CITY OF BOCA RATON
CAPITAL IMPROVEMENT PLAN

Boca Raton Inlet and Jetties | **PROJECT #: 1440019** | **PRIORITY: 31**

LOCATION
Boca Raton Inlet

DEPARTMENT
Municipal Services

DESCRIPTION

The City has continuously performed the dredging since 1972 with no significant periods of downtime, with the exception for a brief period in 2002.

Over the past few years, it has been observed that the North Jetty Rocks have experienced settlement since the 2008 Jetty Rehabilitation. Because of this settlement, the North Jetty could potentially become a navigational hazard, especially during spring high tide events when portions of the jetty become submerged. The maintenance repairs to the north jetty will re-establish the design elevation of the north jetty.

FY 2021/22
FDEP permitting (2nd Discharge)
FDEP permitting (Sediment Budget Update)
USACE permitting (sand bypassing)
Permit required physical monitoring

FY 2022/23
Permit required physical monitoring
Construction of the second discharge south of the Boca Raton Inlet $800,000

FY 2023/24
Permit required physical monitoring

FY 2024/25
Permit required physical monitoring

FY 2025/26
Permit required physical monitoring

FY 2026/27
Permit required physical monitoring

JUSTIFICATION

This project is the maintenance dredging of Boca Raton Inlet and placement of bypassed sand to the south side of the inlet. The excavated sand is discharged on the beach landward of the MHW line, within 500 feet south of the south jetty.

To conduct these continuous operations, the City is required to maintain both Florida Department of Environmental Protection and USACE permits. Additionally, as part of the permit requirements, the City is required to conduct annual monitoring and reporting of the bypassing efforts.
The jetty is a quarried rock structure on a rock-filled geogrid marine mattress foundation. The jetty includes a shore-attached section and detached section. The shore-attached section extends approximately 50 feet seaward of the MHW. The detached section provides a 75-foot gap from the shore-attached section and the structure is approximately 100-feet long. The open gap serves as a weir section in effort to maintain the southerly net littoral drift.

IMPACT

N/A

PROJECT COST AND FUNDING

	2022	2023	2024	2025	2026	2027	TOTAL
CONSTRUCTION	$0	$800,000	$0	$0	$0	$0	$800,000
DESIGN & PERMITTING	$374,000	$0	$80,000	$0	$0	$0	$454,000
MONITORING	$27,000	$28,100	$29,200	$30,400	$31,600	$32,900	$179,200
PROJECT COSTS	**$401,000**	**$828,100**	**$109,200**	**$30,400**	**$31,600**	**$32,900**	**$1,433,200**

CITY OF BOCA RATON
CAPITAL IMPROVEMENT PLAN

North Beach Renourishment Project	PROJECT #: 1440090	PRIORITY: 43
LOCATION		**DEPARTMENT**
Spanish River Boulevard to Red Reef Park		Municipal Services

DESCRIPTION

Restoration of North Boca Raton beach located between Spanish River Boulevard and Red Reef Park, approximately 1.5 miles in length by approximately 150 wide.

FY 2021/22
FDEP Local Government Funding Request Permit required physical monitoring

FY 2022/23
Development of the USACE GRR/LRR Permit required physical monitoring

FY 2023/24
None

FY 2024/25
FDEP and USACE Permitting
Permit required physical monitoring

FY 2025/26
Plans and specifications, bidding for planned 2027 project.

FY 2026/27
Construction
Construction Administration and Inspection Services
Physical and environmental monitoring before, during and after construction

JUSTIFICATION

Comprehensive Plan component in the Coastal Management Element #1.1.12. To ensure storm protection, the project provides replacement of eroded material and additional advanced fill. This is a re-restoration of the original project completed in 1988. First renourishment project occurred in 1997/1998, & the 2nd renourishment project was constructed in FY 2009/2010. This project was accelerated as a hurricane repair project due to the impacts from Hurricane Sandy in Oct 2012. The North Beach Project qualified for Flood Control and Coastal Emergencies (FCCE) assistance as well as Construction General funds from the USACE. The construction project was completed in December 2014. In 2016, North Beach was impacted by the passing of Hurricane Irma. The project area qualified for Federal funding for a Hurricane repair project, fully funded by the USACE. This project commenced construction in March 2020 and was completed in April 2020 with the placement of over 600,000 cubic yards of sand.

FY 2026/27 is the next scheduled North Beach Renourishment Project. The City plans to construct the North Beach Renourishment Project concurrently with the Central Beach Renourishment Project to reduce the overall mobilization and demobilization costs associated with the two projects.

By not doing this project, we would be unable to sustain a beach recreation area for beach goers and user of Spanish River Park and would risk the protected nesting area for endangered sea turtles. By not initiating this project, we subject the beach to severe damage and possible loss of the dune system, threatening the structural integrity of A-1-A Hurricane Evacuation Route. Failure to maintain the beach in a timely manner would result in escalation of construction cost and possible loss of Federal and State monetary participation. 50% of the project costs would qualify for reimbursement by the Florida Department of Environmental Protection subject to legislative approval and allocation of funds

IMPACT

N/A

CITY OF BOCA RATON
CAPITAL IMPROVEMENT PLAN

PROJECT COST AND FUNDING	2022	2023	2024	2025	2026	2027	TOTAL
CONSTRUCTION	$0	$0	$0	$0	$0	$15,000,000	$15,000,000
DESIGN & PERMITTING	$10,000	$600,000	$0	$200,000	$80,000	$0	$890,000
MONITORING	$85,000	$91,900	$0	$99,400	$0	$200,000	$476,300
PROJECT COSTS	**$95,000**	**$691,900**	**$0**	**$299,400**	**$80,000**	**$15,200,000**	**$16,366,300**
BPD	$14,200	$28,700	$0	$44,900	$12,000	$405,000	$504,800
BRF	$14,300	$28,800	$0	$44,900	$12,000	$405,000	$505,000
DEP	$47,500	$196,000	$0	$149,700	$40,000	$3,850,000	$4,283,200
PBC	$19,000	$138,400	$0	$59,900	$16,000	$3,040,000	$3,273,300
USACE	$0	$300,000	$0	$0	$0	$7,500,000	$7,800,000
PROJECT FUNDING	**$95,000**	**$691,900**	**$0**	**$299,400**	**$80,000**	**$15,200,000**	**$16,366,300**

CITY OF BOCA RATON
CAPITAL IMPROVEMENT PLAN

South Beach Renourishment | **PROJECT #: 1440080** | **PRIORITY: 49**

LOCATION

Southerly limit of the County Park extending South

DEPARTMENT

Municipal Services

DESCRIPTION

As mitigation to the inlet-induced downdrift erosion and an objective of the City's Inlet Management Plan, the City conducts periodic beach renourishment through contractor dredging of the inlet ebb tidal shoal and the placement of sand on the downdrift beaches.

FY 2021/22
Construction of sand bypassing event
Construction Administration and Inspection Services Permit required physical and biological monitoring

FY 2022/23
Permit required Physical and biological monitoring

FY 2023/24
None

FY 2024/25
Design and permitting for new USACE and FDEP permits

FY 2025/26
None

FY 2026/27
Permit required Physical and biological monitoring

JUSTIFICATION

This project is a renourishment of the original project constructed in 1985, reconstructed in 1995/1996, 2001/2002, 2009/2010 and most recently in 2013. The City constructed a South Beach project in 2017 due to the passing of Hurricane Matthew.
This project is currently in the post-construction monitoring phase. The next scheduled renourishment project is for FY2021/22. Without this project, the Boca Raton Inlet would experience severe shoaling resulting in limited navigation, possible loss of property along the beaches south of the inlet, and direct damage to some of buildings south of the inlet.

This project also serves as a method to avoid severe erosion that would jeopardize the upland structures located adjacent to the beach as well as maintain navigability of the Boca Raton Inlet. Approximately 38.65% of the project costs would qualify for reimbursement by the Florida Department of Environmental Protection subject to legislative approval and allocation of funds.

IMPACT

N/A

PROJECT COST AND FUNDING

	2022	2023	2024	2025	2026	2027	TOTAL
CONSTRUCTION	$10,100,000	$0	$0	$0	$0	$0	$10,100,000
DESIGN & PERMITTING	$50,000	$0	$0	$250,000	$0	$0	$300,000
MONITORING	$250,000	$168,700	$0	$182,500	$0	$197,400	$798,600
PROJECT COSTS	**$10,400,000**	**$168,700**	**$0**	**$432,500**	**$0**	**$197,400**	**$11,198,600**
BPD	$2,150,200	$34,900	$0	$89,400	$0	$40,800	$2,315,300
BRF	$2,150,200	$34,900	$0	$89,500	$0	$40,800	$2,315,400
DEP	$4,019,600	$65,200	$0	$167,100	$0	$76,300	$4,328,200
PBC	$2,080,000	$33,700	$0	$86,500	$0	$39,500	$2,239,700
PROJECT FUNDING	**$10,400,000**	**$168,700**	**$0**	**$432,500**	**$0**	**$197,400**	**$11,198,600**

CITY OF BOCA RATON
CAPITAL IMPROVEMENT PLAN

Central Beach Renourishment	**PROJECT #: 1440029**	**PRIORITY: 50**
LOCATION		**DEPARTMENT**
Red Reef Park to the Boca Raton Inlet		Municipal Services

DESCRIPTION

Restoration of the Central Boca Raton beach located between Red Reef Park and the Boca Raton Inlet, approximately 1.5 miles in length by 150` wide.

FY 2021/22
Permit required physical monitoring

FY 2022/23
None

FY 2023/24
Permit required physical monitoring

FY 2024/25
FDEP and USACE Permitting

FY 2025/26
Permit required physical monitoring
Plans and specifications and bidding for planned 2027 project.

FY 2026/27
Construction
Construction Administration and Inspection Services
Physical and Environmental monitoring before, during and after construction

JUSTIFICATION

Comprehensive Plan component in the Coastal Management Element #1.1.12. To ensure storm protection, the project provides replacement of eroded material and additional advanced fill.

Initial Beach Nourishment: The first beach nourishment project was completed in April 2004. The project consisted of the placement of 747,000 cubic yards (cy) of sand from an offshore borrow area. In addition to the beach nourishment project, a 170-foot groin was constructed in the central portion of the project (approximately 1,600 feet to the north of the Boca Raton Inlet), and the weir in the north jetty of the Boca Raton Inlet was relocated 50 feet seaward. The presence of the groin enhances the project's longevity and addresses a hotspot resulting from the downdrift effects of a rock outcropping to the north. The relocation of the jetty's weir allowed for a wider equilibrated beach north of the inlet.
In 2006 a Storm Damage Repair Project was conducted with the placement of 325,000 cy of sand. First Renourishment Project was completed in 2017 with the placement of 514,000 cy of sand.

FY 2026/27 is the next scheduled Central Beach Renourishment Project. The City plans to construct the Central Beach Renourishment Project concurrently with the North Beach Renourishment Project to reduce the overall mobilization and demobilization costs associated with the two projects.

This project will continue to preserves one of the City`s most valuable natural resources for future generations. The project will provide storm protection for the building structures adjacent to the beach and a buffer for A-1-A and South Beach Park. Additionally, this project will provide storm protection to the evacuation route along A-1-A. By not doing this project, we would not be providing a beach recreation area for beach goers and users of South Beach Park and not be providing protected nesting area for endangered sea turtles. By not initiating this project, we subject the beach to severe damage and additional loss within the dune system, threatening the structural integrity of A-1-A. 42.32% of the project costs would qualify for reimbursement by the Florida Department of Environmental Protection subject to legislative approval.