



# City of Hallandale Beach



Water Supply, Treatment Considerations  
and Sanitary Sewage Allocation

Dec. 4th , 2024



# Agenda

- Background
- Short-Term Planning
- Long-Term Planning
- Conclusions and Recommendations





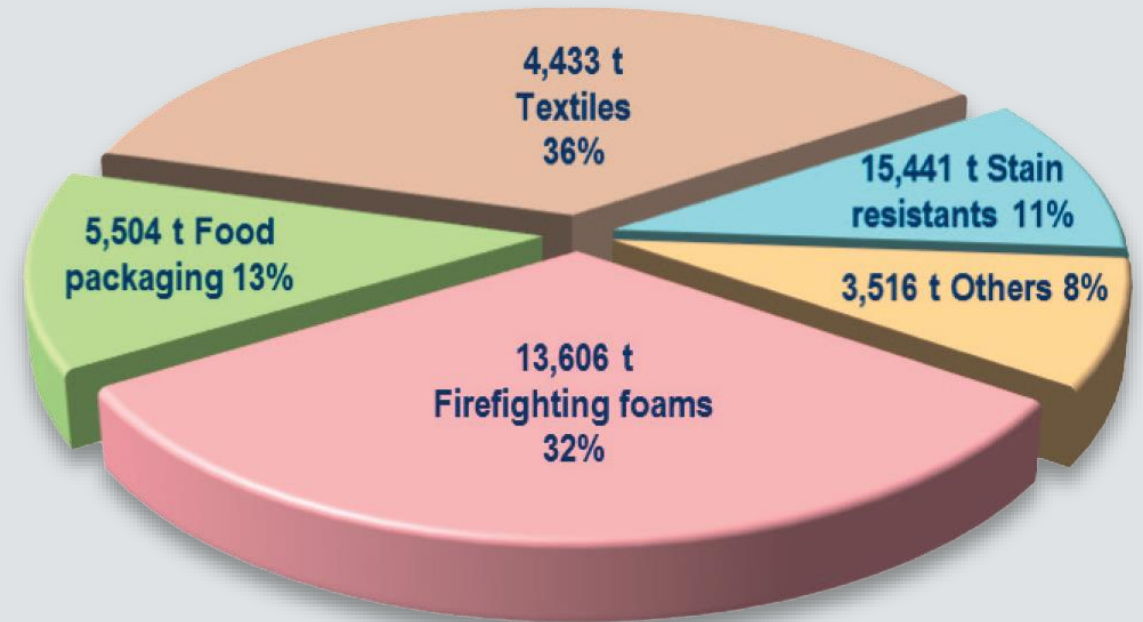
# Why are we Here

- History
  - Dots on the history
- Purpose of this meeting
  - Saltwater intrusion
  - PFAS



# What is PFAS (per- and polyfluoroalkyl substances)?

- PFAS are a category of manufactured chemicals that have been used in industry and consumer products since the 1940s.
- Characteristics make them useful in a variety of products, including nonstick cookware, waterproof clothing, etc.
- Tend to break down extremely slowly in the environment and can build up in people, animals and the environment.
- Some PFAS have been phased out due to health and environmental concerns but still be found in the environment.



**Projected fluorotelomer production and use in 2019 of 42,500 tonnes.** After Global Market Insights, 2016. Projected compound annual growth rate of 12.5% from 26,500 tonnes in 2015 for Middle East and Africa.

[https://ipen.org/sites/default/files/documents/the\\_global\\_pfas\\_problem-v1\\_5\\_final\\_18\\_april.pdf](https://ipen.org/sites/default/files/documents/the_global_pfas_problem-v1_5_final_18_april.pdf)

# Final EPA National Primary Drinking Water Regulations

Parameter	Maximum Contaminant Level Goal (MCLG)	Maximum Contaminant Level (MCL)
<b>PFOA</b>	0	<b>4.0 ppt</b>
<b>PFOS</b>	0	<b>4.0 ppt</b>
PFNA	10 ppt	10 ppt
PFHxS	10 ppt	10 ppt
GenX (HFPO-DA)	10 ppt	10 ppt
Mixture of 2 or more: PFNA, PFHxS, GenX, PFBS	Hazard Index (HI) of 1	HI of 1

- PFOA and PFAS levels remains the most challenging part of the rule for many water systems to comply with, including the City
- Final regulations published April 10, 2024
- Final rule effective with 5-year compliance period (April 2029)

# Impact of Final PFAS Rule to Short-Term and Long-Term Solutions

- Blending of lime softened treated water with membrane treated water not feasible
- Short-term project schedule to allow construction to be completed ahead of regulatory deadline
- Team is developing a long-term plan to provide drinking water production capacity to reach a target of 10 million gallons per day (MGD)

Project Goal – Implement short-term solution with phasing plan that supports long-term planning considering PFAS compliance and impacts from saltwater intrusion







# Short-Term Planning



# Short-Term Approach Meets PFAS Compliance and Saltwater Intrusion Challenges

## Phase 1 Short – Term Approach

- Implement short-term Project to address the April 2024 USEPA NPDWR to address the MCLs and MCLGs for the 6 PFAS compounds
- This Project includes:
  - Adding a second RO skid to the one RO skid currently under construction
  - Add new yard piping to connect the City’s Biscayne Aquifer Wellfield to the pipeline that feeds the NF system
  - Add a manifold that aligns raw water with appropriate treatment system (NF vs. RO)



**Once second RO skid is in service,  
lime softening can be phased out**





# Long-Term Planning





# Long-Term Planning Requires Alternatives to Increase Capacity while Maintaining PFAS Compliance

- **ALTERNATIVE 1:** Bulk Purchase for 10 MGD of Water Supply and Treatment from nearby City or County
- **ALTERNATIVE 2:** Expansion of the Existing Water Supply and Treatment to a Total of 10 MGD
- **ALTERNATIVE 3:** Combination of Alternative 1 and Alternative 2

# Alternative 1: Bulk Purchase of Water

- Bulk Purchase from the City of North Miami Beach
- Bulk Purchase from the City of Hollywood

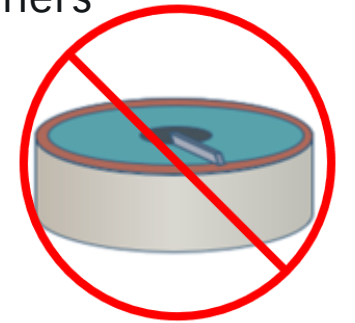




## Alternative 2: Expansion of the Existing Water Supply and Treatment to a Total of 10 MGD

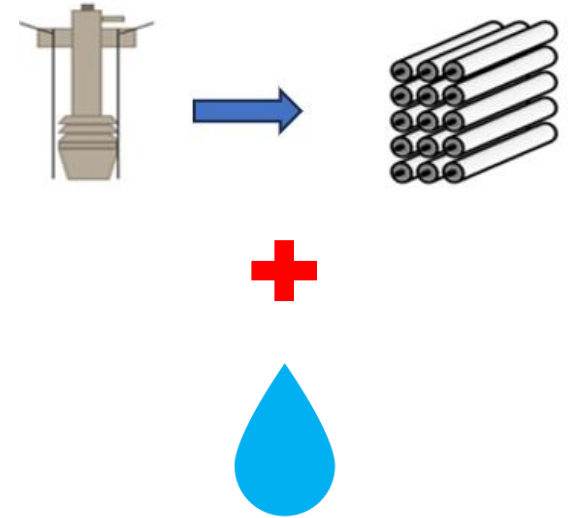
- Production of Water from Floridan Well and City Wells
- Bulk Purchase of Raw Water from Broward

Decommissioning of Lime Softeners



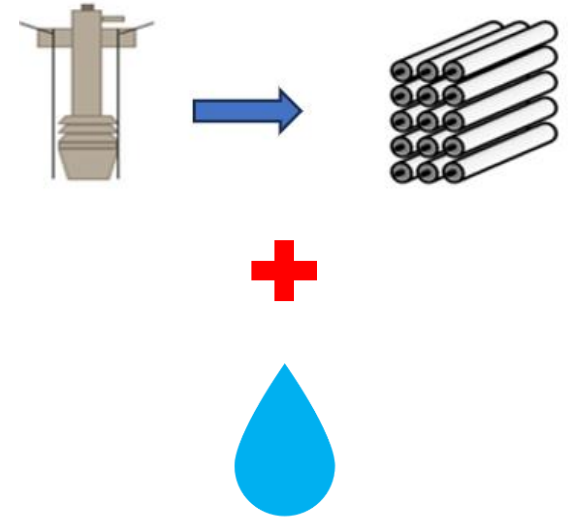
# Alternative 3: Combination of Alternative 1 and Alternative 2

- Purchase Broward County water and treated by NF membranes
- Additional finished water bought from North Miami Beach



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# Conclusions and Recommendations

## Short-Term Approach

- Short-term solution will be complete within 36 months. Implemented by the PFAS compliance date (April 2029)

## Long-Term Approach

- Continuing finalizing long-term approach while short-term phase is implemented.
- Long-term alternatives focused on increasing supply to the City.
- The long-term solution plan will not take effect until short-term solution is completed.



# Sanitary Sewage Treatment Capacity Allocation



# Sanitary Sewage Treatment Capacity Allocation-SRWWTF

## Background

The City of Hallandale Beach's sanitary sewage treatment is processed under a long-standing agreement with the City of Hollywood Wastewater Treatment Facility (SRWWF).

- Hallandale Beach is nearing its allocated sewage treatment capacity at the SRWWF.
- Without expanding treatment capacity or securing alternative solutions, new development projects may face delays or restrictions.



# Wastewater Historical Flows to SRWWTF

Year	WW Service Area Population			
		WW to HWD (mgd)	WW Generated per Capita (gpcd)	Percent of SRWWTP Allocation
2013	39,375	7.0	178	80%
2014	39,787	7.0	176	80%
2015	39,375	7.2	183	83%
2015	39,375	7.1	180	81%
2017	39,787	7.1	178	81%
2018	40,198	6.8	169	78%
2019	40,610	7.4	182	85%
2020	41,021	8.0	195	92%
2021	41,389	7.3	176	84%
2022	41,757	7.1	170	81%
5-Year Average		7.0	179	
Allocation to Hallandale Beach		8.71		

# Wastewater Projections through 2045

Year	WW Service Area Population per new June 2024 PFAM Projections	Projected WW (mgd) per new PFAM Projections	Future WW Trt Capacity Required for New PFAM Projections (mgd)
2023	42,126	7.5	
2024	42,494	7.6	
2025	43,109	7.7	
2026	44,064	7.9	
2027	45,020	8.1	
2028	45,975	8.2	
2029	46,931	8.4	
2030	47,886	8.6	
2031	48,357	8.7	
2032	48,828	8.7	
<b>2033</b>	<b>49,299</b>	<b>8.8</b>	<b>0.11</b>
2034	49,770	8.9	0.20
2035	50,241	9.0	0.28
2036	51,130	9.2	0.44
2037	52,019	9.3	0.60
2038	52,909	9.5	0.76
2039	53,798	9.6	0.92
2040	54,687	9.8	1.08
2041	55,281	9.9	1.18
2042	55,875	10.0	1.29



## Alternative-1

- **Purchase Additional Capacity:** Negotiate with cities holding unused sanitary sewage treatment capacity at the City of Hollywood Wastewater Treatment Facility (e.g., Pembroke Pines) to buy extra capacity for Hallandale Beach.

## Alternatives-2 and 3

- **Facility Expansion:** Explore the possibility of a capacity rerate or invest in capital improvements to expand the existing City of Hollywood Wastewater Treatment Facility's capacity to meet future demands.
- **Miami-Dade Agreement & Force Main Project:** Develop a treatment capacity agreement with Miami-Dade and partner with one of our neighboring cities (Aventura or North Miami Beach) to construct a force main that would divert flow to the Miami-Dade system.



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