



CITY OF MARGATE

Water and Wastewater Bond Referendum Supporting Backup

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ESSENTIAL IMPROVEMENTS TO MARGATE'S UTILITY SYSTEM

The City of Margate ("City") owns and operates a water and wastewater utility system ("utility system") that provides an essential service on a continual basis and that operates in a highly regulated environment.

Through this utility system, the City must ensure the public's health and access to clean, safe drinking water, protect land and waterbodies from toxins and pollution, and be in compliance with the Florida Legislature and regulatory agencies. Those agencies include: the Florida Department of Environmental Protection (FDEP), the South Florida Water Management District (SFWMD), and the Florida Department of Health (FDOH).

Today, the utility system provides service to approximately 17,000 water accounts and 16,700 wastewater customers. 213 miles of water mains and 31 miles of force mains are over 60 years old and need to be replaced.

In its Capital Improvements Plan ("CIP"), the City has identified capital needs of approximately **\$224.3 million through Fiscal Year 2033**. These costs could be higher than estimated due to the ever-changing contractors' market in South Florida and volatile market conditions. The CIP is primarily a combination of renewal and replacement needs and required regulatory compliance.

Approximately half of the funding will come from the existing Rates and Reserves structure (\$113.3 million), with the remaining portion being financed through debt. It is anticipated that three separate 30-year revenue bond issues will finance up to \$120 million of these capital needs over the course of six years.

WHAT AND WHY ISSUE DEBT?

When cities, counties, and states need to fund essential capital improvement projects, such as roads, bridges, schools, and water and sewer utility systems, they will use a combination of funding sources, including issuing tax-exempt revenue bonds.

Unlike a general obligation bond, which is repaid through property taxes, a municipal revenue bond is a type of debt security issued by local governments, repaid with interest through funds collected by an identified funding source – in this case, the water and wastewater system.

Issuing revenue bonds offers a cost-effective way to raise funds for public projects while benefiting from lower borrowing costs and tax advantages. Municipal bonds typically offer lower interest rates compared to other forms of borrowing. This is because they are often considered low-risk investments due to the backing of the issuing government entity. Additionally, interest income from municipal bonds is often exempt from federal income tax and, in some cases, from state and local taxes as well. This tax advantage makes municipal bonds attractive to investors, allowing governments to borrow at lower costs.



The proceeds of funds raised are used to pay for the cost of the projects described in the bond issuance. In this case for the City of Margate, these funds can only be spent to support and construct infrastructure improvements of the water and wastewater utility system. Additionally, each bond issue will need formal approval of the City Commission in a publicly noticed meeting, with input from the public prior to the issuance of the bonds.

Three separate revenue bonds, issued over a span of six years, would primarily fund significant improvements and upgrades to the water and wastewater utility systems.

These projects are aimed at addressing aging infrastructure, ensuring compliance with regulatory requirements, and improving the overall efficiency and reliability of the water and wastewater systems. Specifically:

- **\$60 million** for West Wastewater Treatment Plant upgrades, in the first bond issuance planned for **Fiscal Year 2025**
- Up to **\$30 million** will fund the replacement of asbestos cement water mains within the City distribution system and is planned for **Fiscal Year 2027**
- Up to **\$30 million** will serve as a “Flex Fund” for future projects and subject to the success of previous projects and regulatory requirements is anticipated for **Fiscal Year 2031**

The rate structure to support bonds was brought to the City Commission as an ordinance last year for a first reading, followed by a public presentation and a Q&A session on October 18, 2023. A second reading took place on December 6, 2023, receiving approval from the City Commissioners on the same day.

The rate increases that were approved include the cost of servicing 30-year bonds that are proposed to be issued. Therefore, the City's current rate structure is already accumulating funds to cover future planned debt, which is projected to be \$108.4 million, and not to exceed \$120 million.

The projection costs for these capital improvement projects must consider fluctuations in material and engineering costs. Additionally, new regulations from outside agencies could increase costs associated with these critical infrastructure upgrades. For instance, FDEP is working on forthcoming regulations regarding PFAS & PFOA (Forever Chemicals), which may necessitate additional treatment methods for the City's drinking water.



CITY OF MARGATE'S DRINKING WATER

The City of Margate owns and operates a 20-million gallon per day (mgd) water treatment plant (WTP) located at 980 NW 66th Avenue in the City of Margate. Raw water is extracted from the City's twelve (12) raw water wells and is pumped to the water plant for treatment.

The treatment process consists of aeration to remove iron and carbon dioxide, lime softening to reduce hardness, followed by granular media and activated carbon filtration. Chlorine is generated at the plant to facilitate efficient chlorination for disinfection. Fluoride is also added for dental health.

The treated water is pumped to three aboveground storage tanks with a total capacity of 6 million gallons. The potable water is subsequently distributed to homes and businesses through a network of pipes. A backup generator at the WTP assures uninterrupted supply of water even during FPL power outages.

All water sources are permitted by the South Florida Water Management District. The treatment facility is permitted by the Florida Department of Environmental Protection and the Broward County Department of Health.

CITY OF MARGATE'S WASTEWATER SYSTEM

Since the 1960s, the City has operated the East Wastewater Treatment Plant (WWTP) at 980 NW 66 Ave, Margate, FL 33063, which shares its location with the City Water Treatment Plant. This facility can process up to 2 million gallons of wastewater per day, but only when it is functioning properly.

In 1980, the City added the West Wastewater Treatment Plant across the street at 6630 NW 9 Street, Margate, FL, 33063, significantly increasing capacity for an additional 7.9 million gallons per day, bringing the City's total treatment capability to 10 million gallons daily.

The City's wastewater total volumes fluctuate with weather conditions, averaging 7 to 8 million gallons on sunny days and approaching the full 10-million-gallon capacity during tropical storms or rainy periods.

In addition to the plant's capacity and aged infrastructure, FDEP is tightening wastewater treatment regulations, and the City's current technology falls short of meeting these new standards, primarily due to its antiquated design, wear and tear. The wastewater utility currently requires chemical treatment to compensate for mechanical treatment weaknesses, which is very costly.

The City's FDEP permit mandates the complete replacement of the current treatment system, a Rotating Biological Contactor (RBC), to a more advanced treatment technology, ensuring compliance and improved processing efficiency.

With this necessary transition to a newer technology, the City plans to undertake equipment upgrades together with rehabilitation of the headworks equipment and structure and expansions at the West Plant, increasing its treatment capacity by an additional 2 million gallons per day.



This expansion will elevate the wastewater system's total processing volume to 12 million gallons daily, accommodating future growth, enhancing storage, and ensuring reliable treatment during severe weather conditions.

Once complete, the City will operate one treatment plant, creating efficiencies and requiring less equipment and operational costs. It will also allow the City to retire the older facility (1960), leaving that site only for the treatment of drinking water.

THE PROJECTS AND FINANCINGS

The City is undertaking these initiatives now to address urgent infrastructure renewal and replacement needs, comply with regulatory requirements, and ensure the system's financial and operational sustainability. The necessity for the already approved rate adjustments was driven by the need to fund these capital improvements, maintain appropriate debt service coverage ratios, provide annual funding for ongoing renewal/replacement needs, and ensure sufficient revenues for operational expenses and transfers to the General Fund.

RENEWAL / REPLACEMENT NEEDS

- Many of the Utility's assets have reached the end of their useful service lives.
- 213 miles of water mains and 31 miles of force mains are over 60 years old and need to be replaced.
- 35% of these water mains and 20% of these force mains are asbestos cement, which breaks easily.

ANNUAL WATER MAIN BREAKS

- In 2022, the City had 6,717 work orders – average of 550 per month – to primarily address issues related to the aging utility system.
- Addressing customer complaints of water color, odor, and taste.
- Increase in aging water main and service line breaks has caused more service interruptions.
- The City received a consent order from the Florida Department of Environmental Protection when hurricanes overwhelmed aging collection system and wastewater treatment plant and caused emergency discharge of treated wastewater.
- The City's wastewater treatment plant requires chemical treatment to compensate for mechanical weaknesses.

REQUIRED REGULATORY COMPLIANCE

- Regulatory requirement to have alternative water supply source (C-51 Reservoir = \$9.2 million).
- Upcoming regulations on perfluoroalkyl and polyfluoroalkyl substances (PFAS), which health studies have suggested cause cancer and other adverse health effects at lower doses than previously thought – may require additional treatment methods for City's water treatment plant and wastewater biosolids.



- Florida Senate Bill 712 passed in 2020 requires additional due diligence in wastewater collection system management with respect to addressing inflow / infiltration and eliminating sewer overflows.
- Fines established for noncompliance.
- Revision of Federal Lead and Copper Rule in 2021 may require the Utility to replace about 16,000 service lines.
- The new FDEP rule on phosphorus management passed in 2021 has a significant impact on biosolids use and water quality.
- Utility may need "sewage sludge incineration" which requires both capital and air quality management.
- The City could face fines or consent orders if the Utility does not comply with regulations or if infrastructure failures cause pollution.

A series of three separate revenue bonds, issued over a span of six years, will primarily fund significant improvements and upgrades within the water and wastewater utility systems. These projects are aimed at addressing aging infrastructure, ensuring compliance with regulatory requirements, and improving the overall efficiency and reliability of the water and wastewater systems.

Specifically:

- **\$60 million** for West Wastewater Treatment Plant upgrades, in the first bond issue planned for **Fiscal Year 2025**
- Up to **\$30 million** will fund the replacement of asbestos cement water mains within the City distribution system and is planned for **Fiscal Year 2027**

The city has over 213 miles of water mains that are at least 60 years old. Thirty five percent (35%) of them are composed of much older cement. Although the older cement lines do not compromise water quality, they are made from brittle material prone to easy breaks and leading to expensive emergency repairs. In 2022 alone, the City processed 6,717 work orders mainly to tackle problems stemming from this aging infrastructure. Sound management practices dictate the Utility to commence the replacement of these cement pipes before they break to avoid future issues.

- Up to **\$30 million** will serve as a "Flex Fund" for future projects and subject to the success of previous projects and regulatory requirements is anticipated for **Fiscal Year 2031**

The ultimate direction of projects will be decided in future years, potentially continuing the replacement of asbestos cement pipes or possibly addressing needs at the water treatment plant. FDEP is working on forthcoming regulations regarding PFAS & PFOA (Forever Chemicals), which may necessitate additional treatment methods for City drinking water.