



## Memorandum

**Memorandum No: 22-131**

**Date:** November 2, 2022

**To:** Honorable Mayor, Vice Mayor, and Commissioners

**From:** Greg Chavarria, City Manager

**Re:** City Commission Top Priority Infrastructure and Resilience Update – October 2022

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Attached is a copy of the City Commission Top Priority Infrastructure and Resilience update for the month of October. This document provides insight into the status and progress of critical and high-profile infrastructure and resilience projects being managed by the Public Works Department.

For further information, please contact Jason Snifeld, Senior Assistant to the Director, at [jsnifeld@fortlauderdale.gov](mailto:jsnifeld@fortlauderdale.gov).

Attachments:

- City Commission Top Priority Infrastructure and Resilience – October 2022

c: Anthony G. Fajardo, Assistant City Manager  
Susan Grant, Assistant City Manager  
Alain E. Boileau, City Attorney  
David R. Soloman, City Clerk  
Patrick Reilly, City Auditor  
Department Directors  
CMO Managers



## OVERVIEW

The City Commission identified Infrastructure and Resilience as top priorities in 2021 and 2022, recognizing the need to identify and implement improvements that will address infrastructure needs relating to water, wastewater, stormwater, and Public Right of Way (RoW) in addition to resilience needs relating to extreme weather events, greenhouse gas reduction, and sea level rise. To address the Commission priority on Infrastructure and Resilience, the following improvements were taken to address infrastructure in seven (7) major categories: Water Treatment and Distribution; Wastewater Collection and Treatment; Roadway, Sidewalk, and Bridge Maintenance and Replacement; Asset Management; Beach Resilience; Stormwater Management; and Sea Level Rise Adaptation.

## STRATEGIC PLAN ALIGNMENT

Focus Area: Infrastructure

Goal 1: Build a sustainable and resilient community

Focus Area: Internal Support

Goal 8: Build a leading government organization that manages all resources wisely and sustainably

## WATER TREATMENT AND DISTRIBUTION INFRASTRUCTURE

The City provides treatment and distribution of potable water to approximately 186,076 Neighbors, 300,000 visitors, and six (6) neighboring municipalities. Treatment facilities consist of the Fiveash Regional Water Treatment Plant [design capacity of 70 million gallons per day (MGD)] and the Peele Dixie Water Treatment Plant (design capacity of 12 MGD). The distribution system consists of approximately 784 miles of watermains, 37 raw water wells, 6,897 fire hydrants, 64,558 water meters, and 12,197 water valves.

**Water Consent Order Distribution System Mapping (\$8.3M):** The City Commission approved awarding a contract to Craven, Thompson & Associates, Inc during the November 1, 2022 Commission Meeting to develop a complete map of the existing water supply system. The negotiations committee reached agreement with the vendor on the final fee for the

project, resulting in a \$8.94 million price reduction from the original bid, while at the same time preserving the scope of services of the Request for Qualifications (RFQ). Work will be completed prior to the Consent Order deadline of December 30, 2024.

**P12716 Advanced Metering Infrastructure (AMI) (\$30M):** Finance, Procurement, Budget, Utilities Billing, Utilities Operations, and Information Technology staff are reviewing the AMI specifications final draft. Staff anticipates advertising the Request for Proposal (RFP) during the first week of November 2022.

**Prospect Lake Clean Water Center:** On March 1, 2022, the City Commission approved Resolution 22-57 providing notice of the decision to proceed with the unsolicited proposal submitted by RIDGEWOOD and IDE with Kiewit Water Facilities Florida Co. (KIEWIT) as design-build partner. The Commission approved the Interim Agreement at the May 3, 2022 meeting, with the Comprehensive Agreement tentatively scheduled for completion in December 2022. Staff has been meeting weekly with KIEWIT and Hazen and Sawyer to review deliverables of the P3 agreement. Upon resolution of all key deliverables with IDE, RIDGEWOOD, and KIEWIT, the P3 Comprehensive Agreement will be brought to the Commission for consideration.

**P10814 Central New River Water Main River Crossings (\$5M):** A contractor has been selected to complete the second phase of this project to extend the new water main from Las Olas Boulevard to Broward Boulevard, including connections to the existing water main. The contract is expected to go to for award during the December 6, 2022 Commission Meeting.

**P12485 Fiveash Water Treatment Plant Filters Rehabilitation (\$5.7M):** Contractor has removed the existing filter media and the site is cleared for construction. Construction activities are scheduled to begin in early November 2022.

**P11589 Fiveash Water Treatment Disinfection Improvements (\$17.4M):** Staff is reviewing comments provided by the Florida Department of Environmental Protection (FDEP) regarding permits to install a new carbon dioxide system and is currently preparing a bid package for the installation. Additionally, repairs to the 24-inch check valves for the washwater pump station have been completed, negating the need for replacement.

## WASTEWATER COLLECTION AND TREATMENT INFRASTRUCTURE

The City is responsible for collecting and treating an average of 38.5 MGD of wastewater at the George T. Lohmeyer (GTL) Regional Wastewater Treatment facility. Through Large User Agreements, the City provides treatment services for Fort Lauderdale, Oakland Park, Wilton Manors, Port Everglades, and parts of Davie and Tamarac.

**P12605 Pump Station A-24 (\$3.6M):** The contract for Design-Build Services was awarded during the September 6, 2022 Commission Meeting. Staff anticipates contract execution and purchase order issuance will be complete by December 2022, with Notice to Proceed (NTP) issued immediately thereafter. Construction is expected to begin in summer 2023.

**P11566 Rio Vista Sewer Basin Rehab (I&I) and Pump Station D43 (\$7.8M):** I&I work within Basin D43 is 95% complete. The contractors have completed all punch list items on existing task orders and staff is working with the contractors to process the closeout documents. Estimated completion date for remaining work is December 2022.

**P11781 GTL WWTP Cryogenic Plant Upgrades (\$19.3M):** The contractor recently completed paving over the electrical trench in the roadway. The contractor is currently constructing the building's

roof and installing concrete blocks for the walls. Additionally rough electrical and plumbing work for the building's interior is ongoing. Estimated completion date is November 2023.

**P12529 Effluent Pumps Standby Generator & Admin Building Improvements (\$28.3M):** The NTP was issued to the consultant on October 10, 2022 to initiate the development of the Design Criteria Package (DCP). Estimated completion date of the DCP is February 2023.

**P12412 Pump Station A-16 Relocation (\$5.3M):** The contractor received the fully executed agreement from the City on October 24, 2022. Staff is currently awaiting resolution of the Federal Courthouse project including the exchange agreement, which is under review by the City Attorney's Office.

**P12387 Effluent Pipe 54" Force Main Replacement (\$40M):** The NTP to prepare the DCP for the 54" force

main replacement was issued on October 25, 2022. A coordination meeting with Broward County took place on October 27, 2022 to discuss the interlocal agreement and discuss initial Maintenance of Traffic concepts.

**Wastewater Consent Order:** As of October 28, 2022, 59 of the 78 Amended Consent Order milestones have been achieved. To date, all requirements of the

Amended Wastewater Consent Order have been completed and submitted to the FDEP on time or ahead of imposed deadlines. The Asset Management, Capacity Management, Operations and Maintenance (AM\_CMOM) Program, consisting of an additional 45 milestones, is proceeding as scheduled; 18 activities have been completed to date and an additional 18 have been initiated. The remaining nine (9) are in the planning phase.

## ROADWAY, SIDEWALK, AND BRIDGE INFRASTRUCTURE

The City is responsible for maintaining, repairing, and replacing the City's roadways, sidewalks, and bridge infrastructure. This infrastructure consists of 53 bridges, of which one (1) is a pedestrian only bridge, 536 miles of roadways, and 465 miles of sidewalks.

**P12641 Castle Harbor Isle Bridge Design and Replacement (\$2M):** Staff met with the consultant on October 7, 2022 to discuss the Load Rating Analysis Report and finalize Task Order #3 for the bridge replacement. Staff expects to bring the Task Order to Commission for approval on December 20, 2022.

**P12299 West Lake Drive Bridge Restoration (\$1.5M):** Emergency repairs of the West Lake Drive Bridge started on April 4, 2022. The contractor is continuing to install reinforced concrete plugs to strengthen the bridges substructure. The emergency repairs were expected to be completed in October 2022, but due to delays caused by high tides, the work is now anticipated to be completed by November 18, 2022.

**P12087 South Ocean Drive Bridge Replacement (\$3.2M):** The bid opening was held on July 7, 2022 and two (2) bids were received. However, the lowest bid submitted is more than \$1 million over the original engineering estimate. Staff is still working to identify a method to move the project forward.

**Sidewalk Repairs:** In September 2022, the City replaced 9,000 square feet of damaged sidewalk, two (2) ADA ramps, and four (4) water meter boxes.

**Roadway Repairs:** In September 2022, the City replaced six (6) street signs, installed two (2) speed cushions, and completed street marking refurbishments at 16 locations, with parking lot refurbishment and the Holiday Park Community and Tennis Center. Additionally, they repaired 24 potholes and addressed 35 utilities patches using 60 tons of asphalt.

**Las Olas Undergrounding of Overhead Utilities:** Since construction began, crews completed underground directional drilling for installation of FP&L primary conduits on all isles within the Las Olas Isles Neighborhood, as well as underground directional drilling for the AT&T and Comcast primary conduits on all isles within the Las Olas Isles Neighborhood, except for Isle of Palms Drive, which is scheduled to be completed by November 4, 2022. FP&L, AT&T and Comcast secondary conduit work for Mola Avenue, Isle of Capri Drive, Bontona Avenue, Coconut Isle Drive is complete, with work on Lido Drive, San Marco Drive and Coral Way to be completed. Underground directional drilling of individual FP&L, AT&T, and Comcast service conduit has not begun but is scheduled to begin shortly.

## ASSET MANAGEMENT

The City is heavily reliant on utility assets to function effectively as a community. Managing assets so they can provide the expected level of service now and into the future is a core part of the discipline known as asset management. This includes understanding what the City owns, their locations and physical characteristics (composition, length, diameter, age), condition, and level of service to achieve during their life cycle to get the best of the assets for the benefit of the community.

**CITYWORKS:** The Public Works Wastewater and Stormwater Operations Sections continue to expand their user adoption of and proficiency with the Cityworks application. The Cityworks Administration and IT teams are continuing to work on improving system performance and data integrity issues so the system will be capable of handling increased network traffic caused by additional users coming online and using the Cityworks system. The Cityworks Administration team continues to provide direct assistance during this critical transition and adoption phase to all teams. Additional user workflows and

user cases continue to be identified and additional processes are constantly being developed to increase use of the Cityworks software as the City's primary system for managing all assets. Ongoing staff transitions and continued system performance and data integrity issues leaves the go-live for the Public Works Water Utility Operations Section in a hold state until the system performance issues are resolved, and new staff can be hired and deployed to support the go-live efforts.

## BEACH RESILIENCE

The City of Fort Lauderdale has more than seven (7) miles of beaches that offer residents and visitors premier opportunities for recreation, relaxation, and enjoyment. The beach is a critical tourist attraction and economic driver. In addition, our sandy shores are designated by the Clean Beaches Council as Blue Wave Beaches, meeting 22 specific criteria, including passing a monthly water quality test, having emergency care nearby, and environment preservation. The beach itself acts as a protective barrier to tropical storm impacts from storm surge and wave action. Beach nourishment and dune management are two (2) activities which provide for greater resiliency of our beaches.

## STORMWATER INFRASTRUCTURE

In January 2018, the City finalized the Stormwater Master Plan to install drainage improvements in seven (7) flood vulnerable neighborhoods. \$70 million has already been allocated to initiate comprehensive drainage improvements in two (2) of these neighborhoods: the Edgewood, and River Oaks neighborhoods. In 2019, the City added the Melrose Manors neighborhood for prioritization of stormwater infrastructure within the Stormwater Master Plan.

**Stormwater Bond:** To support the City's stormwater management program, on May 3, 2022, the City Commission adopted a resolution declaring the official intent of the City of Fort Lauderdale to reimburse itself from bond proceeds not to exceed \$200 million for funds advanced by the City for certain capital expenditures for stormwater improvement expenses incurred with respect to the acquisition, construction, development, extension, enlargement, improvement, renovation, equipping, and furnishing of stormwater improvements.

**P11868 River Oaks Neighborhood Stormwater Improvements (\$34.5M):** The River Oaks Neighborhood Stormwater Improvements project began construction at the start of January 2022. Phase I and Phase II of the project continue with over 7,100 feet of reinforced concrete storm drainage pipe and 91 drainage related structures installed. Phase IV of the project continues with over 21,000 square yards of swale reconstructed and over 25,000 square

yards of pavement milled and resurfaced. The contractor is continuing work within River Oaks Preserve near Interstate 95, SW 19<sup>th</sup> Street, SW 21<sup>st</sup> Street, SW 22<sup>nd</sup> Street, SW 23<sup>rd</sup> Street, and Coconut Drive. This project is on time and on budget, with a completion date projected for January 2025.

**P11842 Edgewood Neighborhood Stormwater Improvements (\$18.8M):** Construction activities for the stormwater improvements project commenced on January 3, 2022. The project is progressing well and is currently ahead of schedule. To date, over 220 structures and more than 20,000 linear feet of drainage pipe have been installed as a part of Phase I, Phase II, Phase III, and Phase V. 20 of the structures and 3,000 linear feet of the drainage pipe were completed over the last month. Phases II and III are on-going and final restoration will take place at the end of the project. This project is expected to be completed ahead of schedule by September of 2024.

**P12719 Melrose Manors Neighborhood Stormwater Improvements (\$3M):** The contract to design stormwater improvements for the Melrose Manors Neighborhood was awarded during the July 5, 2022

City Commission meeting. The contract has been executed and staff has finalized and began routing the first task order for data collection and modeling.

## SEA LEVEL RISE ADAPTATION

In May 2020, the City Commission adopted Southeast Regional Climate Change Compact 2019 unified sea level rise projection for the region. From the 2000 baseline, 10-17 inches of sea level rise is possible by the year 2040 and 21-64 inches are possible by 2070, the 50-year planning horizon for most infrastructure installed today. Adaptation measures to address the impact of rising seas and related climate impacts are ongoing. We are planning to update the City's vulnerability study to better understand the impacts of sea level rise on our community. Seawall improvements identified in the City's Seawall Master Plan are discussed here and will reduce the impacts of tidal flooding on adjacent City roadways. The City is also exploring the issue of road elevation to understand which street segments are vulnerable to future flooding and policy implications of City investments in this adaptation strategy.

**Vulnerability Study:** In early May, the Governor announced the City of Fort Lauderdale would be the recipient of a \$135,000 grant as part of the Resilient Florida Program. The City is working to enter into a funding agreement between the City and State for the vulnerability assessment grant. The City plans to use this grant to perform a vulnerability assessment related to sea level rise. This assessment will look at sea level rise scenarios and identify critical assets impacted. Staff is working to finalize the grant agreement with the State and bring the final agreement before Commission for approval in December 2022.

**P12330 Seawall Replacement Program:** Contingent upon funding, the City plans to replace seawalls at the following locations in Fiscal Year 2022: four (4) Las Olas seawalls, two (2) Hendricks Isle seawalls, and the SE 10<sup>th</sup> Street seawall. The contract for the Las Olas seawalls and SE 10<sup>th</sup> Street seawall was awarded during the August 16, 2022 Commission Meeting. Construction activities for the seawalls not yet under construction are expected to begin in January 2023.

**P12695 Hendricks Isle Seawalls Replacement Project (\$2M):** The contractor began framing and pouring the new concrete cap along the first seawall and completed installing sheet-piles for the second seawall. Construction activities began on August 15, 2022 and are expected to be completed in February 2023.

**Adopting a Tidal Barrier Ordinance:** Fort Lauderdale was among the first municipalities to adopt a

minimum elevation for seawalls. Broward County built upon that ordinance in the creation of a template Tidal Barrier Ordinance which sets the minimum elevation for new seawalls at five (5) feet NAVD88. The City has drafted an ordinance which has been reviewed by Broward County and found to be substantially in compliance with the County model ordinance. The Marine Advisory Board was briefed on the changes on September 1, 2022 and offered their support. However, the Planning and Zoning Board rejected the ordinance stating not enough public feedback was sought. As such, staff presented the draft ordinance to the Council of Fort Lauderdale Civic Associations on October 11, 2022 and the to the Sustainability Advisory Board on October 24, 2022.

**Road Elevation Policy:** As sea level rises and seasonal tidal flooding increases, low lying roads are becoming inundated at an increasing frequency. Some property owners are looking to the City to elevate the roadways to alleviate tidal flooding and improve access to their homes. During the May 3, 2022 Commission Conference Meeting, staff presented options to the City Commission for roadway elevation policies that would provide criteria for prioritizing roadways to be elevated, determining the appropriate final elevation of the road surface, assigning responsibilities for harmonizing the roadway with private property, and exploring financial responsibility and cost. Additional information on roads at risk of flooding will be generated as part of the vulnerability study.

## RECENTLY COMPLETED PROJECTS

### WATER TREATMENT AND DISTRIBUTION INFRASTRUCTURE

**P11080 Port Condo Large Watermain Improvements** (\$1,116,358) Replaced 1,300 linear feet of existing 6" small watermain with new 12" large watermain. Completed July 14, 2022.

**P10850 Victoria Park A – North Small Watermain Improvements** (\$6,012,774) Replaced 26,500 linear feet of existing undersized and deteriorated small watermain with new 6" and 8" polyvinyl chloride pipe watermain with improved fire hydrant coverage. Completed April 1, 2022.

**P11901 Victoria Park B – South Small Watermain Improvements** (\$7,988,537) Replaced 29,000 linear feet of existing undersized and deteriorated small watermain with new 6" and 8" polyvinyl chloride

pipe watermain with improved fire hydrant coverage. Completed April 1, 2022.

**P12463 Coral Shores Small Watermain Improvements** (\$1,471,051) Replaced 6,200 linear feet of existing undersized and deteriorated small watermain with new 6" watermain. Completed February 4, 2022.

**P12527 Conversion of Back Wash Pump** (\$240,855) Converted the existing Back Wash Pump #2 at the Fiveash Water Treatment Plant from 4160V to 480 to improve facility safety and reliability. Completed June 1, 2022.

### WASTEWATER COLLECTION AND TREATMENT INFRASTRUCTURE

**P12567 Pump Station B-4 (South Redundant Sewer Force Main)** (\$2,628,197) Replaced Pump Station B-4 and associated pipe as part of the South Redundant Sewer Force Main Project. Completed June 3, 2022.

**P12572 Rio Vista Tarpon River Subaqueous Redundant Force Main** (\$4,933,768) Installed 2,400 linear feet of 48" sewer force main with required 48", 36", and 6" interconnections. Completed November 16, 2021.

**P12389 18 Inch Force Main Replacement Across the New River from NE 9<sup>th</sup> St to Birch Road** (\$2,232,074) Replaced 1,000 linear feet of deteriorated 18" diameter sewer force main that crosses the North New River from NE 9<sup>th</sup> Street to N Birch Road. Completed November 8, 2021.

**P12348 GTL Effluent Pumps Replacement** (\$2,812,868) Replaced the GTL effluent pumps. Completed April 1, 2022.

**P11882 Pump Station B-22 Replacement** (\$680,000) Replaced the existing lift station with a new duplex submersible station. Completed May 13, 2022.

**P12731 12-Inch Gravity Sewer Repairs on Bayview Drive from 36<sup>th</sup> to 40<sup>th</sup> Street** (\$449,210) Lined the 12" Gravity Sewer and leaking lateral connections on Bayview Drive from 36<sup>th</sup> to 40<sup>th</sup> Street and repaired leaking manholes. Completed July 28, 2022.

**P12415 Pump Station A-7** (\$2,582,888) Rehabilitated and replaced the existing station piping, valves, appurtenances, and wet well with higher capacity models. Completed October 21, 2022.

### ROADWAY, SIDEWALK, AND BRIDGE INFRASTRUCTURE

**P12089 Bridge Replacement at Coconut Isle** (\$2,211,295) Demolished the existing Coconut Isle Bridge and constructed a new bridge. Completed November 8, 2021.

## STORMWATER INFRASTRUCTURE

**P12524 South Gordon Road Stormwater Improvements** (\$266,638) Replaced existing and installed new stormwater infrastructure at 32-101 S Gordon Road. Completed October 21, 2021.

**P11419 River Oaks Stormwater Park** (\$7,631,234) Constructed a 9.1-acre stormwater park with new berm, water control basins, and underground conveyance system. Completed October 12, 2021.

**P12523 1716 SE 7<sup>th</sup> Street Stormwater Improvements** (\$142,318) Installed stormwater infrastructure to alleviate stormwater flooding at 1716 SE 7<sup>th</sup> Street. Completed January 7, 2022.

**P12616 NE 16<sup>th</sup> Street Stormwater Improvements** (\$212,593) Installed stormwater infrastructure to alleviate flooding on NE 16<sup>th</sup> Street between NE 4<sup>th</sup> and 5<sup>th</sup> Avenues adjacent to Fort Lauderdale High School. Completed January 18, 2022.

**P12613 Downtown Tidal Valves - #1-10** (\$322,184) Installed 10 tidal valves and other stormwater infrastructure to alleviate tidal flooding between SW 12<sup>th</sup> Avenue and SW 7<sup>th</sup> Avenue in downtown Fort Lauderdale. Completed November 16, 2021.