



May 18, 2026

South Florida Regional Planning Council Meeting

Central & Southern Florida System Flood Resiliency Studies Update

Carolina Maran, Ph.D., P.E.
Division Director, Flood Control and Water Supply
Planning, Chief of District Resiliency, SFWMD



C&SF FLOOD RESILIENCE: INTEGRATED PATH FORWARD

Planning Reach A – Broward County Basins

- Section 203 Feasibility Study: Target WRDA 26
- Funding support from FDEP and Broward County

Planning Reach B – C-7, C-8, C-9 Basins

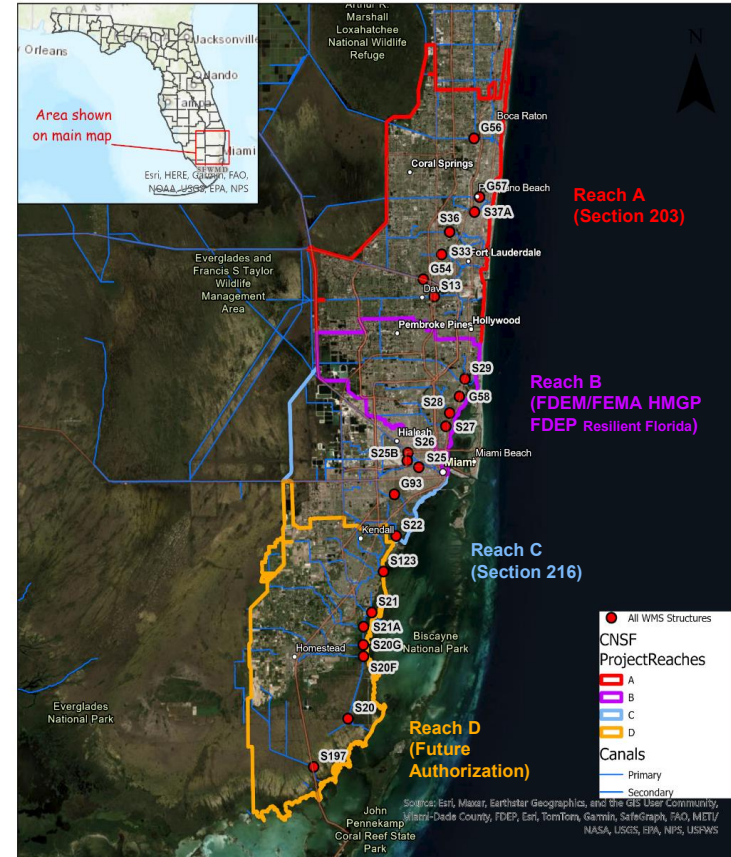
- FDEM / FEMA Hazard Mitigation
- Resilient Florida Grant
- Support from Miami Dade County

Planning Reach C – Miami River Basins

- C&SF Flood Resiliency Study – Section 216 Authorization – Final VTAM Approval
- Feasibility Study: Target WRDA 28 or WRDA 30

Planning Reach D – South Dade Basins

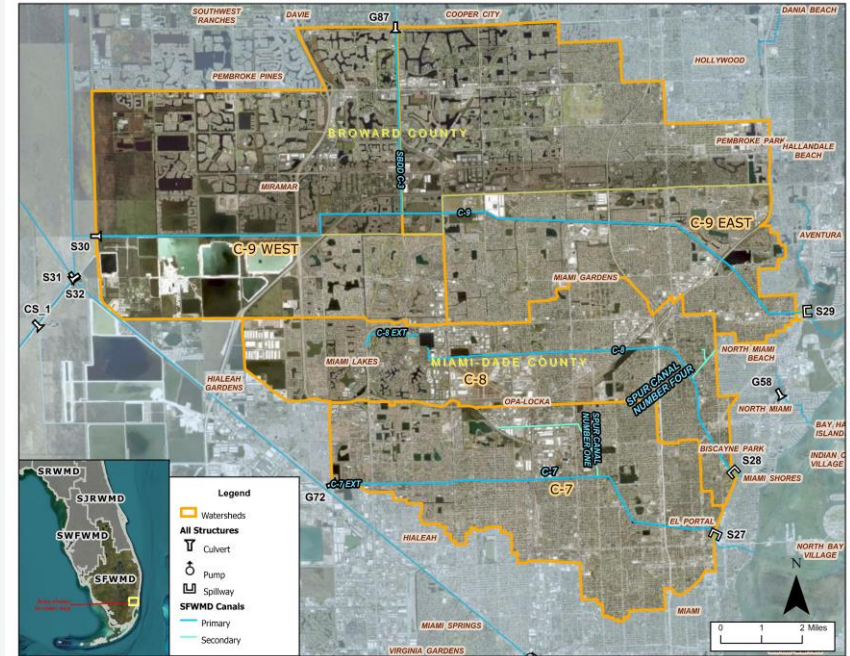
- C&SF Comprehensive Study (authorized in WRDA24) or future planning studies



C-7, C-8, C-9 Basin Resiliency

Basin-wide strategy to reduce flood risks due to sea-level rise and extreme rainfall; protect water resources

- Integration of green and gray infrastructure
- Existing coastal structure enhancements/replacements
- Restore original discharge capacity of the coastal structures by adding forward pump stations
- Increase the basin's flood protection level of service in collaboration with project partners
- Nature based solutions including living shorelines and temporary stormwater retention areas



S-28 Operation During King Tide Season



Photo: S-28 Spillway Structure on October 08, 2025
(Looking Downstream from Upstream)



Photo: High tailwater observed at S-28 Spillway
Structure on October 08, 2025
(Looking Upstream from Downstream)

Basin-Wide Benefits Summary

Project Name	Communities Serving	Population	Economic Benefit*	Cost
C-7 Basin Resiliency: <ul style="list-style-type: none"> •S-27 Coastal Structure Replacement and Associated new Forward Pump (1500 cfs) •Storage/NBS Feature in a Miami Dade School 	Miami Dade County Village of El Portal City of Hialeah City of Miami Gardens Town of Miami Lakes Miami Shores Village City of North Miami City of Opa-Locka	251,053	Greater than 3x return on investment in avoided annual property damages.	\$187M (latest cost estimate, permitting design set) (\$7.8M Resilient Florida award; up to additional \$32.1M in potential FY26-27 Statewide Resilience Plan funds, plus ~\$50M FEMA BRIC)
C-8 Basin Resiliency: <ul style="list-style-type: none"> •S-28 Coastal Structure Replacement and Associated new Forward Pump (1500 cfs) •Storage/NBS Feature within Golf Course - Miami Shores Village •Miami Dade Secondary Canal Enhancements 	Miami Dade County Village of Biscayne Park City of Hialeah City of Miami Gardens Town of Miami Lakes Miami Shores Village City of North Miami City of Opa-Locka City of North Miami Beach	132,007	Greater than 3x return on investment in avoided annual property damages.	\$196M (latest cost estimate, permitting design set – excluding temporary impoundment) (\$28M Resilient Florida award; plus ~\$50M FEMA BRIC)
C-9 Basin Resiliency: <ul style="list-style-type: none"> •S-29 Coastal Structure Replacement and Associated new Forward Pump (2500 cfs) •Storage/NBS Feature at Pickwick Lake – North Miami Beach •Miami Dade Secondary Canal Enhancements •South Broward Drainage District Installation of 4 New Sluice gates 	Miami Dade County Broward County City of Hallandale City of Miami Gardens City of Miramar City of North Miami Beach City of Pembroke Pines City of West Park	546,187	Greater than 2x return on investment in avoided annual property damages.	\$280M (latest cost estimate, permitting design set) (~\$26.7M Resilient Florida award; up to additional \$10.6M in potential FY26-27 Statewide Resilience Plan funds, plus ~\$50M FEMA BRIC)

* Does not include damages due to business disruption and other impacts to services.

Costs shown above were estimated in the Summer 2025



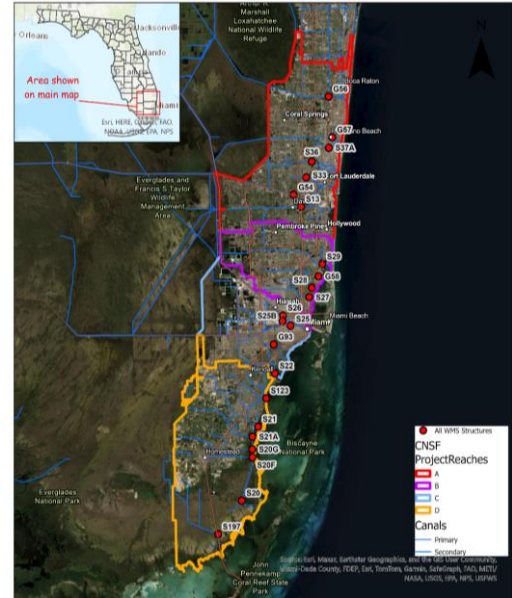
SECTION 203 (REACH A)

C&SF FLOOD RESILIENCY STUDY FOR BROWARD BASINS

Project Goals: To develop, evaluate and recommend flood risk management measures and adaptation strategies to build flood resiliency in the communities served by the C&SF system, now and in the future

Study Objective: Enhance C&SF Project **water control structures' functionality and capacity** to reduce flood damages and improve resiliency caused by inundation and changed conditions within the Study Area over the 50-year period of analysis of 2035–2085

- Study using WRDA 1986 Section 203 process to complete an integrated Flood Resiliency Study and required NEPA documentation for Broward Basins
- SFWMD is the Non-Federal Sponsor in partnership and with funding support from FDEP and Broward County
- Study focuses on the primary canals and coastal water control structures in the managed watersheds that are part of the C&SF Project
- **Leveraging C&SF Flood Resiliency Study (216 Study) Milestones - Reach A**
- **Project management, modeling, and evaluations completed by SFWMD**
- **Consulting services providing technical, policy, modeling assistance, and engineering support services**
- **Federal Activities and Technical Assistance from the USACE Jacksonville District**

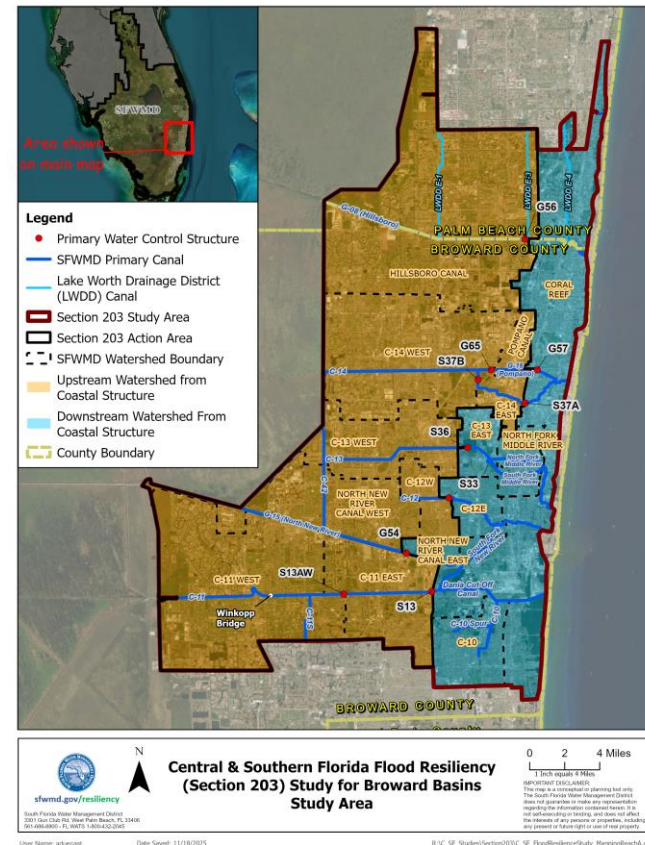


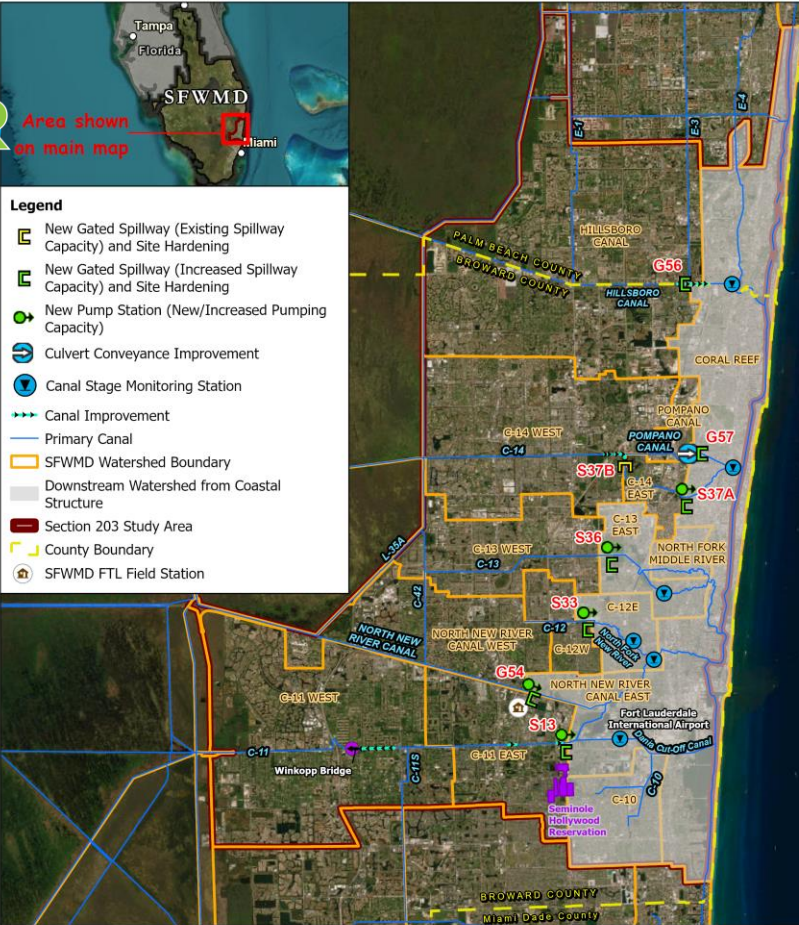


Project Study Area – Managed Basins

- Nine (9) Upstream Inland Managed Watershed Basins
- Seven (7) Primary Canals
- Nine (9) Water Control Structures

MANAGED BASIN	PRIMARY CANAL	PRIMARY WATER CONTROL STRUCTURE
Hillsboro Canal Basin	G-08 (Hillsboro) Canal	G-56 Gated Spillway
Pompano Canal Basin	G-16 (Pompano) Canal	G-57 Gated Spillway
C-14 West Basin	C-14 (Cypress Creek) Canal	S-37B Gated Spillway
C-14 East Basin	C-14 (Cypress Creek) Canal	S-37A Gated Spillway
C-13 West Basin	C-13 (West Middle River) Canal	S-36 Gated Spillway
C-12 West Basin	C-12 (Plantation) Canal	S-33 Gated Spillway
North New River Canal West Basin	G-15 (North New River) Canal	G-54 Gated Spillway
C-11 West Basin	C-11 (South New River) Canal	S-13AW Gated Culvert
C-11 East Basin	C-11 (South New River) Canal	S-13 Pump Station and Gated Spillway





- Legend**
- New Gated Spillway (Existing Spillway Capacity) and Site Hardening
 - New Gated Spillway (Increased Spillway Capacity) and Site Hardening
 - New Pump Station (New/Increased Pumping Capacity)
 - Culvert Conveyance Improvement
 - Canal Stage Monitoring Station
 - Canal Improvement
 - Primary Canal
 - SFWMD Watershed Boundary
 - Downstream Watershed from Coastal Structure
 - Section 203 Study Area
 - County Boundary
 - SFWMD FTL Field Station

Central & Southern Florida Flood Resiliency (Section 203) Study for Broward Basins Recommended Plan

0 2 4 Miles
1 Inch equals 4 Miles

IMPORTANT DISCLAIMER:
This map is a conceptual or planning tool only.
The South Florida Water Management District
does not guarantee or make any representation
regarding the information contained herein, if it is.

RECOMMENDED PLAN IS ALTERNATIVE RO



DRAFT Presented to Stakeholders in Broward County on September 9, public comments received, follow up meetings were held to discuss recommendations



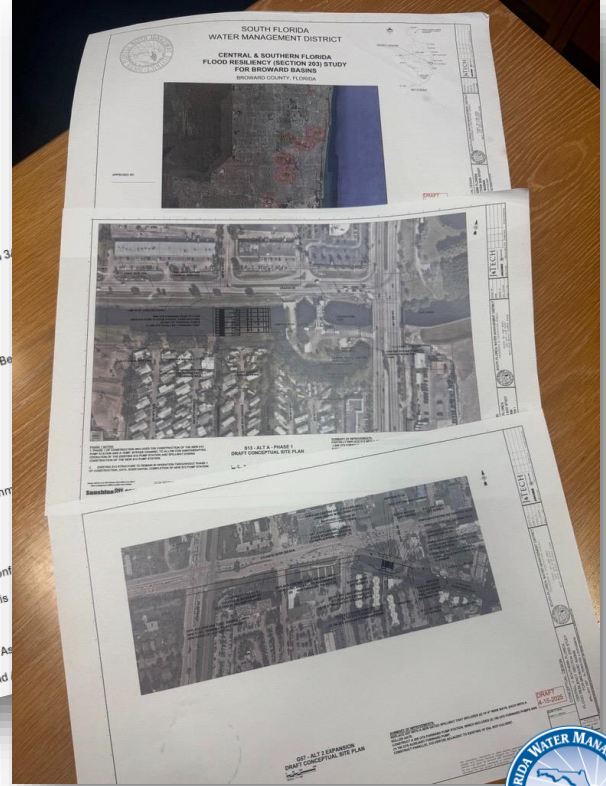


ENGINEERING STUDIES & DESIGNS



AGENDA SFWMD/USACE HQ Coordination Flood Resiliency (Sec 203) Study Broward Basins July 29-31, 2025


- Tuesday July 29, 2025**
 - 9:00 AM - 9:15 AM Meet-and-Greet in Bridge Conference Room 3A
 - 9:15 AM - 10:00 AM Review 3-Day Meeting Agenda
 - 10:00 AM - 4:00 PM Site Visits G-57, S-37A, S37B, S36 and G-54
- Wednesday July 30, 2025**
 - 9:00 AM - 9:10 AM Meet-and-Greet in Bridge Conference Room 3
 - 9:10 AM - 9:30 AM Site Visit Debrief
 - 9:30 AM - 9:45 AM Project Schedule Highlights
 - 9:45 AM - 10:15 AM Final Array of Alternatives
 - 10:15 AM Benefits Analysis, Table of Effects and Benefits
 - 11:00 AM Lunch Break
 - 11:30 AM Depth and Duration
 - 12:00 PM Meeting Break
 - 1:00 PM Depth and Duration Analysis
 - 2:00 PM Closing Discussions and Adjournment
- Thursday August 1, 2025**
 - 9:00 AM - 9:15 AM Meet-and-Greet in Bridge Conference Room 3
 - 9:15 AM - 11:30 AM Depth and Duration Analysis
 - 11:30 AM - 1:00 PM Lunch Break
 - 1:00 PM - 2:30 PM Open Discussions, Task Assignments
 - 2:30 PM - 2:40 PM Closing Discussions and Adjournment





STATUS OF ENGINEERING STUDIES & DESIGN

	S33	S36	S37A	G57A	S13	S37B	G54	S56
Geotechnical Studies	Completed	Completed	Completed	Completed	Completed	Completed	Completed	Completed
Phase I Cultural and Historic *	Completed	Completed	Completed	Completed	Completed	Completed	Completed	Completed
Hazardous, Toxic & Radioactive Waste	Completed	Completed	Completed	Completed	Completed	Completed	Completed	Completed
Final Site Plans (30% Design)	Completed	Completed	Completed	Completed	Completed	Completed	Completed	Completed
Survey	Completed	Completed	Completed	Completed	Completed	Completed	Completed	Completed

 Completed





COST CERTIFICATION

WALLA WALLA COST ENGINEERING MANDATORY CENTER OF EXPERTISE

COST AGENCY TECHNICAL REVIEW

CERTIFICATION STATEMENT

For Project No. 567861

Central and South Florida Broward Basins
Section 203 Feasibility Study

The C&SF Broward Basins Section 203 Feasibility Study, as presented by the Non-Federal Interest South Florida Water Management District, has undergone a successful Cost Agency Technical Review (Cost ATR), performed by the Walla Walla District Cost Engineering Mandatory Center of Expertise (Cost MCX) team. The Cost ATR included study of the project scope, report, cost estimates, schedules, escalation, and risk-based contingencies. This certification signifies the products meet the quality standards as prescribed in ER 1110-2-1150 Engineering and Design for Civil Works Projects and ER 1110-2-1302 Civil Works Cost Engineering.

As of April 23, 2026, the Cost MCX certifies the estimated total project cost:

FY27 Project First Cost: \$1,890,509,000
Fully Funded Amount: \$2,250,027,000

Cost Certification assumes Efficient Implementation (Funding). It remains the responsibility of the District to correctly reflect these cost values within the Final Report and to implement effective project management controls and implementation procedures including risk management through the period of Federal Participation.



Digitally signed by
NELSON,DEREK.D
UANE.1235538233

Derek D. Nelson, TCCC
Chief, Cost Engineering MCX
Walla Walla District

- Feb 3 – Pre Certification Meeting
- Feb 24 – Submission for Draft FR/EA for Cost Certification
- April 23 – Received Cost Certification from Walla Walla Cost Engineering Mandatory Center of Expertise





RECOMMENDED PLAN COMPREHENSIVE BENEFITS*



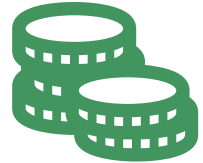
Positive Return on Investment

\$2.6B annually in avoided property damage and transportation savings (up to \$1.2B additional in future extreme rainfall conditions)



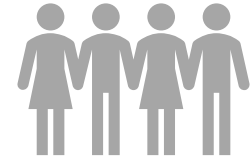
Less Business Interruption

\$2M annual reduction in Direct Output Loss (up to \$100 million**), *Additional \$1.6 million savings in annually in secondary output of business interruption (up to \$80 million**)*



More Jobs, Stronger Regional Economy

\$264M in Annual Total Output throughout construction period (up to \$1.8 Billion); \$2.6 million from operations (up to \$130 million**)



People Benefited

1.35M residents;
Up to \$4.4M total annualized savings from displacement costs



Protection of Critical Infrastructure

Up to 20% reduction in flooded structures



Environmental Quality Increase

Septic and sewer overflow reduction



Protection against Saltwater Intrusion

Improved headwater stages and avoided/delayed advanced treatment and wellfield relocation worth nearly \$200M** (potential savings to capital investments)



Lower Flood Insurance Rates

\$146M** in potential NFIP premium cost reductions in FEMA Flood Zones AO, AH

*under High SLR scenarios; ** Over Project Life (50 years)



FINAL INTEGRATED FEASIBILITY REPORT AND ENVIRONMENTAL ASSESSMENT

Main Report: Final Integrated Feasibility Report and Environmental Assessment

Appendix A: Engineering Appendix

Appendix B: Environmental Resources

Appendix C: Plan Formulation

Appendix D: Benefits Analyses

Appendix E: Cost Engineering and Risk Analysis

Appendix F: Real Estate Plan

Appendix G: Endangered Species Act Coordination and Consultation

Appendix H: Revised Structure Book Pages

Appendix I: Hazardous, Toxic, and Radioactive Waste

Appendix J: Public and Agency Involvement

Appendix K: Cultural Resources Supporting Information

Appendix L: Air Quality Supporting Information

Appendix M: Technical Review Documentation

[Available at: C&SF Flood Resiliency Study – Broward Basins \(Section 203\) | South Florida Water Management District](#)





NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

The C&SF Section 203 Study is fully compliant with NEPA (42 U.S.C. 4321 et seq.) and the *Department of Defense National Environmental Policy Act Implementing Procedures* (90 FR 27857, June 30, 2025).

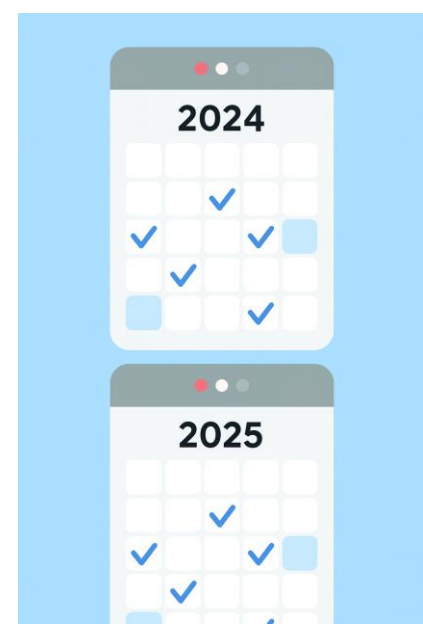
- An Environmental Assessment, which is integrated into the Final Integrated Feasibility Report, resulted in a **Finding of No Significant Impact**.
- Environmental effects of the Recommended Plan are described in **Section 5** of the report and **Appendix B**.





PUBLIC ENGAGEMENT

- **October 23, 2024:** First Public Planning Meeting
- **November 8, 2024:** Broward County Water Advisory Board and Technical Advisory Committee Meeting
- **December 10, 2024:** National Environmental Policy Act (NEPA) Scoping Meetings
- **April 29, 2025:** Project Alternatives / Comprehensive Benefits Public Meeting
- **September 9, 2025:** Draft Tentatively Selected Plan Public Meeting
 - Follow up meetings were hosted to address all main comments received
- **December 18, 2025:** Draft Integrated Feasibility Report and Environmental Evaluation Public Meeting
- **January 16, 2026:** Broward County Water Advisory Board and Technical Advisory Committee Meeting
- **January 21 – February 20, 2026:** NEPA Public Comment Period
- **March 26, 2026:** SFWMD Resiliency Coordination Forum





SUMMARY – BBFR RECOMMENDED PLAN

- **Recommended Plan** meets the project objectives and is cost effective
- **Ensuring Flood Resilience:** Every basin in the study contains project elements and all primary structures in the study are replaced or improved with hardening; canal modifications are also proposed
 - 5 new or expanded pump stations
 - Significant improvements in gravity conveyance
 - Redundancy in pump bays and gates ensures operation even during maintenance or offline periods
- Adverse impacts on nearby areas are minimized and/or mitigated
- This project is focused on improving the primary system infrastructure, and these actions will be complemented by other efforts at the regional, county or local level

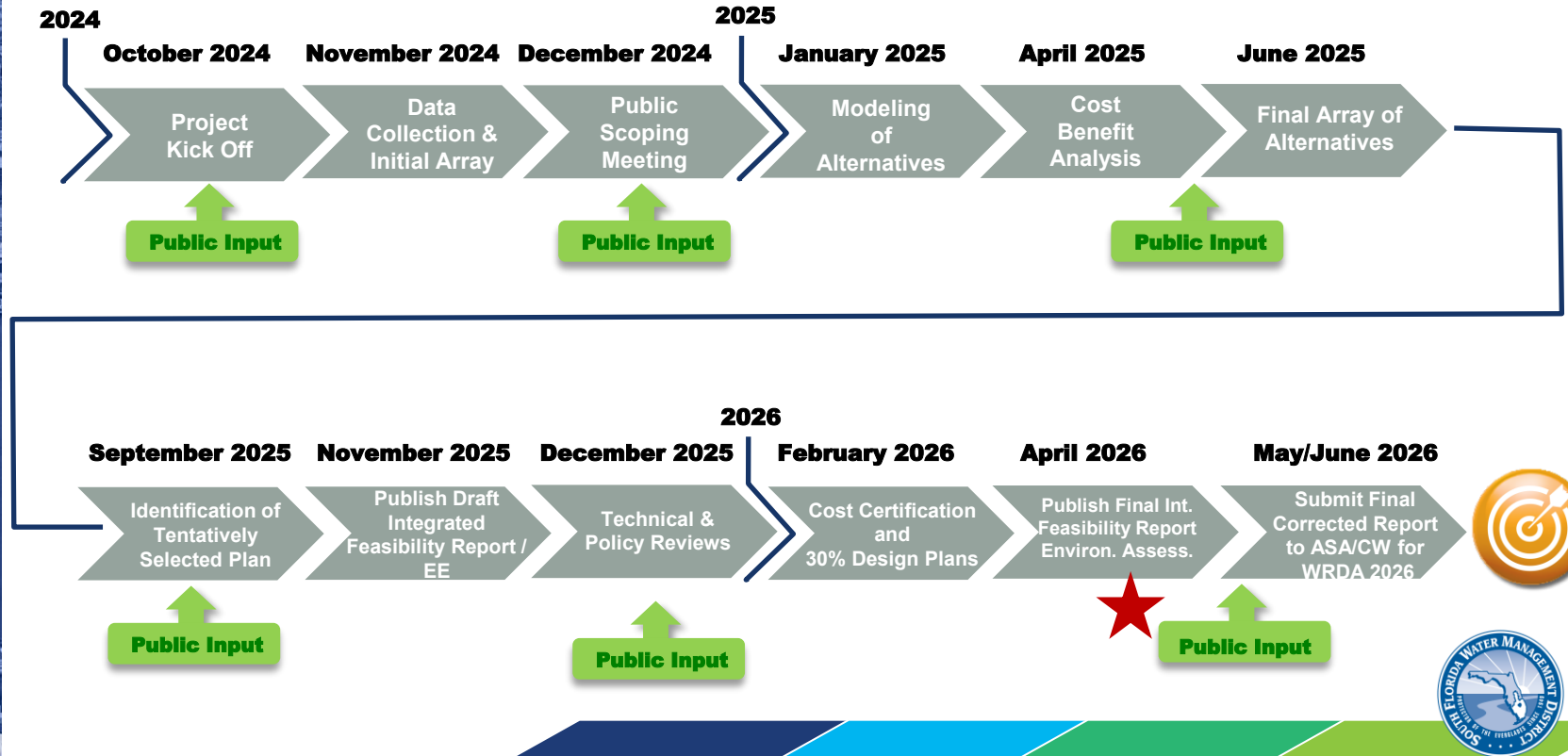




BB-203 PROJECT SCHEDULE

Targeting WRDA 2026

P





SECTION 203 TRANSMITTAL CEREMONY





SOUTH FLORIDA WATER MANAGEMENT DISTRICT

April 29, 2026

The Honorable Adam Telle
Assistant Secretary of the Army (Civil Works)
U.S. Department of the Army
108 Army Pentagon
Washington, DC 20310-0108

Subject: Final Integrated Feasibility Report and Environmental Assessment of the Central and Southern Florida Flood Resiliency (Section 203) Study - Broward Basins

Dear Mr. Telle,

On behalf of the South Florida Water Management District (SFWMD), I am pleased to transmit the Final Integrated Feasibility Report and Environmental Assessment of the Central and Southern Florida (C&SF) Flood Resiliency (Section 203) Study – Broward Basins (C&SF Section 203 Study) for your review and consideration as part of the Water Resources Development Act (WRDA) 2026.

The C&SF Section 203 Study presents a cost-effective plan to reduce inland flood risks within eastern Broward County and portions of southern Palm Beach County under current and future conditions. The Recommended Plan reflects a risk-informed approach that balances economic performance, long-term regional resilience, life safety considerations, and environmental outcomes. The plan focuses on enhancing the functionality and capacity of main water control structures within the C&SF system to improve flood risk management.

SFWMD remains fully committed to addressing all comments and providing additional information to your office and USACE Headquarters during the review process. Upon completion of this review, SFWMD will submit a final corrected report incorporating all necessary revisions.

SFWMD gratefully acknowledges the financial support provided by the Florida Department of Environmental Protection (FDEP) and Broward County, which was instrumental in advancing this effort under the Section 203 authority. We also appreciate the USACE Jacksonville District for their technical assistance and federal activities work, as well as to USACE Headquarters and your office for your guidance throughout the Section 203 process.

The C&SF Section 203 Study marks an important milestone in the evolution of the C&SF Project, reflecting a forward-looking approach to flood risk management under changing conditions and compound flooding risks. SFWMD is proud to continue this work in collaboration with our long-standing federal partner, USACE.

Please do not hesitate to contact Ana Carolina Coelho Maran, Ph.D. P.E., Flood Control and Water Supply Planning Division Director and Chief of Resiliency at amaran@sfwmd.gov or 561-682-6868.

Sincerely,

Drew Bartlett
Executive Director



115 S. Andrews Avenue, Room 421 • Fort Lauderdale, Florida 33301 • 954-357-7000

April 29, 2026

The Honorable Adam Telle
Assistant Secretary of the Army (Civil Works)
U.S. Department of the Army
108 Army Pentagon
Washington, DC 20310-0108

Dear Mr. Telle:

On behalf of Broward County, I am writing to express our strong support for the Central and Southern Florida (C&SF) Flood Resiliency (Section 203) Study – Broward Basins and the Recommended Plan submitted for your review and consideration for authorization under the Water Resources Development Act (WRDA) 2026.

Broward County has been a committed partner in this effort since its inception. As a funding partner and the location where the proposed improvements will be implemented, the County has worked in close collaboration with the South Florida Water Management District (SFWMD) and the U.S. Army Corps of Engineers (USACE) throughout the development of this study. The County has consistently supported the broader C&SF Flood Resiliency Study for South Florida and further demonstrated its commitment by contributing \$5 million to accelerate progress under the Section 203 authority.

The Recommended Plan represents a critical investment in the resilience of Broward County and the greater C&SF system. It addresses increasing flood risks driven by extreme rainfall, sea level rise, and compound flooding conditions, while enhancing the performance of key water management infrastructure that supports our communities, economy, and environment. The plan aligns directly with Broward County's resilience priorities and will help safeguard around 1.5 million residents, critical infrastructure, and economic activity across the region.

Broward County remains fully committed to supporting the advancement of this project through subsequent phases, including design, land acquisition, and construction, in partnership with SFWMD and USACE. We recognize the importance of continued federal partnership in delivering this vital infrastructure and stand ready to assist in ensuring its successful implementation.

We respectfully request your favorable consideration of this study and the Recommended Plan for authorization. Thank you for your continued leadership and support of flood risk management and resilience efforts in South Florida.

Sincerely,

Beam Furr
Commissioner, District 6 Broward County





RESILIENCY INITIATIVES COORDINATION

INTEGRATING INLAND AND COASTAL, STRUCTURAL, NON-STRUCTURAL AND NATURE-BASED FLOOD MITIGATION STRATEGIES

State and Counties Studies/ Projects

Water Control Districts and Municipalities Projects

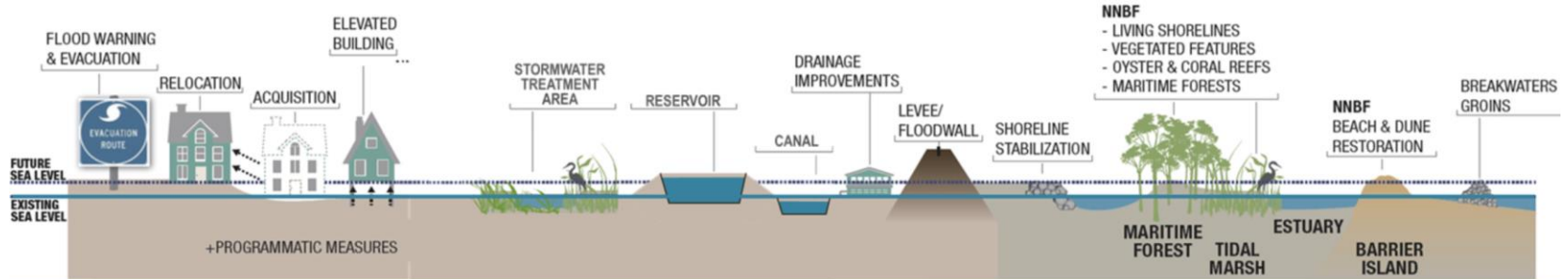
USACE Studies/ Projects

Regional Climate Compacts

Other Partners

POTENTIAL MEASURES TO IMPROVE RESILIENCY AND SUSTAINABILITY

Graphic modified from https://ewn.el.erdc.dren.mil/nbf/other/5_ERDC-NNBF_Brochure.pdf



“...hard to recognize, but there used to be a canal somewhere in the foreground.” – Merritt Canal Plugged

Ecosystem

Restoration supports mitigation against sea level rise and other impacts from a changing climate.

CERP goals are aligned with the adaptation strategies needed to build Resiliency in South Florida.



Visit sfwmd.gov/C&SF for more information

Thanks for your attention

Central & Southern Florida System
Flood Resiliency Study (Section 203) for Broward Basins