls and floating covers of the online Digesters appeared to be in good to excellent condition. Digesters that were under construction were not inspected.
  - Progressive cavity sludge pumps appeared to be in fair to good condition.
  - Biogas recirculation piping appeared in good condition for.

- Biogas transfer piping to the boilers or cogeneration system appeared in good condition.

- Biosolids Processing
  - At the time of the inspection, the horizontal belt presses were online. The horizontal belt filter presses, their drive motors and associated equipment were in good condition. All six horizontal belt presses recently received new sludge feed grinders and pumps with VFDs, polymer units, and spray water pumps. This work was completed at the end of 2024.
  - Upflow belt press Unit No. 1 was operational while Unit No. 2 was out of service for a belt replacement at time of inspection. Their drive motors, belts, and associated equipment were in good condition.
  - At the time of the inspection, Centrifuge Unit No. 2 was offline for maintenance but appeared to be in excellent condition. Centrifuge Unit No. 1 was operational and appeared to be in excellent condition.
  - The supporting polymer feed system components, including pumps, tanks, piping, and electrical gear, appeared to be in good condition.
  - Electrical and control equipment was in good condition.
  - The odor control system and its associated equipment appeared to be in good functional condition with no nuisance odors detected at the perimeter.

- Primary Power
  - The switchgear in EDB (Electrical Building) 1 was aged but appeared to be in good condition and reported to be operational.
  - The switchgear in EDB 2 was recently constructed and appeared to be in excellent condition and reported to be operational.

- Emergency Power
  - The backup generators and associated equipment in EDB 1 appeared to be in good condition and were reported to all be operational.
  - The external diesel fuel storage tanks housed outside the EDB 1 building and the corresponding diesel fuel day tanks appeared to be in good condition.
  - The automatic transfer switches and generator electrical and control panels in EDB 1 appeared to be in good condition.
  - The backup generators and associated equipment in EDB 2 were new and appeared to be in excellent condition and were reported to all be operational.
  - The external diesel fuel storage tanks housed outside the EDB 2 building and the corresponding diesel fuel day tanks were new and appeared to be in excellent condition.
  - The automatic transfer switches and generator electrical and control panels in EDB 2 were

new and appeared to be in excellent condition.

- Cogeneration System
  - The Cogeneration system appeared to be in good condition but was out of service at the time of the inspection for maintenance.
  - The bio scrubber system for biogas conditioning appeared to be in good condition but did not appear to be in service during the site visit.
- Digesters
  - The burners were functional at the time of inspection and appeared to be in good condition.
  - The boilers were in good condition.
  - The heat exchangers for the boilers appeared to be in good condition.

It is reported that all the RAS and WAS pump stations are scheduled for rehabilitation under the upcoming NRWWTP Facility Improvements – Biological project.

- Fats, Oils, and Grease (FOG) Facility
  - The FOG receiving connections appeared to be in good condition.
  - The FOG receiving storage and blended storage tanks appeared to be in excellent condition.
  - The flow meters, valves and actuators appeared to be in good condition with minor corrosion noted.
  - The FOG blending dosing pumps (transfer) and associated appurtenances appeared to be in good condition and operational.

4.7.3 Septage Receiving Facility

The Septage Receiving Facility receives domestic waste from septic tanks, portable toilets, vacuum trucks, grease traps, sporadically some leachate from landfills, etc. The waste is separated into two categories: liquids and solids. The equipment, which must be maintained, includes transfer pumps and electrical control panels, a diesel generator set, biofilters and miscellaneous valves.

The visual inspection of the Septage Receiving Facility was performed on June 17, 2025. Both the septage and solids receiving stations were in operation at the time of inspection.

- The solids receiving bays appeared in good condition with the screens being manually maintained by operations staff with decanted liquid flowing to the septage wetwell.
- The septage receiving bays and slide gates in the channels appeared to be in good condition.
- The interior concrete structure of the transfer pump dry pit, protective railing, ladder and interior stairs and platform appeared to be in good condition.
- The vertical wastewater transfer pumps and motors were aged but appeared to be in

functional condition. The southernmost pump appeared to have been recently replaced and in better condition.

- The associated electrical and control panels appeared to be in fair to good condition. At the time of inspection and a new SCADA radio antenna was being installed.
- The pumps discharge check valves were in good condition.
- The pump discharge isolation valves were in fair condition with signs of corrosion.
- The discharge piping showed some signs of corrosion but was in fair to good condition.

Section 5 - Regional Raw Water Supply

There are currently two wellfields operated by Broward County as part of the regional system, the North Regional Wellfield (NRW) and South Regional Wellfield (SRW). This section describes the regional raw water supply system, including the Large Users, physical descriptions, and permit limitations.

5.1 General Description

The Biscayne aquifer, currently the County's primary source of drinking water, is subject to saltwater intrusion. In 1986, the County adopted the Regional Raw Water Supply (RRWS) Program, which called for centralized wellfields located further inland to ensure a long-term water supply for Broward County coastal communities. Under the program, wellfields and raw water delivery systems were financed, constructed, and operated as regional water supply system supporting large raw water users. The Large Users currently purchasing raw water from the regional supply system are Dania Beach, Deerfield Beach, Hallandale Beach, Florida Power and Light Corporation (FPL), Hollywood and WWS District 2. The two regional supply wellfields (NRW and SRW) were constructed using general County revenues and the assets were contributed to the Utility. Figure 5-1 depicts the regional wellfield locations and service areas. Physical descriptions of the NRW and the SRW are presented in Tables 5-1 and 5-2.

Table 5-1. NRW Physical Descriptions

Well No.	Size (in)	Depth (ft.)	Casing Depth (ft.)	Type of Casing	Normal Yield (GPM)	Capacity (GPM)	Service Status
1	20	170	112	PVC	1400	1400	ON LINE
2	20	130	116	PVC	1400	1400	ON LINE
27	20	130	95	PVC	1400	1400	ON LINE
29	20	130	94	PVC	1400	1400	ON LINE
30	20	121	92	PVC	1400	1400	ON LINE
31	20	121	92	PVC	1400	1400	ON LINE
32	20	120	88	PVC	1400	1400	ON LINE
33	20	121	92	PVC	1400	1400	ON LINE
45	20	112	94	PVC	1400	1400	ON LINE
46	20	170	131	PVC	1400	1400	ON LINE

Source: Broward County Water and Wastewater Services

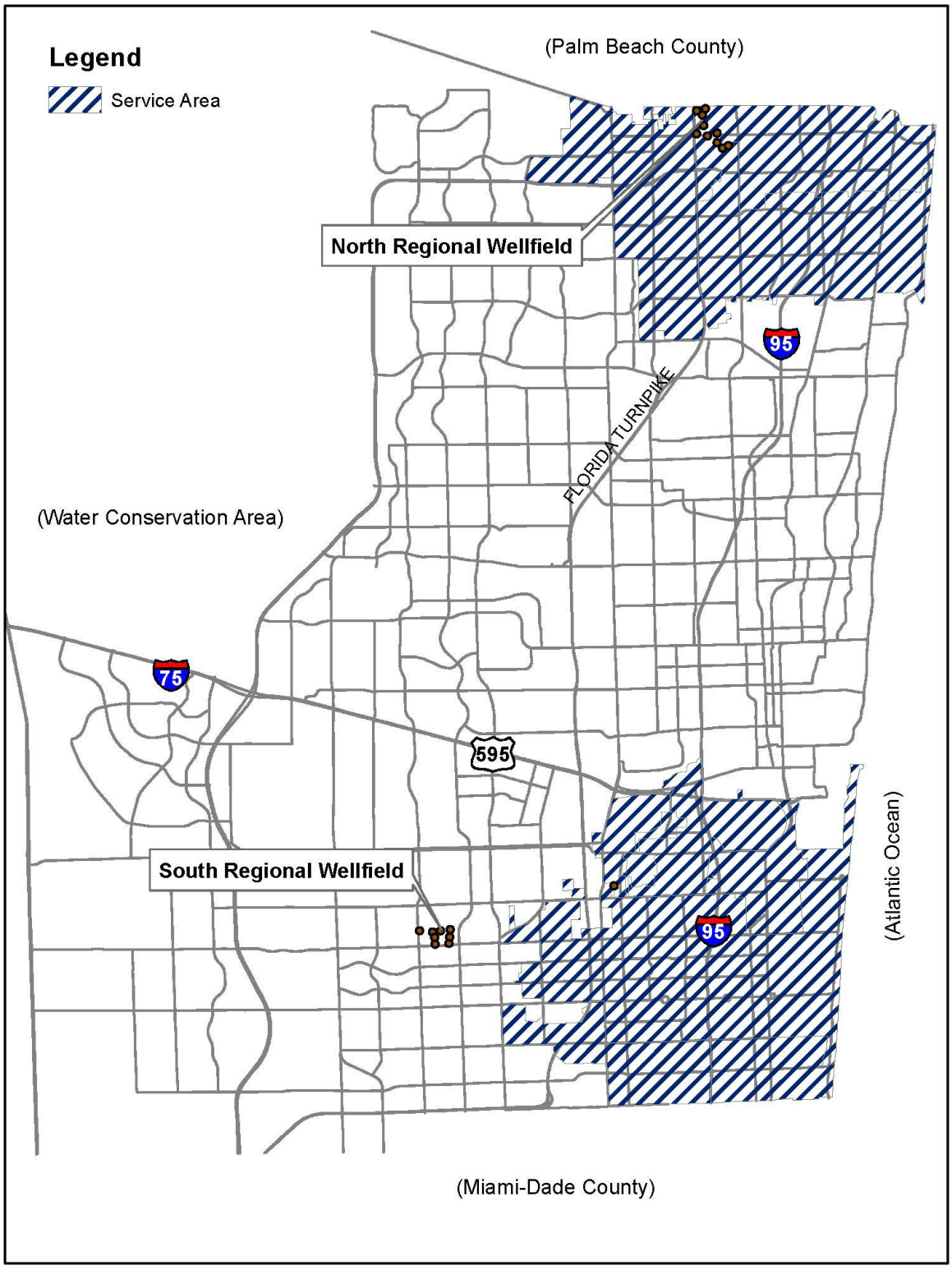

Figure 5-1. Regional Raw Water Service
Source: Broward County Water and Wastewater Services

Table 5-2. SRW Physical Descriptions							
Well No.	**Size (in)**	**Depth (ft.)**	**Casing Depth (ft.)**	**Type of Casing**	**Normal Yield (GPM)**	**Capacity (GPM)**	**Service Status**
5	20	110	75	PVC	2083	1400	ABANDONED*
6	20	110	75	PVC	2083	1400	ABANDONED*
17	12	115	81	PVC	2800	2800	ONLINE
18	12	140	80	PVC	2800	2800	ONLINE
19	12	140	80	PVC	2800	2800	ONLINE
20	12	140	80	PVC	2800	2800	ONLINE
21	12	140	80	PVC	2800	2800	ONLINE
22	12	140	80	PVC	2800	2800	ONLINE
23	12	140	80	PVC	2800	2800	ONLINE
24	12	140	80	PVC	2800	2800	ONLINE
*Abandoned due to saltwater intrusion.							
Source: Broward County Water and Wastewater Services							

5.2 North Regional Wellfield

The NRW includes ten 2 MGD Biscayne aquifer wells and approximately 39,000 linear feet of pipeline, ranging from 12-inches to 48-inches in diameter. A permit application combining the District 2A retail wellfield and NRW permits was renewed by the SFWMD and issued in October 2020. The permitted Biscayne Aquifer withdrawal capacity of the 2A/NRW is 17.41 MGD on an annual average basis and 580.55 MG as a maximum month value. The permit expires in the year 2040. The well casings at the NRW are set in the Biscayne Aquifer at a depth of approximately 100 feet below land surface. The NRW has two emergency generators capable of powering pumps for six wells. Usage data for the NRW are presented in Table 5-3. All wells in the NRW have PVC casings.

Table 5-3. Large User Actual Flow North Regional Raw Water Flow Distribution (1,000 Gallons) as of September 30, 2024			
Fiscal Year	**Deerfield**	**Broward County**	**NRWF**
FY 2020	202,519	2,487,015	2,689,534
FY 2021	194,695	1,267,003	1,461,698
FY 2022	201,883	1,258,916	1,460,799
FY 2023	187,854	1,226,077	1,413,931
FY 2024	193,410	1,391,425	1,584,835
Source: Broward County Water and Wastewater Services			

5.3 South Regional Wellfield

The SRW includes eight 4-MGD wells, approximately 83,000 linear feet of transmission pipeline, ranging in size from 20-inches to 42-inches in diameter. The SRW has two emergency generators capable of powering pumps for six of the wells (three wells per generator). The remaining wells have

connections for a portable generator. The SRW permit was renewed in 2018 and is currently operating under a permitted capacity of the 566.19 MGD on a maximum month basis and 16.62 MGD on an annual average basis. The Biscayne allocation requires renewal in 2038 while the C51 allotment is valid through 2065. Wells 5 and 6 were formerly associated with WTP 3A and were abandoned in 2015. The well casings at the SRW are set in the Biscayne Aquifer at a depth of approximately 100 feet below land surface. Usage data for the SRW are presented in Table 5-4. All wells in the SRW have PVC casings.

Table 5-4. Large User Actual Flow South Regional Raw Water Flow Distribution (1,000 Gallons) as of September 30, 2024

Fiscal Year	Hallandale	Hollywood	Dania	FPL	Total SRW
FY 2020	1,403,559	1,641,419	789,337	-	3,834,315
FY 2021	1,464,210	1,642,746	879,406	6,673	3,993,035
FY 2022	1,511,186	1,647,666	968,068	144,067	4,270,987
FY 2023	1,226,037	1,836,044	951,161	74,864	4,088,106
FY 2024	1,655,179	1,599,309	1,033,459	47,556	4,335,503

Source: Broward County Water and Wastewater Services

5.4 Contractual Agreements

The contractual agreements with each of the Large Users are substantially similar. The agreements do not have expiration dates, except for the City of Hollywood agreement, which has a four-year term with an automatic renewal for four years unless otherwise terminated. The Large User Agreements provide for a method to charge each user a pro-rate share of system operations and maintenance costs. Historical and projected revenues for the raw water system are shown in Table 7-7 and generally represent less than 1% of Utility revenues. As noted, the capital costs of system construction were funded using general County revenues.

5.5 Large Users

The North and South Regional Wellfields serve different areas in Broward County. The NRW serves the City of Deerfield Beach and the County's District 2 WTP. The SRW serves the Cities of Dania Beach, Hollywood, and Hallandale Beach, as well as Florida Power and Light.

5.6 Regional Raw Water Supply Regulations

The volume of raw water withdrawal from the Utility's regional raw water supply wellfields is regulated by the SFWMD. Each wellfield is governed by a water use permit that stipulates raw water annual and maximum month withdrawals. These permits are reissued for periods of 5 to 20 years. The permit for the combined 2A/NRW was renewed in October 2020 for a 20-year period. The 20-year renewal of the SRW permit was similarly granted in March 2018. Both permits include C51 offset allocation that are valid for a 50-year term that expires in December 2065.

Monitoring of well pumpage and groundwater levels in proximity to wetlands and saltwater intrusion is conducted to comply with specific limiting conditions of the regional wellfield water use permits.

For wells that are in service, the County operation personnel regularly monitor pH, alkalinity, hardness, iron, chloride, color, heterotrophic plate count (HPC), coliforms, quarterly wellfield

protection monitoring and annual analysis to comply with the SDWA as well as the FDEP. All water quality regulations are enforced by the FDEP. Groundwater levels around the wellfield footprints and chloride concentrations in the Biscayne Aquifer production zone and at depths below production zone also are monitored and reported to the SFWMD on a monthly basis as part of consumptive use permit compliance.

5.7 Visual Inspection and Review

5.7.1 North Regional Wellfield

Overall, the ten wells and two generators of the NRW were in good to excellent condition upon visual inspection on May 30, 2025 by C Solutions, Inc. For most wells, pipe coatings, vaults, surrounding concrete areas, and fencing were in good condition. The following is a summary of the observations from the visual inspection for each well.

- Well 1 - Well 1 has a submersible well pump with the wellhead, valves, and piping contained within an underground vault inside of a secured fenced area. The site also contains an exterior control panel and generator building housing an emergency generator and Motor Control Center (MCC) for service for Wells No. 1, 2, and 46. The building also serves as the central hub for the SCADA system for Wells No. 1, 2, 45 and 46. The well appeared to be in good condition. Security fencing and locked vault hatches were undamaged. The wellhead and associated piping and valves appeared to be in good condition with minimal signs of corrosion on the wellhead. The sump pumps appeared to be in good condition as the vault had no water inside. The emergency generator building exterior and interior were in good condition. The emergency generator was reported to be exercised for 1 hour weekly and to be in working condition. The key card lock is installed but awaiting activation from Comcast communication lines. Electrical equipment was in good condition. The asphalt driveway was in good condition.

- Well 2 - Well 2 has a submersible well pump with the wellhead, valves, and piping contained within an underground vault inside of a secured fenced area. The well appeared to be in good condition. Security fencing and locked vault hatches were undamaged. The wellhead and associated piping and valves appeared to be in good condition with very minimal signs of corrosion. The electrical panel and equipment appeared to be in good condition. The sump pumps also appeared to be in good operational condition as the well vault had no water inside. The key card lock is installed but awaiting activation from Comcast communication lines. The asphalt and driveway within the enclosure were in fair condition with visible cracks.

- Well 27 - Well 27 has a submersible well pump with the wellhead, valves, and piping contained within an underground vault inside of a secured fenced area. The well appeared to be in good condition. Security fencing and locked vaults hatches were in good condition. The wellhead and associated piping and valves appeared to be in good condition with very minimal signs of corrosion. Electrical equipment was in good condition. The sump pumps appeared to be in good condition with minor standing water around the wellhead. The key card lock is installed but awaiting activation from Comcast communication lines. The asphalt driveway was in fair condition with some cracks present in multiple locations. Power to this well is solely provided by FPL with no dedicated emergency backup generator. This well has a quick connect system for an emergency generator. This well has an individual communication system which is hardlined to the County system.

- Well 29 - Well 29 has a submersible well pump with the wellhead, valves, and piping contained within an underground vault inside of a secured fenced area. The well appeared to be in good condition. Security fencing and locked vault hatches were in good condition. The wellhead and associated piping and valves appeared to be in good condition with very minimal signs of corrosion. Electrical equipment was in good condition. The sump pumps appeared to be in operational condition with minor standing water around the wellhead. The key card lock is installed but awaiting activation from Comcast communication lines. The asphalt driveway was in fair condition with small cracks present in multiple locations. Power to this well is solely provided by FPL with no dedicated emergency backup generator. This well has a quick connect system for an emergency generator. This well has an individual communication system which is hardlined to the County system.
- Well 30 - Well 30 has a submersible well pump with the wellhead, valves, and piping contained within an underground vault inside of a secured fenced area. The well appeared to be in good condition. Security fencing and locked vault hatches were in good condition. The wellhead and associated piping and valves were recently painted but not rehabilitated and appeared to be in good condition. The electrical panel and equipment appeared to be in good condition. The sump pumps also appeared to be in good condition as the vault had no water inside. The key card lock is installed but awaiting activation from Comcast communication lines. This well has a quick connect system for an emergency generator. The concrete driveway was in good condition with minor cracks due to joint spacing.
- Well 31 - Well 31 has a submersible well pump with the wellhead, valves, and piping contained within an underground vault inside of a secured fenced area. The well appeared to be in excellent condition. Security fencing and locked vault hatches were in good condition. The wellhead and associated piping and valves appeared to be in good condition with signs of corrosion on the wellhead. Electrical equipment was in good condition. The sump pumps appeared to be in good condition at the time of the inspection. The key card lock is installed but awaiting activation from Comcast communication lines. A quick connect system for emergency generator was installed. The concrete driveway was in good condition with minor cracks due to joint spacing.
- Well 32 - Well 32 has a submersible well pump with the wellhead, valves, and piping contained within an underground vault inside of a secured fenced area. The well appeared to be in excellent condition. This station has been rehabilitated recently with the wellhead and pump shafts being replaced with stainless steel. Security fencing and locked vault hatches were in good condition. The stainless-steel wellhead appeared to be in excellent condition. Associated piping and valves appeared to be in good condition with minimal signs of corrosion. The sump pumps appeared to be in good condition as the vault had no water inside. The emergency generator building interior and exterior were in good condition. The building houses an emergency generator and Motor Control Center (MCC) for service for Wells No. 31, 32, and 33. The building also serves as the central hub for the SCADA system for Wells No. 30, 31, 32 and 33 The emergency generator was reported to be exercised for 1 hour weekly and to be in working condition. Electrical equipment was in good condition. The concrete driveway was in good condition. The key card lock is installed but awaiting activation from Comcast communication lines.
- Well 33 - Well 33 has a submersible well pump with the wellhead, valves, and piping contained within an underground vault inside of a secured fenced area. The well appeared to be in

excellent condition. Security fencing and locked vault hatches were in good condition. The wellhead and associated piping and valves appeared to be in excellent condition and were recently coated. Minor standing water was observed at the wellhead which could be an indication of a minor leakage. Electrical equipment was in good condition. The sump pumps appeared to be in good condition with minor standing water around the wellhead. The key card lock is installed but awaiting activation from Comcast communication lines. The concrete driveway was in good condition.

- Well 45 - Well 45 has a submersible well pump with the wellhead, valves, and piping contained within an underground vault inside of a secured fenced area. The well appeared to be in good condition. Security fencing and locked vault hatches were undamaged. The wellhead and associated piping and valves appeared to be in good condition with minimal signs of corrosion. Electrical equipment was in good condition. The sump pumps appeared to be in good condition with minor standing water around the wellhead. The key card lock is installed but awaiting activation from Comcast communication lines. The asphalt driveway was in fair condition with visible cracks.

- Well 46 - Well 46 has a submersible well pump with the wellhead, valves, and piping contained within an underground vault inside of a secured fenced area. The well appeared to be in good condition. Security fencing and locked vaults were undamaged. The wellhead and associated piping and valves appeared to be in good condition, with no signs of corrosion. Electrical equipment was in good condition. The sump pumps appeared to be in good condition as the vault had no water inside. A quick connect system for emergency generator was installed. The key card lock is installed but awaiting activation from Comcast communication lines. The asphalt driveway was in good condition.

5.7.2 South Regional Wellfield

Overall, the eight wells and two generators of the SRW were in good condition upon visual inspection on June 3, 2025 by C Solutions, Inc. For most wells, pipe coatings, vaults, surrounding concrete areas, and fencing were in good condition. The following is a summary of the observations from the visual inspection for each well.

- Well 17 - Well 17 was in good condition overall. The stainless-steel wellhead and associated piping and valves were in good condition with signs of corrosion at the wellhead and blowoff valve. Security fencing and locked vault hatches were in good condition. The electrical panel and equipment appeared to be in good condition. The sump pumps appeared to be in good condition as the vault had no water accumulation inside.

- Well 18 - Well 18 has a submersible well pump with the wellhead, valves, and piping contained within an underground vault inside of a secured fenced area. The site also contains an exterior control panel and generator building housing an emergency generator, Motor Control Center (MCC) and central hub for the SCADA system for Wells No. 17, 18 and 19. The well appeared to be in good condition overall. The stainless-steel wellhead and associated piping and valves were in good condition. The new piping and valves appeared to be in good condition. Security fencing and locked vault hatches were in good condition. The sump pumps appeared to be in good condition as the vault had no water accumulation inside. The electrical panel and equipment appeared to be in good condition. The emergency generator building exterior was in good condition. The building interior was in good condition and had recently undergone

maintenance to fix a roof leakage. The emergency generator was reported to be working and in good condition, and provides emergency control for Wells No. 17, 18 and 19. The main control panel for the generator was in good condition.

- Well 19 - Well 19 has a submersible well pump with the wellhead, valves, and piping contained within an underground vault inside of a secured fenced area. The well appeared to be in good condition overall. The stainless-steel wellhead and associated piping and valves were in excellent condition. Security fencing and locked vault hatches were in good condition. The electrical panel and equipment appeared to be in good condition. The sump pumps appeared to be in good condition as the vault had no water accumulation inside.

- Well 20 - Well 20 has a submersible well pump with the wellhead, valves, and piping contained within an underground vault inside of a secured fenced area. The well appeared to be in good condition overall. The wellhead and associated piping and valves were in good condition with minor signs of corrosion on the wellhead. Security fencing and locked vault hatches were in good condition. The electrical panel and equipment appeared to be in good condition. The sump pumps appeared to be in good condition as the vault had no water accumulation inside.

- Well 21 - Well 21 has a submersible well pump with the wellhead, valves, and piping contained within an underground vault inside of a secured fenced area. The site also contains an exterior control panel and generator building housing and emergency generator, Motor Control Center (MCC) and central hub for the SCADA system for Wells No. 20, 21 and 23. The well appeared to be in good condition. The stainless-steel wellhead and associated piping and valves were in good condition with minor signs of corrosion at the piping and blowoff valves. Security fencing and locked vault hatches were in good condition. The sump pumps appeared to be in good condition as the vault had no water accumulation inside. There were significant cracks on the outer concrete slab of the vault. The electrical panel and equipment appeared to be in good condition. The emergency generator building exterior was in good condition. The building interior was in good condition and recently had undergone maintenance to fix a roof leakage, however the roof still needs to be patched at the leak location. Insulators were also added to the inside of the building to overcome noise complaints from the neighborhood. The emergency generator was reported to be in working condition however the underground belly diesel tank is leaking into the containment area and requires replacement.

- Well 22 - Well 22 has a submersible well pump with the wellhead, valves, and piping contained within an underground vault inside of a secured fenced area. The well appeared to be in good condition overall. At the time of inspection, the well was out of service due to an ongoing pump motor replacement. The pump motor was replaced recently but was malfunctioning again. The piping and valves appeared to be in good condition, with some corrosion noted on the wellhead. Security fencing and locked vault hatches were in good condition. The electrical panel and equipment appeared to be in good condition. The sump pumps appeared to be in good condition as the vault had no water accumulation inside. Power to this well is solely provided by FPL with no dedicated emergency backup generator. This well has an individual communication system which is hardlined to the County system.

- Well 23 - Well 23 has a submersible well pump with the wellhead, valves, and piping contained within an underground vault inside of a secured fenced area. The well appeared to be in good condition. The piping and valves appeared to be in good condition with signs of corrosion on the wellhead. Security fencing and locked vault hatches were in good condition. The electrical

panel and equipment appeared to be in good condition. The sump pumps appeared to be in good condition as the vault had no water accumulation inside.

- Well 24 - Well 24 has a submersible well pump with the wellhead, valves, and piping contained within an underground vault inside of a secured fenced area. The well appeared to be in good condition. The piping appeared to be in good condition, with minor rust noted on the wellhead and piping. Security fencing and locked vault hatches were in good condition. The electrical panel and equipment appeared to be in good condition. The sump pumps appeared to be in good condition as the vault had no water accumulation inside. Power to this well is solely provided by FPL with no dedicated emergency backup generator. This well has an individual communication system which is hardlined to the County system.

Section 6 - Capital Improvement Program

This section includes descriptions of the 5-year Capital Improvement Program (CIP) for the Retail Water and Wastewater Systems and the Regional Wastewater and Water Supply Systems.

6.1 Description of the Capital Improvement Program

As part of the growth management efforts mandated by State law, the County initiated planning efforts to accommodate future growth and compliance with regulatory requirements. The latest revision was completed in 2014 and addresses the need for services and facilities based upon anticipated build-out conditions of the service area in the year 2025. It is noted that the Utility conducts an annual CIP review process wherein all projects are thoroughly vetted, estimated, and scheduled. Each review builds upon prior analyses and utilizes new planning data when available. A Retail Water and Wastewater Master Plan was completed in August 2016. This Master Plan is currently being utilized to develop water and wastewater improvements for the WWS retail service areas.

As noted, the Utility develops a 5-year CIP recognizing costs associated with the condition of the system, future growth, and regulatory requirements. Table 6-1 presents the current CIP categorized by expenditure category. The Board approved the CIP for fiscal years 2025 through 2029 in September 2024. The 5-year CIP shown in Table 6-1 reflects the Board approved CIP. Projects remain open until all related construction activities are complete. The budgets by capital project type through Fiscal Year 2029 are presented in Table 6-2.

Table 6-1. Capital Improvement Program (CIP) Projected as of September 30, 2024						
Capital Budgets	**Water Treatment**	**Water and Sewer Mains**	**Wastewater Treatment**	**Regional Transmission**	**Engineering Services & Misc.**	**Total**
Projected Unspent Prior Budget[1]	$42,192,471	$165,313,061	$178,880,466	$25,971,257	$29,645,399	$442,002,654
2025	38,535,000	53,169,000	33,150,000	2,080,000	14,038,000	140,972,000
2026	38,160,000	20,900,000	19,530,000	9,030,000	12,838,000	100,458,000
2027	8,950,000	68,900,000	25,153,000	15,887,300	4,513,000	123,403,300
2028	19,780,000	15,450,000	44,118,000	4,350,000	4,430,000	88,128,000
2029	408,280,000	27,200,000	2,200,000	-	3,580,000	441,260,000
Totals	**$555,897,471**	**$350,932,061**	**$303,031,466**	**$57,318,557**	**$69,044,399**	**$1,336,223,954**
Five Year CIP Funding:						
Bonds FY 2025-2029	$310,897,471	$100,932,061	$86,204,759	$30,468,628	$18,860,000	$547,362,919
Cash FY 2025-2029 [2]	95,000,000	65,000,000	30,769,707	6,849,929	40,384,399	238,004,035
Beyond FY 2029 [3]	150,000,000	185,000,000	186,057,000	20,000,000	9,800,000	550,857,000
Totals	**$555,897,471**	**$350,932,061**	**$303,031,466**	**$57,318,557**	**$69,044,399**	**$1,336,223,954**

[1] Unspent prior budget totals are estimated as of September 30, 2024

[2] Cash reflects net revenues, capital recovery charges, large user contributions, and grants

[3] Reflects effects of construction period. It is currently expected that $785M of the $1,336M program will be spent by 2029. Since the construction period extends beyond 2029, the remaining $551M will be spent in subsequent years.

Source: Broward County Water and Wastewater Services

Table 6-2. Capital Projects Budgets by Type Through Fiscal Year 2029	
	Budget
Water Treatment	
Water Treatment Plant Expansion	$ 8,379,803
Water Treatment Plant IRR[1] & Misc. Projects	547,517,668
Water Treatment Subtotal	**$ 555,897,471**
Water Distribution and Sewer Collection	
Neighborhood & Local Utility Projects (NP & LUP)	$ 138,290,767
Retail Sewer Main Improvements	99,150,817
Retail Water Main Improvements	38,528,763
Misc. Main Improvements	15,463,344
Potable Water Storage Improvements	32,392,754
Lift Station Improvements	27,105,616
Water Distribution and Sewer Collection Subtotal	**$ 350,932,061**
Wastewater Treatment	
NRWWTP Effluent Disposal /Treatment Enhancements	$ 247,790,994
NRWWTP Equipment Rehabilitation	42,604,869
Wastewater Plant IRR[1] & Misc. Projects	12,635,603
Wastewater Treatment Subtotal	**$ 303,031,466**
Regional Transmission	
Master Pump Station Improvements	$ 19,272,037
Force Main Improvements	38,046,520
Regional Transmission Subtotal	**$ 57,318,557**
Engineering/Misc. Services	**$ 69,044,399**
GRAND TOTAL	**$1,336,223,954**
[1] IRR = Improvement, Repair and Replacement	
Source: Broward County Water and Wastewater Services	

The estimated funding requirements for this 5-year period ending Fiscal Year 2029 are expected to be met by net revenues, debt proceeds, capital recovery charges, contributions from Large Users, grants, and future borrowings. The Utility currently forecasts cash financing for approximately 18% of the actual funding requirements. Many of the projects and improvements in the CIP are in the planning stages with cost estimates that are preliminary and contracts that have not been awarded. Projects included in the plan have been prioritized to maintain an affordable rate structure.

The County is presently considering increasing funding for certain projects during preparation of the 2025 CIP update. The total updated CIP could be increased above the CIP presented in Tables 6-1 and 6-2. However, much of these costs will be carried over into years beyond the 5-year CIP period. (Note that debt service coverage ratios for both the current CIP, and the potential higher estimated CIP will always be maintained within Bond Covenant requirements.)

The County plans to continue to prioritize projects as needed to maintain an affordable rate structure. The proposed rates are annually presented to the Board for discussion at an August workshop with action taken at the September budget hearings. Current projections anticipate level rate increases of approximately 6% annually through Fiscal Year 2029.

6.2 Retail Water and Wastewater System Improvements

The 5-year CIP for the retail water and wastewater systems has the principal objective of upgrading/rehabilitating or replacing water treatment and distribution systems, sewage collections systems, and extending sanitary sewers to currently non-sewered customers.

6.3 Water Treatment

The 5-year CIP includes $556 million to improve Water Treatment Plants 1A and 2A, which includes repair and replacement of process equipment, chemical and electrical systems, security improvements, and energy efficiency upgrades. The total includes treatment systems to comply with EPA's PFAS regulations.

6.4 Neighborhood Program (NP)

The Neighborhood Program (NP) was initiated by the County in 1993. The program upgraded the infrastructure in what were unincorporated neighborhoods. The improvements included upgrades to the existing water and sewer system, installation of drainage, new pavement, swales and landscaping.

6.5 Local Utility Program (LUP)

WWS began implementing local utility improvement projects by Utility Analysis Zones (UAZ) in mid-2009. Where the NP included drainage, landscaping and sidewalk improvements, which were paid for from County general funds, the LUP projects focus solely on water and sanitary sewer improvements. The total cost estimate for these improvements is nearly $351 million over the 20 plus years' project life. The 5-year CIP includes $138 million for neighborhood and LUP projects.

6.6 Other Including Mains, Lift Station Improvements and Potable Storage

The CIP includes $213 million for water and wastewater main improvements to address aging water and wastewater lines; increase transmission and distribution capacities and extend service to new customers. The CIP also includes $27 million of retail wastewater lift station rehabilitation projects to increase the reliability of the wastewater collection system and prevent the occurrence of sanitary sewer overflows.

6.7 Regional Wastewater Treatment

Under current regulations, the Utility is required to reduce the nutrient loadings discharged to the ocean outfall between 2009 and 2025, and to eliminate use of the outfall, except as a back-up discharge that is part of a functioning reuse system. These were estimated to result in plant process improvement requirements with estimated costs ranging from $766 million to $889 million in accordance with the Effluent Disposal Master Plan (November 2010). With amendments to the Ocean Outfall legislation in 2013, allowing peak flows to continue discharging through the outfall, the

construction of additional injection wells with associated high-level disinfection was no longer mandatory by 2025. The compliance with the additional required reclaimed water production was met through the agreement with Palm Beach County (PBC) wherein WWS would supply bulk reclaimed water to customers in PBC (executed in April 2016). As a result, the estimated costs for ocean outfall compliance are expected to be substantially reduced to approximately $170 million. It is noted that this estimate will be variable depending upon regulatory agency actions in the future.

The County has included $248 million of funding in the 5-year CIP to address these improvements. Various other system utility Improvement, Repair and Replacement (IRR) projects are budgeted at approximately $55 million. These improvements will address solids handling, biological process, controls, structures, electrical and other related plant improvements.

Future capital needs associated with the potential requirement to add high level disinfection for existing deep injection wells and/or to construct additional deep injection wells are not included in the 5-year CIP. It is anticipated that adequate time for planning and funding for these requirements will be available when (and if) this requirement is mandated for the NRWWTP.

6.8 Regional Wastewater Transmission

The CIP includes a series of master pump station improvements to ensure adequate system capacity and reliability in the regional transmission system. The CIP anticipates investing approximately $57 million for improvements to the master pump stations, wastewater meters, and air release valves. A Regional Wastewater Transmission System Master Plan was completed in 2021. The Plan recommends potential future capital improvements required to maintain the regional system into the future.

Section 7 - Financial Conditions

This section describes the financial operations of WWS, including rates and charges; revenue and cost projections; a utility service cost comparison; and a summary of insurance coverage.

7.1 Overview of Financial Operations

WWS collects payments from retail and wholesale customers to recover the costs of providing water and wastewater services. In general, there are three types of customers: (1) retail water and wastewater; (2) wholesale raw water; and (3) wholesale wastewater. Revenue collection from each customer type is described as follows.

Retail Water and Wastewater Customers. WWS provides water and wastewater services to customers in several sections of the County and water services to one significant retail water customer, the City of Coconut Creek. These customers comprise approximately 14.6% of Broward County's population.

Operating, administrative, and general maintenance costs of the retail portion of WWS are recovered from retail customers through charges for potable water service, wastewater service, reclaimed water service, customer connections, and other utility-related services. Capital costs for system development, large maintenance projects, and renewal and replacement projects are funded through net revenues, bond proceeds, developer contributions, contributions from other Broward County utilities, and capital recovery charges.

All charges are developed by WWS and approved by the Broward County Board of County Commissioners. The Board has specific legal authority to set and collect rates, fees and charges from its customers and to acquire, construct, finance, and operate WWS.

The existing rate structure for retail water and wastewater customers is based on meter size and water consumption. The County encourages retail customers to conserve water through the retail water and wastewater rate schedules that set higher water rates for levels of water consumption beyond basic use. The current water rate schedule is composed of four tiers as follows.

1. Rates for basic use
2. Rates for normal use
3. Rates for discretionary use
4. Rates for excessive use

The Board adopted new water and wastewater rates for retail customers effective October 1, 2024. The average monthly water and wastewater bills of a residential customer consuming 5,000 gallons per month during Fiscal Years 2021 to 2025 are presented in Table 7-1. The 5,000 gallons is the average monthly metered water use of Broward County's retail residential customers. As noted in Table 7-1, the water and wastewater bill in Fiscal Year 2025 is $85.27 per month for the average water-using residential customer and is a three percent increase from Fiscal Year 2024.

Table 7-1. WWS Water and Wastewater Monthly Utility Bill for a Residential Customer Using 5,000 Gallons per Month

Fiscal Year	Water Charges				Wastewater Charges				Total	
	Fixed[1]	Volume	Total	Percent Change	Fixed	Volume	Total	Percent Change	Dollars	Percent Change
2021	$17.13	$10.68	$27.81	0.00%	$20.54	$21.30	$41.84	0.0%	$69.65	0.00%
2022	$17.19	$10.81	$28.00	0.70%	$21.20	$21.85	$43.05	2.9%	$71.05	2.00%
2023	$18.72	$11.43	$30.15	7.68%	$21.60	$22.30	$43.90	1.97%	$74.05	4.22%
2024	$19.72	$12.02	$31.74	5.27%	$22.69	$23.45	$46.14	5.10%	$77.88	5.17%
2025[2]	$21.14	$13.34	$34.48	8.63%	$24.99	$25.80	$50.79	10.08%	$85.27	9.49%

[1] Includes customer charge.

[2] Based on rates adopted by the Board effective October 1, 2024.

Source: Broward County Water and Wastewater Services

The minimum monthly fixed charges and the volume charges for most retail services as of October 1, 2024 are provided in Tables 7-2 and 7-3, respectively. The charges address water service, wastewater service, irrigation water service, reclaimed water service, and fire protection service. There is also a customer charge per account per month of $5.44 that is applied to the water portion of the bill.

Other miscellaneous charges are not included in the tables but are included in the County's rate resolutions. They include a high strength industrial wastewater surcharge, a minimum monthly service charge, capital recovery charges per equivalent residential unit (ERU), customer deposits, and other specific service charges. Capital recovery charges underwrite the investment in additional capacity needed to serve new developments.

Table 7-2. Broward County Schedule of Retail Rates Minimum Monthly Charges per Account Effective October 1, 2024			
Service Location or Type	**Meter Size (inches)**	**Water ($)**	**Wastewater ($)**
Residential	5/8" Residential	15.70	24.99
	1 (ARC* < /=20,000 GAL)	15.70	24.99
	1 (ARC* >20,000 GAL)	44.80	58.29
	1 ½	83.88	150.40
Commercial, Municipal and Institutional	5/8	23.02	33.88
	1	54.10	89.56
	1 ½	121.56	185.31
	2	312.22	522.21
	3	605.41	1,339.87
	4	5,556.07	2,590.82
	6	9,790.62	15,164.31
	8	12,157.42	16,436.51
Retail Water Sales for Resale	Per Meter	83,478.61	
Multi Family and Mobile Home (per unit)	All sizes	12.41	18.81
Hotels and Motels (per dwelling unit)	All sizes	8.44	12.42
Recreational Vehicles (per dwelling unit)	All sizes	9.44	14.17
Water Private Fire Protection	All sizes	159.42	
Irrigation	5/8	19.49	
	1	39.09	
	1 ½	106.38	
	2	238.62	
	3	489.92	
	4	2,167.68	
Reclaimed Water	5/8	15.16	
	1	15.16	
	1 ½	83.37	
	2	289.36	
	3	548.98	
	4	5,297.60	
	6	9,708.72	
	8	11,655.78	

* ARC stands for a customer's actual residential average monthly consumption during the previous calendar year.

Source: Broward County Water and Wastewater Services

Table 7-3. Broward County Schedule of Retail Rates Volume Charge (1,000 Gallons) Effective October 1, 2024

Customer Class (all meter sizes unless noted)	Water		Wastewater	
	Volume (per 1,000 gals)	Charge ($)	Volume (per 1,000 gals)	Charge ($)
Single Family Residential	0-3 4-6 7-12 Over 12	2.02 3.64 8.52 10.33	0-15 Over 15	5.16 No Charge
Commercial, Municipal and Institutional	0 – 75% of Avg Consumption Over 75% of Avg Consumption	5.14 10.58	All volumes	5.16
Sale for Resale	Water Treatment Charge Water Transmission Charge	3.01 0.16		
Multi Family and Mobile Home (per unit)	0-2 3-4 5-6 Over 6	2.02 3.64 8.52 10.33	0-8 Over 8	5.16 No Charge
Hotels and Motels (per unit)	0 – 75% of Avg Consumption Over 75% of Avg Consumption	5.14 10.58	All volumes	5.16
Recreational Vehicles (per unit)	0 – 75% of Avg Consumption Over 75% of Avg Consumption	5.14 10.58	All volumes	5.16
Private Fire Protection	All volumes	8.44		
Irrigation **5/8" meter** **1" meter** **1 ½" meter** **2 to 3" meter** **Reclaimed Water**	 0-8 Over 8 0-22 Over 22 0-55 Over 55 0-142 Over 142 All Volumes	 8.56 10.59 8.56 10.59 8.56 10.59 8.56 10.59 0.98		

Source: Broward County Water and Wastewater Services

In the event additional water restrictions are imposed, the County has instituted an automatic adjustment to the water service portion of the bill that reduces the water quantities at which increased rates are applied to encourage customers to reduce consumption. These water quantities are provided in Table 7-4. The automatic rate adjustment was adopted by the Board as a method to maintain the revenues required for operations while water consumption is curtailed. The SFWMD imposes phased restrictions as drought conditions warrant to achieve targeted water use reductions.

Table 7-4. Automatic Rate Adjustments for Periods of Mandated Water Restrictions

Customer Class and Block	Water Consumption Thresholds in 1,000 Gallons per Month		
	Standard	Drought	Extreme Drought
Single Family (all meter sizes)			
First Tier	0-3	0-2	1
Second Tier	4-6	3-5	2-4
Third Tier	7-12	6-9	5-6
Final Tier	Over 12	Over 9	Over 6
Multi-Family (per dwelling unit, all meters)			
First Tier	0-2	1	1
Second Tier	3-4	2-3	2
Third Tier	5-6	4-5	3
Final Tier	Over 6	Over 5	Over 3
Irrigation			
5/8" Meter, First Tier	0-8	0-4	0-2
5/8" Meter, Second Tier	Over 8	Over 4	0ver 2
1" Meter, First Tier	0-22	0-11	0-5
1" Meter, Second Tier	Over 22	Over 11	Over 5
1 1/2" Meter, First Tier	0-55	0-27	0-14
1 1/2" Meter, Second Tier	Over 55	0ver-27	Over 14
2" and Over Meter, First Tier	0-142	0-71	0-35
2" and Over Meter, Second Tier	Over 142	Over 71	Over 35
Commercial, Municipal, Institutional, Hotels, Motels, and Recreational Vehicles			
First Tier	0-75%	0-60%	0-45%
Second Tier	Over 75%	Over 60%	Over 45%

Source: Broward County Water and Wastewater Services

With the automatic adjustment, the higher water rates established for larger consumption levels are applied at lower levels of consumption. The result is that customers who do conserve as required may experience a reduction in their water bills. Conversely, customers who fail to achieve reductions will pay even greater amounts for water consumed than they would otherwise pay without the adjustment. As targeted reductions increase, the associated water use levels at which increased rates become effective decrease.

A summary of retail billing volumes from 2020 to 2024 is provided in Table 7-5.

Table 7-5. Retail Water and Wastewater Billing Volumes as of September 30, 2024 (1,000 Gallons)

Fiscal Year	Retail Water Service			Wastewater Service
	County	Coconut Creek	Total	
2020	6,869,365	2,029,803	8,899,168	5,813,777
2021	6,480,285	1,863,639	8,343,924	5,653,808
2022	6,824,017	2,044,921	8,868,938	5,777,795
2023	6,881,788	1,959,987	8,841,775	5,398,859
2024	7,015,632	1,976,026	8,991,658	5,512,964

Source: Broward County Water and Wastewater Services

Wholesale Raw Water Customers. There are six wholesale water customers located in Broward County, including WWS District 2, that purchase raw water from WWS. The wholesale water agreements provide for a method to charge each customer a pro rata share of raw water system operations and maintenance costs. The capital cost to construct the raw water pumping and transmission system was funded using general County revenues.

Wholesale Wastewater Customers. There are 12 utilities within Broward County that receive wholesale wastewater transmission, treatment, and disposal services from WWS through the NRWWTP. Charges for wholesale wastewater customers are defined by an agreement between the County and each wholesale customer. The total customer charge consists of a charge for operation and maintenance costs based on wastewater flow; a charge for debt service costs based on the customer's reserve capacity; and a surcharge for improvement, repair, and replacement costs assessed as a percentage of the first two charges. The charge for operation and maintenance cost is adjusted annually to reflect each user's proportionate share of actual costs during the fiscal year. The wholesale wastewater customer rates used to calculate the charges from Fiscal Years 2021 to 2025 are provided in Table 7-6.

Table 7-6. Water and Wastewater Services – History of Wholesale Wastewater Rates Associated with the NRWWS as of September 30, 2024

Fiscal Year	O&M (Per 1,000 gallons)		Debt Service (Per MGD)		IR&R
	Treatment	Transmission	Treatment	Transmission	Surcharge
2021	$1.050	$0.205	$21,359.89	$6,586.86	5%
2022	$1.081	$0.207	$21,359.38	$6,585.89	5%
2023	$1.147	$0.224	$24,713.62	$8,173.93	5%
2024	$1.325	$0.232	$24,435.96	$7,936.96	5%
2025	$1.521	$0.238	$24,378.53	$7,909.09	5%

Source: Broward County Water and Wastewater Services

The wholesale wastewater customer rates are reviewed and adjusted annually by the County as part of the budget process. The rates are based on the County's estimation of total costs and total flows. Debt service requirements (including required coverage) for the NRWWS are allocated to each

wholesale customer in proportion to the customer's reserved capacity. A surcharge of up to 10% is added to fund improvements, repairs, and replacements to the NRWWS. Currently the surcharge is 5%. These funds are maintained separately from the Renewal, Replacement, and Improvement (RR&I) Fund established by resolutions of the Board authorizing the issuance of bonds for the Utility (collectively, the "Bond Resolutions").

Renewal, Replacement, and Improvement Fund. Presently, the RR&I Fund is required by the Bond Resolution to maintain a minimum balance of 5% of the previous year's revenues, as defined by the Bond Resolution, or a greater amount if recommended by the Consulting Engineer. Based on the financial statement for the Fiscal Year ended September 30, 2024, the 2024 total revenues were $191 million. Five percent of Fiscal Year 2024 revenues is approximately $9.6 million. The current balance in the RR&I Fund is $9.6 million consistent with the requirement of the Bond Resolution.

7.2 Revenue Projections

Historic WWS revenues and costs from Fiscal Years 2020 to 2024 and projected revenues and costs from Fiscal Years 2025 to 2029 were provided by the County. Annual 2020 to 2029 revenues from all WWS customers, wholesale wastewater customers (NRWWTP large users), wholesale raw water customers, and treated water sales to the City of Coconut Creek (sale for resale water) are provided in Table 7-7.

Beginning in Fiscal Year 2025, forecasted revenue from wholesale wastewater customers is expected to comprise about 28% of total WWS revenue and wholesale raw water revenue is expected to comprise less than 1%. Treated water sales to the City of Coconut Creek are referred to in this Section as "Sales for Resale Water" and comprise about 4% of total WWS revenue. The remaining customer revenue, comprising about 67% of total WWS revenue, is expected from retail water and wastewater sales to County residents and businesses.

Table 7-7. Historical and Projected Revenue from NRWWTP Large Users, Raw Water Sales, and Sale for Resale Water (In 1,000s)

	Historical					Projected				
Revenue Source and Percent	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**
Total WWS Revenue	$156,042	$152,144	$166,059	$176,333	$191,315	$208,146	$222,439	$241,082	$264,291	$288,302
Large User Revenues (excluding Broward County)	$42,761	$43,362	$47,344	$50,757	$52,550	$57,667	$61,127	$64,795	$63,468	$67,276
Percent of Total WWS Revenue	27.4%	28.5%	28.5%	28.8%	27.5%	27.7%	27.5%	26.9%	24.0%	23.3%
Regional Raw Water Revenues	$908	$738	$858	$865	$1,465	$1,200	$1,225	$1,250	$1,275	$1,300
Percent of Total WWS Revenue	0.6%	0.5%	0.5%	0.5%	0.8%	0.6%	0.6%	0.5%	0.5%	0.5%
Treated Water Sales to City of Coconut Creek (Sale for Resale Water)	$8,372	$7,715	$7,882	$8,152	$8,621	$8,947	$9,303	$13,664	$18,381	$19,213
Percent of Total WWS Revenue	5.4%	5.1%	4.7%	4.6%	4.5%	4.3%	4.2%	5.7%	7.0%	6.7%

Source: Broward County Water and Wastewater Services

Historical and projected WWS revenues and costs from Fiscal Years 2020 to 2029 are provided in Table 7-8. Also presented are the historical and projected Net Revenue, Debt Service, and Debt Service Coverage. The data and assumptions used to project annual water and wastewater revenues and expenditures from Fiscal Years 2025 to 2029 are provided as follows.

- Fiscal Year 2024 was used as the base year from which projections were developed. The annual water and wastewater revenues and expenditures were based on Fiscal Year 2024 actual values from WWS financial statements prepared as of September 30, 2024.
- Fiscal Year 2025 revenues and expenditures were projected based upon the rates approved by the County, which were implemented on October 1, 2024 and estimated expenses through Fiscal Year 2025.
- Revenues for Fiscal Years 2025 through 2029 were based on the projected average annual number of customers, historical average consumption per customer, and projected retail service rates.
- Because WWS operates a mature system with expectations of limited future growth, the growth rates in the retail customer base beginning in Fiscal Year 2025 were estimated to be 0.5% annually for water customers and 1% annually for wastewater customers.
- Retail rate increases from Fiscal Years 2025 through 2029 of approximately 6% or less per year for both retail water and wastewater will be necessary to meet the projected revenues as presented in Table 7-7 and Table 7-8. New rates were approved by the Board and became effective on October 1, 2024. If any other needed future retail rate increase is not approved, the coverage ratios would be lower than those presented in Table 7-8.
- The water and wastewater annual operation and maintenance costs were forecasted beginning with the budgeted levels for Fiscal Year 2025. For 2025, these costs have increased by 6% from the previous year. From 2026 through 2029, the costs increased by 5% from the previous year. The revenue forecast for the wholesale wastewater customers is projected to recover costs as defined under the wholesale wastewater customer agreements.
- An estimate of interest income is projected annually from Fiscal Year 2025 through Fiscal Year 2029. Interest income is generated from three main sources: debt service reserve fund, general reserve fund, and investments of fund balances as permitted under the Bond Resolution.
- The audited financial statements as of September 30, 2024 present the computation of debt service coverage on all outstanding revenue bonds as 1.66 for Fiscal Year 2024, which is sufficient to meet the bond covenant requirement of 120% coverage for all debt service obligations. In addition, a Balance Available for Renewal, Replacement and Capital Expenditures of approximately $34.7 million was generated during Fiscal Year 2024.

Table 7-8. Schedule of Historical and Projected Net Revenues, Debt Service ($1,000) and Debt Service Coverage
Includes 6% Annual Retail Rate Increase FY25 - FY29

	Historical					Projected				
Revenues:	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Water	$ 54,872	$ 53,618	$ 57,628	$ 59,842	$ 65,450	$ 74,723	$ 84,159	$ 97,756	$ 115,721	$134,285
Wastewater	91,727	92,306	98,947	103,844	110,008	117,408	122,105	126,989	132,068	137,351
Other[1]	7,311	6,006	7,845	6,642	7,227	7,299	7,372	7,446	7,520	7,596
Interest Income	2,132	214	1,639	6,005	8,630	8,716	8,803	8,891	8,980	9,070
Total Revenues	**$ 156,042**	**$ 152,144**	**$ 166,059**	**$ 176,333**	**$ 191,315**	**$ 208,146**	**$ 222,439**	**$ 241,082**	**$ 264,291**	**$288,302**
Current Expenses:										
Water Transmission & Distribution	$ 12,528	$ 11,339	$ 12,660	$ 14,433	$14,587	$ 15,316	$ 16,235	$ 17,047	$17,899	$18,973
Water Source of Supply, Treatment & Pumping	10,685	9,671	10,849	12,369	12,502	13,127	13,915	14,610	15,341	16,261
Wastewater Collection &Transmission	12,681	13,057	14,167	16,152	16,040	18,342	17,853	18,745	19,682	20,863
Wastewater Treatment	19,692	19,804	22,595	25,761	27,516	28,892	30,625	32,157	33,764	35,790
Customer Service	5,908	6,589	7,105	8,100	9,118	9,574	10,148	10,656	11,189	11,860
Administrative/General	21,232	19,181	20,643	23,537	23,876	25,070	26,574	27,903	29,298	31,056
Total Current Expenses	**$ 82,726**	**$ 79,641**	**$ 88,019**	**$ 100,352**	**$ 103,639**	**$ 110,321**	**$ 115,350**	**$ 121,118**	**$ 127,174**	**$134,804**
Net Revenues	**$ 73,316**	**$ 72,503**	**$ 78,040**	**$ 75,981**	**$ 87,676**	**$ 97,825**	**$ 107,089**	**$ 119,964**	**$ 137,117**	**$153,498**
Debt Service- Senior Lien Debt:										
Series 2009-A Bonds	$ 1,984	$ 1,700	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Series 2012-A Bonds	3,670	3,755	3,757	56	56	56	56	56	56	56
Series 2012-B Bonds	16,370	14,271	14,271	-	-	-	-	-	-	-
Series 2015-A Bonds	2,113	2,113	2,113	2,113	2,113	2,113	2,113	2,113	15,518	15,518
Series 2015-B Bonds	6,885	9,515	11,209	11,208	11,210	11,211	11,209	11,205	11,208	11,206
Series 2019-A Bonds	8,731	10,583	10,583	10,583	10,583	10,583	10,583	10,583	10,583	10,583
Series 2019-B Bonds	2,997	3,633	3,633	3,633	3,633	3,633	3,633	3,633	5,148	7,534
Series 2022-A Bonds	-	-	5,030	8,013	8,013	8,013	8,013	8,013	8,343	8,346
Series 2022-B Bonds	-	-	-	17,288	17,352	17,280	17,204	17,131	2,207	-
Series 2027-PFAS Bonds	-	-	-	-	-	-	-	15,000	30,000	30,000
Total Debt Service	**$ 42,750**	**$ 45,570**	**$ 50,596**	**$ 52,894**	**$ 52,960**	**$ 52,889**	**$ 52,811**	**$ 67,734**	**$ 83,063**	**$83,243**
Debt Coverage Senior Lien	**1.71**	**1.59**	**1.54**	**1.44**	**1.66**	**1.85**	**2.03**	**1.77**	**1.65**	**1.84**

[1] Other Revenue includes the Customer Service Charge and Miscellaneous Fees

Source: Broward County Water and Wastewater Services

7.3 Comparison of Customer Water and Sewer Charges by South Florida Municipalities and Counties

Table 7-9 shows the current water and wastewater monthly service charges for residential customers of municipalities and the County, as well as Miami-Dade and Palm Beach Counties.

Table 7-9. Comparative Monthly Water and Wastewater Charges as of 12/31/2024 (Based on Usage of 5,000 Gallons Per Month for a 5/8-inch meter)

Utility	Water *	Sewer	Total
Wilton Manors	71.27	84.01	155.28
Fort Lauderdale (outside City)	57.19	76.73	133.91
Davie	49.09	83.09	132.18
Sunrise (outside City)	56.23	62.78	119.01
Oakland Park	59.82	56.57	116.39
Margate (outside City)	53.56	54.40	107.96
Parkland Utilities, Inc.	31.12	76.53	107.65
Fort Lauderdale	45.75	61.38	107.13
Miramar	46.77	60.17	106.94
Hallandale Beach	49.87	51.77	101.64
Royal Waterworks	41.59	58.39	99.98
Hollywood	33.57	65.84	99.42
Sunrise (inside City)	45.00	51.29	96.29
Average Water & Sewer for Broward	**41.20**	**53.66**	**94.86**
Dania Beach	38.24	54.18	92.42
Pompano Beach (outside City)	43.74	47.36	91.10
Cooper City	35.83	54.32	90.15
Margate (inside City)	42.83	43.52	86.35
Pembroke Pines	37.65	43.57	81.22
Plantation	27.86	53.22	81.08
Coral Springs	30.34	50.63	80.97
Broward County (WWS)	**29.04**	**50.79**	**79.83**
North Lauderdale[1]	32.30	47.25	79.55
Coconut Creek	43.58	33.11	76.69
North Springs Improvement District	35.99	40.61	76.60
Lauderhill	27.40	47.91	75.31
Pompano Beach (inside City)	34.99	37.89	72.88
Deerfield Beach	34.66	34.94	69.60
Coral Springs Improvement District	33.52	33.52	67.04
Tamarac	26.13	40.27	66.40
Water Only			
Hillsboro[1]	34.41	-	34.41
Sewer Only			
Pembroke Park[1]	-	58.09	58.09
Lauderdale By the Sea[1]	-	45.81	45.81
Tri-County Utilities			
Palm Beach County	27.44	36.74	64.18
Miami-Dade County	19.48	37.39	56.88

[1] The rates did not change from 2024 to 2025

* Water rates do not include customer charge fee

Source: Broward County Water and Wastewater Services

7.4 Insurance Coverage

WWS is exposed to various risks related to alleged torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters. WWS purchases its own insurance policies, as well as participating in some of the County's programs.

Liability Protection - As a Florida governmental agency, WWS is afforded protection by sovereign immunity as set forth in FL statute §768.28. The statute sets forth a tort cap of $200,000 per individual claim or judgement and $300,000 for claims arising out of the same incident or occurrence.

Property Insurance Polices Protecting WWS - WWS purchases a property insurance policy to protect its' approximately $651 million in assets. The primary property insurance purchased by WWS affords $150 million in coverage per occurrence with a deductible of $250 thousand for all other perils. In addition, the County property insurance program covers an additional $350 million of WWS assets above the $150 million primary WWS property policy. Coverage for property losses emanating from "Terrorism" are covered up to $350 million per occurrence (deductible is $50 thousand). Losses attributable to a named windstorm (hurricane) are subject to a limit of $25 million per occurrence with a deductible subject to 7.5% of the Total Insured Value "TIV" of Property Damage/Extra Expense involved in each occurrence. Flood losses that occur in non- special flood hazard zones are subject to a limit of $10 million each occurrence/aggregate with a minimum deductible of $500 thousand. WWS purchases a separate National Flood Insurance Program policy for facilities located within Special Flood Hazard Zones. In the event a windstorm or flood is declared a federal disaster, WWS, as a public entity, would be eligible for public assistance under the FEMA disaster program.

Storage Tank Liability - WWS carries a pollution liability insurance policy with coverage limits of $2 million per occurrence and $10 million in the aggregate. WWS is responsible for the first $10 thousand for each loss under this policy.

County's Self-Insurance Program - WWS participates in the County's self-insured programs for its Workers' Compensation, Health Insurance, Auto Liability and General Liability claims. Workers' Compensation benefits are provided in accordance with the Florida State Statutes by the County's Self-insurance fund. The County purchases excess insurance to protect the self-insurance fund from catastrophic losses. The excess insurance coverage provides full statutory benefits above the County's self-insured retention of $2 million per occurrence. There is no aggregate.

WWS makes payments for the County's Self-Insurance Programs to the Self-Insurance Fund based on actuarial estimates of the amounts needed to pay prior and current year claims and to fund reserves for all WWS losses. The estimated liabilities for self-insured losses were determined by independent actuarial valuations performed as of September 30, 2024. Liabilities include an amount for claims that have been incurred but not reported (IBNR). Claim liabilities are calculated considering the effects of inflation, recent claim settlement trends (including frequency and payout amounts), and other economic and social factors. The claim liability estimates also include amounts for incremental adjustment expenses as well as estimated recoveries from salvage or subrogation.

Broward County Water and Wastewater Services (WWS) bond covenants require that customary insurance be carried on the physical assets of the system and coordinates coverage through the County's Master Property program. The term of the present policy is from March 1, 2025 to March 1, 2026.

This year, Broward County continued to provide insurance coverage with a dedicated tower specific to Water and Wastewater Services locations that provided comprehensive protection for its physical assets valued at $651 million. Coverage is provided through ACE American Insurance Company, an admitted A++ XV superior carrier rated by AM Best, as the lead carrier providing $25 million of Windstorm coverage on a per occurrence basis. The coverage provided through ACE American is designed for water utility operations and provides $25 million of Equipment Breakdown coverage and $10 million of flood coverage including storm surge for physical assets located in Zone X. Physical assets located outside of non-flood hazard area identified and individual policies have been written through National Flood Insurance Program (NFIP) along with a sublimit of $1 million through ACE for locations in Zone A and V.

As depicted in Figure 7-1, WWS has an independent tower, separate from Aviation (Broward County Aviation department "BCAD") and the County (including Port Everglades).

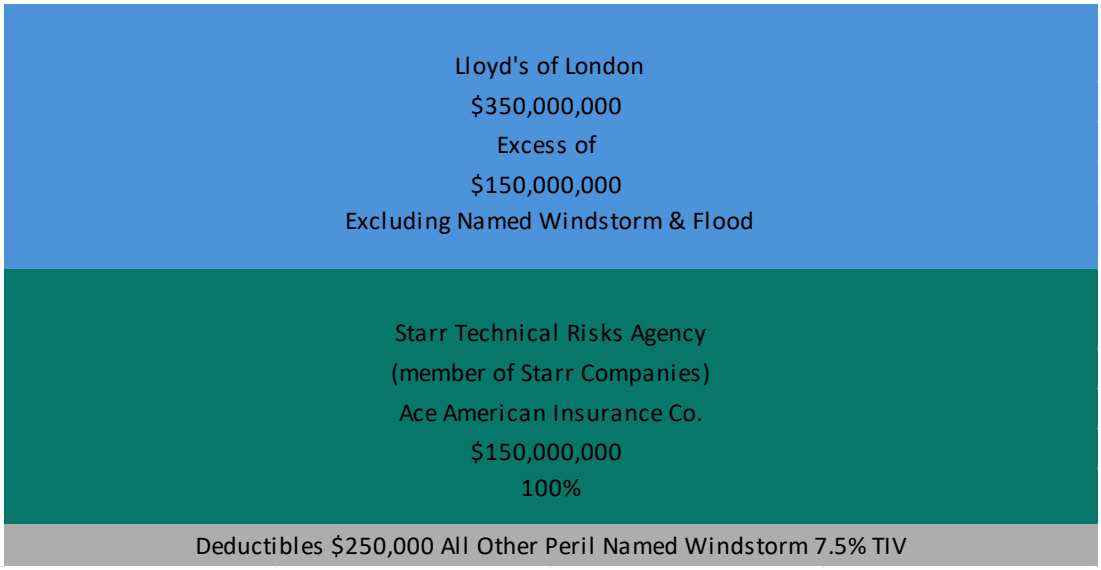

Figure 7-1. WWS Insurance Tower

The Risk Management Division renewed Broward County's insurance program on March 1, 2024. The premium for Water and Wastewater Insurance Property Program renewal is $1,835,000. The values on the Water and Wastewater property schedule are up 4.67%. The annual premium on this program is up by 12.88%.

Significant insured damages from Hurricane Ian, Hurricane Michael, and Hurricane Maria have placed increased pressure on the reinsurance market to recoup losses. Additionally, the upward pressure on property premiums is reinforced by high levels of economic inflation, a noted increase in natural catastrophes, and continued global demand for construction materials and construction related activities.