INTEROFFICE MEMORANDUM

FROM THE DEPARTMENT OF ENVIRONMENTAL AND ENGINEERING SERVICES

DATE: November 19, 2025

TO: Development Services Department (DSD)

THRU: Curt Keyser, Director
Department of Environmental and Engineering Services (DEES)

FROM: Marta Reczko, Assistant Director – Utilities, DEES

RE: Recommendation for Adoption – 2025 Water Supply Facilities Work Plan (WSFWP) Update

Background

Chapter 163, Part II, Florida Statutes, requires local governments to prepare and adopt a 10-Year Water Supply Facilities Work Plan (WSFWP) within 18 months following the South Florida Water Management District's (SFWMD) approval of a regional water supply plan. The SFWMD adopted the 2023–2024 Lower East Coast Water Supply Plan Update on September 23, 2024, triggering Margate's obligation to update its WSFWP by February 22, 2026.

The WSFWP identifies and plans for the water supply sources, infrastructure, conservation strategies, and regulatory compliance measures necessary to adequately serve existing and future development within the City's potable water service area. Residents and businesses located in Margate and the southern portion of Coconut Creek receive potable water through the City's DEES Utilities Division, which is solely responsible for planning, financing, constructing, and operating the water system.

The 2025 Water Supply Facilities Work Plan Update was prepared by Hazen and Sawyer in close coordination with DEES Utilities staff. The update provides refined water demand projections, evaluates supply adequacy through 2045, addresses PFAS regulatory compliance, outlines capital improvement needs, and ensures consistency with SFWMD planning documents and state statutory requirements.

Summary

Service Area & System Overview

The City provides potable water to approximately 66,720 residents across 10.7 square miles within Margate and southern Coconut Creek. The system consists of:

- 13.5 million gallons per day (mgd) lime-softening Water Treatment Plant (WTP)
- 12 Biscayne Aquifer wells
- 3 ground storage tanks totaling 5.9 MG
- 213.4 miles of distribution mains
- 4 interconnects with neighboring utilities
- 16,982 service connections

Water Supply Sources & Consumptive Use Permit

Potable water is withdrawn from the Biscayne Aquifer under SFWMD CUP No. 06-00121-W (expires 2065).

- Base Condition Allocation: 8.53 million gallons per day (mgd)
- With C-51 Reservoir Offset: 10.10 million gallons per day (mgd)

The City executed an agreement for 2.0 mgd of C-51 Reservoir storage, enabling increased long-term withdrawals through 2065.

Water Demand Forecast (2025–2045)

Based on population growth, historic usage, and per-capita consumption trends, demand in million gallons per day (mgd) is projected as follows:

Year	Population	Avg Daily Demand (mgd)	Max Month Demand (mgd)
2025	67,341	5.78	6.67
2045	74,772	6.42	7.40

The existing 13.5 mgd treatment capacity is sufficient through 2045.

PFAS Regulation & Compliance Strategy

Environmental Protection Agency's (EPA's) 2024 Per- and Polyfluoroalkyl Substances National Primary Drinking Water Regulation (PFAS NPDWR) establishes 4 ppt MCLs for PFOA and PFOS, with full compliance required by 2031. Raw water from Margate's wellfield exceeds these limits, and lime softening alone cannot remove PFAS.

The City initiated a PFAS pilot study (2024–2026) evaluating:

- Ion Exchange (IX)
- Nanofiltration (NF)
- Reverse Osmosis (RO)

Preliminary results favor ion exchange, which:

- Achieves required PFAS removal
- Avoids ≥25% treatment losses seen with NF/RO
- Keeps raw water demand within permitted CUP limits through 2045

Water Conservation Efforts

Programs continue to demonstrate measurable reductions in water use:

- Broward Water Partnership: 293 toilet rebates & 1,149 efficiency devices distributed (FY 2020–2024)
- Neptune AMR/AMI leak detection: Significant reductions in customer leaks & operational losses
- Irrigation restrictions, Florida-friendly landscaping requirements, and tiered water rates promote long-term conservation. Per-capita use decreased from 90.5 per capita per day (gpcd) in 2020 to 80.6 gpcd in 2024.

Regional Issues

The Plan evaluates regional risks including:

- Sea level rise & saltwater intrusion
- Climate change adaptation (Regional Climate Action Plan)
- LOSOM operations & Lake Okeechobee inflow limitations
- Regional Water Availability (RWA) Rule compliance
  The City remains insulated from direct saltwater intrusion at this time but continues to monitor regional groundwater conditions.

Capital Improvement Planning

Key CIP elements include:

- FY 2026: System rehabilitation & reliability upgrades
- FY 2027**:** $30M allocation for PFAS (treatment system construction expected post-pilot)
  The CIP aligns with regulatory timelines, demand projections, and asset lifecycle needs.

Conclusion

The 2025 Water Supply Facilities Work Plan Update demonstrates that the City's existing water supply, treatment capacity, and planned capital improvements are sufficient to meet potable water demands through 2045, provided PFAS treatment infrastructure is implemented before the 2031 compliance deadline.

The Plan fulfills all requirements of Chapter 163, F.S., aligns with the 2023–2024 LEC Regional Water Supply Plan, and integrates updated conservation, intergovernmental coordination, and regional climate considerations.

Recommendation

The Department of Environmental and Engineering Services (DEES) recommends approval and adoption of the 2025 Water Supply Facilities Work Plan Update into the Margate Comprehensive Plan, Element III – Potable Water.
This adoption will:

- Ensure regulatory compliance with SFWMD and State of Florida mandates
- Position the City for future funding and permit approvals
- Demonstrate proactive planning for PFAS compliance
- Support long-term sustainability and reliability of the City's water system