BISCAYNE BAY WATERSHED MANAGEMENT ADVISORY BOARD

April 14, 2023

MIAMI-DADE COUNTY

Biscayne Bay Watershed Management Advisory Board

Board Package

Table of Contents

Agenda	Pg 3
Welcome New Board Members	Pg 4
Meeting Minutes – February 10, 2023	Pg 5
Requested Standing Updates • Reasonable Assurance Plan • Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study ("Back Bay") • FDEP Water Quality Grant Projects	Pg 11
Connect 2 Protect - Septic to Sewer	Pg 28
Smart Covers: FDEP Water Quality Grant Projects	Pg 52
Biscayne Bay Commission Meeting Update	Pg 66
BBWMAB Policy Updates and Reports: • Policies Adopted • Illegal Dumping Report	Pg 69
Supplemental Items: Glossary and Acronyms	Pg 75

MIAMI-DADE COUNTY

AGENDA

BISCAYNE BAY WATERSHED MANAGEMENT
ADVISORY BOARD (BBWMAB) MEETING
April 14th, 2023 - 9:00am – 12:00pm
LOCATION – Stephen P. Clark Government Center, Commission Chambers, 2nd Floor
111 NW First Street, Miami, FL 33128

1. **Roll Call**

2. **Reasonable Opportunity to be Heard**

3. **Approval of Agenda** – *Actionable Item*

4. **Approval of Minutes for February 10, 2023** – *Actionable Item*

5. **Connect 2 Protect - Septic to Sewer Presentation**
   Roy Coley, Director of Miami-Dade WASD

6. **Legislative Update 2023**
   Jess McCarty, Executive Assistant County Attorney, CAO

7. **USACE Back Bay Update**
   Jim Murley, Chief Resilience Officer, Office of Resilience

8. **FDEP Grant Project Update**
   Pamela Sweeney, Senior Water Scientist, RER-DERM
   Carlos Hernandez, P.E., Division Chief, RER-DERM

9. **Reasonable Assurance Plan Update**
   Irela Bagué, Chief Bay Officer
   Pamela Sweeney, Senior Water Scientist, RER-DERM
   Dr. Tony Janicki, Janicki Environmental

10. **Future Agenda Items**
    BBWMAB Chair, Commissioner Danielle Cohen Higgins

11. **Adjournment**
    BBWMAB Chair, Commissioner Danielle Cohen Higgins

Biscayne Bay Watershed Management Advisory Board

Welcome New Board Members

Commissioner Kevin Cabrera District 6	Commissioner Micky Steinberg District 4	Kevin Cunniff Chief Sustainability Officer Miccosukee Tribe of Indians of Florida
		
Read more about Commissioner Cabrera here	Read more about Commissioner Steinberg here	Read more about Mr. Cunniff here

Biscayne Bay Watershed Management Advisory Board

Stephen P. Clark Government Center
Commission Chambers, 2nd Floor
111 NW First Street
Miami, FL 33128

MEETING MINUTES February 10, 2023 9:00 am

MEETING CALLED BY	The roll call was taken at 9:15 am with eight members present, no quorum. The meeting began with special presentations. A quorum was established, and the meeting opened with nine members present at 10:25 am. Absent Members: Vice-Chair Vince Lago, Commissioner Rachel Streitfeld (via Zoom), Dr. Todd Crowl, Dr. Diego Lirman, Julissa Kepner, John Alger, and Dave Doebler (via Zoom)
MEMBER ATTENDEES	Chair - Commissioner Danielle Cohen Higgins Mayor Tim Meerbott T. Spencer Crowley, III Brett Bibeau Erik Stabenau Jannek Cederberg Gerald McGinley Roberto Torres Dr. Joan Browder
	Staff support for Biscayne Bay Watershed Management Advisory Board in attendance: Irela Bagué, RER OOR, Rashid Istambouli – RER DERM, Lisa Spadafina – RER DERM, Pamela Sweeney – RER DERM, Nancy Jackson – RER OOR, Larissa Aploks – RER DERM, Danny Turkel – RER OOR, and Ana Fiotte – RER OOR.

AGENDA TOPICS

SPECIAL PRESENTATION - (Requested by Commissioner Rachel Streitfeld)

Richard Virgil - Division Director
South Florida Water Management District

	Irela Bagué introduced Richard Virgil, Division Director, Field Operations South Florida Water Management District (SFWMD), for a special presentation. SFWMD provided an overview of the flood control system, shared challenges, and increased trash and debris maintenance costs. SFWMD is currently in rulemaking to develop enforcement of best management practices for local governments. Mr. Vigil explained the challenges with debris in their structures and canals at S-22, S-26, S-27, S-28, and G-58. The SFWMD uses booms with two boats to remove the trash accumulating in the SFWMD canals. Once the items are brought to shore, they bring a truck to remove them, and the debris is taken to a landfill. Board member Spencer Crowley asked if there are areas that see more trash, for example, after the rainy season, and if there is a schedule for trash removal. Mr. Virgil answered that crews go out every Monday and Thursday to the areas with high debris levels, like the C-7 (Little River) canal. Board member Crowley also asked if the SFWMD focused on water quality and stated that the major district tributaries are conveying a lot of pollutants into Biscayne Bay. Other regions have worked to clean the water before discharging it into the Bay. Mr. Virgil stated that they are looking at that and do take any opportunity to retain water and hold it back. The SFWMD has one location with some wetland features that help with water quality and would like to do more, but with limited land available, it is a challenge. Mayor Meerbott thanked the SFWMD for their support to Cutler Bay in the aftermath of the June 2022 rainstorm, which resulted in one neighborhood experiencing flooding for several days. The SFWMD came in and pumped out the water, and he commended the SFWMD for a job well done.

MIAMI-DADE BACK BAY COASTAL STORM RISK MANAGEMENT STUDY
(Standing Agenda Item)

James Murley - Chief Resilience Officer

DISCUSSION	Mr. Murley reintroduced the study project by reminding board members that it focuses on storm surge impacts. The original study was expected to be finalized in 3 years, but prior to that, the Mayor requested that the U.S. Army Corps of Engineers (USACE) modify the plan to reflect our County better. The original study project received a lot of questions from the community and didn't provide equal treatment to all areas of Miami-Dade County. The Mayor's request was approved by the Army Secretary, who authorized one year to develop new concepts and submit a draft recommended plan by August 2023. The Office of Resilience contracted with the design and engineering firm Moffat and Nichol to assist in designing concepts brought forward by various stakeholders, including the municipalities and SFWMD, and to help coordinate between the two USACE offices, Jacksonville, and Norfolk. Mr. Murley stated that it is critical to integrate and consider other USACE projects and studies in Miami-Dade County simultaneously. Mr. Murley then presented the two proposals created based on the week-long Charrettes held at the end of last year. The first concept is the Non-Structural Alternative which has more natural and natured based features than the old USACE plan and no structures (flood gates, walls, etc.). He shared that the primary way to handle storm surge is by elevating homes and commercial and critical structures throughout the County. He added that nature-based features don't stop the water from coming in but reduce storm surge impacts, lessening their strength. The second concept presented is the Atlantic Coastline Alternative, which has structures embedded on the barrier islands, specifically Miami Beach, using the existing dunes as protection. Beach access will not be affected by the structures. Additionally, floodgates will be built at various openings to the north and south of the barrier Islands closing off Biscayne Bay during an oncoming storm. Mr. Murley explained that the County expects two refined options accepted by the community and approved by the Mayor and eventually the Army Corps by August 2023. **Board Comments:** Cutler Bay Mayor Meerbott asked what cities can do to protect their residents and lands? Mr. Murley stated that Cutler Bay has already done a lot by purchasing land to protect Mangroves and wetlands there. Mayor Meerbott mentioned the importance of municipalities participating fully in the project process. Spencer Crowley stated that coastlines protected by mangroves fared better during Hurricane Ian and was encouraged by the Atlantic option. Roberto Torres asked for more details regarding the nature-based projects in Cutler Bay. Mr. Murley answered that the details of what we can do would depend on who owns the land. The nature-based feature of the old project included expanding the existing mangrove forest. Janek Cederberg thanked Mr. Murley for the hard work and said he liked both concepts. He mentioned the importance of phasing projects – they don't all have to happen at once. Dr. Erik Stabenau mentioned coordination with the Biscayne Bay Coastal Wetlands (BBCW) project. Nature-based features could be incorporated to improve water quality, for example, by combining Mangroves and healthy wetlands. Murley – Water quality is something that we will be working on. It isn't enough to say that we haven't made it worse. We need to look at how we are connecting these projects and how we are looking at water quality. The USACE wants to look at the comprehensive benefits, not just the benefit-cost ratio.

REASONABLE OPPORTUNITY TO BE HEARD Commissioner Danielle Cohen Higgins – Chair

DISCUSSION	Chair Cohen Higgins requested a moment of silence and then led the Pledge of Allegiance. Nancy Jackson called roll. • Rachel Silverstein, Executive Director of Miami Waterkeeper - commented positively on Back Bay Study alternatives and would like USACE to consider including septic tanks. She would like SFWMD to consider reducing herbicide spraying as the County will do. • Omar Gimenez, Palm View Island HOA President – requested County's support for canal bacteria issues around Park View Island. The University of Miami study revealed levels had exceeded acceptable limits 90% of the time. In addition, aging sanitary systems contribute to deteriorating water quality. Mr. Gimenez requested the County's support. • Audrey Siu, Miami Waterkeeper staff – complemented Chief Resilient Officer on Back Bay Study update. Attended charrettes in November and expressed concern with the USACE removing Natural and Nature-Based Features from study objectives. Ms. Siu asked that they be added back in and asked for an explanation for why they were removed. • Victoria Barkin, Miami Waterkeeper staff – thanked the County for moving forward to remove the spraying of herbicides for canal maintenance. She warned that glyphosate has negative health effects and requested that County remove glyphosate from 20% of canals still being sprayed. Mr. Barkin asked the SFWMD to follow the County's example. • Victoria Vital, Friends of Biscayne Bay staff – introduced herself to the Board as new Friends of Biscayne Bay staff. She supports natural and nature-based features (NNFBs) for Biscayne Bay and thanked the Board for their work. • Steven Leidner, Sierra Club, Bay Harbor Islands resident – expressed the need for nature-based solutions to treat water before discharges and would like to see permeable pavement and green solutions.

APPROVAL OF AGENDA Commissioner Danielle Cohen Higgins - Chair

DISCUSSION	Chair Cohen Higgins requested a motion to approve the agenda. Mayor Meerbott moved to approve the agenda, and Erik Stabenau seconded the motion. The agenda was approved unanimously.

APPROVAL OF MINUTES Commissioner Danielle Cohen Higgins - Chair

DISCUSSION	Chair Cohen Higgins requested a motion to approve the Meeting Minutes from the October 25, 2022, meeting. Mayor Meerbott made the motion, seconded by Erik Stabenau. The minutes were approved unanimously.

SPECIAL PRESENTATION Chief Bay Officer - Irela Bagué

IN MEMORIAM	Chair Cohen Higgins stated that the Advisory Board lost two members of our community that were dear to us last year and recognized the Chief Bay Officer (CBO), Irela Bagué, to present. Ms. Bagué spoke of the impact that our board member, Truman E. (Gene) Duncan, Jr., Water Resources Director of the Miccosukee Tribe of Indians of Florida, made during his lifetime. Gene was a true advocate for the environment and water quality, and we were honored to have him on our Board, though for too short of a time. Harvey Ruvin, the Miami-Dade Clerk of the Courts, was a mentor and friend to Ms. Bagué and a lifelong public servant. He spearheaded the original recommendations to save Biscayne Bay in the 1980s and remained a key advocate and friend to the Bay and the environment his entire life. A moment of silence was held in memoriam.

ANNUAL REPORT Commissioner Danielle Cohen Higgins - Chair

DISCUSSION	Chair Cohen Higgins highlighted the excellent work carried out by the CBO and the Board last year and referred to the 2022 annual report in the board packet, recommending that board members read the report. Chair Cohen Higgins requested a motion to place the 2022 BBWMAB Annual Report on the agenda of the Board of County Commission meeting as soon as possible. The motion was made by Mayor Meerbott and seconded by Spencer Crowley. The motion was approved unanimously.

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) - (Standing Agenda Item) Irela Bagué - Chief Bay Officer

DISCUSSION	Chair Cohen Higgins recognized the CBO for providing the standing update on Florida Department of Environmental Protection (FDEP) grants. Next, the CBO introduced Pamela Sweeney, Senior Water Scientist, RER-DERM, to present. Ms. Sweeney shared that DERM has had two big wins: new funding from a congressional earmark made by Congressman Gimenez to update the monitoring instrumentation (IBBEAM) at Biscayne National Park; and the Resilient Florida grant of $2.5M to implement the next phase of the West Matheson Hammock restoration project. The additional funding for IBBEAM will address a gap in our water quality monitoring regimen. The offshore component complements the Comprehensive Everglades Restoration Program's (CERP) land-based monitoring. The Environmentally Endangered Land (EEL) program includes the restoration of West Matheson Hammock. With the additional funds, DERM is tackling invasive species and illegal dumping. So far, nine acres of invasive vines have been removed while reintroducing early extinct trees into the ecosystem by planting 4,500 trees at the site. In addition, two historic tree islands, which help clean water before reaching the creek and Bay, are under restoration. **Board Comments:** Chair Cohen Higgins requested an update on recent Governor's announcements regarding Bay-related funding. The CBO shared the County received $14.5M for Septic to Sewer and suggested the BBWMAB invite Miami-Dade Water and Sewer Department to the next meeting to provide a full update on Connect2Protect, including prioritization of projects. Chair Cohen Higgins recognized the abundance of funding for Biscayne Bay and asked if the County needed additional resources for grant writing and management. CBO answered that it is all hands on deck, and other resources are always welcome, particularly when grants require matching dollars. The CBO mentioned the budgeting process as an excellent time to consider adding funding to help with those requirements. The RER DERM interim Director, Rashid Istambouli, mentioned the Mayor's Infrastructure group meetings that review potential opportunities for funding across County departments.

	Chair Cohen Higgins offered to adopt support resolutions to help departments get as much funding for the Bay as possible. Mayor Meerbott commended RER DERM for the hard work accessing grant funds.

REASONABLE ASSURANCE PLAN UPDATE - (Standing Agenda Item) Commissioner Danielle Cohen Higgins - Chair

DISCUSSION	Chair Cohen Higgins asked for an update on the Legislative session. CBO provided an update on her visit to Tallahassee and shared that our State delegation has supported introducing language to help the County become eligible for DEP's Wastewater Grant Program. She also mentioned the Governor's executive order with additional funding for water quality across Miami-Dade County. CBO asked Pamela Sweeney to provide an update on the next steps for the Reasonable Assurance Plan (RAP) development and shared the Plan of Study that the Florida Department of Environmental Protection (FDEP) and the County agreed on before finalizing the RAP. DERM staff then introduced Dr. Tony Janicki, who was added to the CDM Smith team supporting RAP development. Dr. Janicki shared with the Board that developing a RAP is the best process for the County and that FDEP recognizes that the plan leads us to cleaner water faster. In this process, we will address the entire Biscayne Bay system and the watershed that feeds into it. Dr. Janicki shared that the timeline to finalize the RAP process is 24 to 36 months. Next steps: • Identify stakeholders (cities, SFWMD) • Establish water quality targets and goals. • Develop comprehensive nutrient loading estimates (stormwater, septic, canals, and atmospheric deposition)

2023 BOAT SHOW UPDATE - (Requested by Dave Doebler) RER-DERM Staff

DISCUSSION	Dave Doebler (via Zoom) shared community concerns regarding manatees and their habitat being impacted by the Boat Show. He mentioned a lack of communication with the community during the permitting process. Applauds the community for their activism and the Boat Show reps for meeting with them. Asks that items related to this Advisory Board come to it first for open discussion. Lisa Spadfina, RER DERM, shared that the permitting items are quasi-judicial and public hearings occur at BCC meetings. All meetings are noticed, and all records are online and available to the public anytime. The County Attorney confirmed the quasi-judicial nature of these permits (Class I) and reminded the Board of their advisory role, not permitted to influence or make recommendations to specific Class I permits. The Board can only make broader policy recommendations. RER DERM also shared the sites and actions taken regarding manatee protection—coordination with MDPD marine patrol and Florida Fish and Wildlife Commission (FWC). Chair Cohen Higgins shared that she was pleased with the manatee observer program implemented last year and again this year. She participated on the water with the MDPD Marine Patrol the previous year and will do so again this year and was impressed with the level of law enforcement presence.

FUTURE AGENDA ITEMS Commissioner Danielle Cohen Higgins - Chair

DISCUSSION	Chair Cohen Higgins commented on the vacancies on the Board and acknowledged Sen. Garcia (D13), who attended earlier, and his interest in serving on the Board.

	Chair Cohen Higgins requested a full septic to sewer presentation and update, including prioritizing projects by WASD. Chair Cohen Higgins requested a legislative session update at the next meeting. Mayor Meerbott shared a list of state legislation the Town of Cutler Bay supports and mentioned the upcoming League of Cities meeting the Town is hosting. The Mayor invited the CBO to attend and provide an update on State's stormwater rules and any legislative items the County would like to share with them.

ADJOURNMENT Commissioner Danielle Cohen Higgins - Chair

DISCUSSION	Board lost quorum before noon, and the Chair could not call for adjournment. The meeting ended at 12:00 pm.

Requested Standing Updates

- Reasonable Assurance Plan
- Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study (“Back Bay”)
- FDEP Water Quality Grant Projects

BISCAYNE BAY - REASONABLE ASSURANCE PLAN
PLAN OF STUDY - OUTLINE

Miami-Dade County, in partnership with key stakeholders, have identified the need for an alternative restoration plan to address the water quality impairments that have characterized Biscayne Bay recently. The Florida Department of Environmental Protection (FDEP) allows for the development of a Category 4b - Reasonable Assurance Plan (RAP), a stakeholder-led initiative, to help meet the goal of achieving cleaner water faster than the traditional method of establishing Total Maximum Daily Loads and subsequent Basin Management Action Plans to gain compliance with the state's estuarine numeric nutrient criteria. At a recent meeting of the Miami-Dade County Board of County Commissioners, a decision to move forward with a Reasonable Assurance Plan (RAP) was passed, based on guidance from its advisory body, the Biscayne Bay Watershed Management Advisory Board.

The following provides an outline of the tasks necessary for the completion of a RAP for Biscayne Bay and identifies some of the initial data needs for RAP development, with additional data needs to be identified as the process moves forward.

Item No.	WORK ACTIVITIES*	TIME FRAME (months from Project Initiation)
1	Define RAP objective(s)	1
2	Define milestones that track progress in RAP development	2 - 4
3	Define project area – document the watershed that drains to and contributes hydrologic and pollutant loads – primarily nitrogen and phosphorus species, TSS, and BOD; develop GIS database for RAP	2
4	Define the areas within the bay for which water quality and loading targets will be developed; potential areas – WBIDs, ENRs, North, Central and South Bay segments; add to GIS database	3 - 4
5	Identify municipal, county and state agency stakeholders – develop an overlay of stakeholder boundaries that identifies the stakeholders that contribute hydrologic and pollutant loads to the bay	5 - 6
6	Define stakeholder areas – add to GIS database	2 - 4
7	Define targets in bay segments – review current estuarine NNC; evaluate recent water quality data; recommend appropriate targets; existing water quality data review including impairment assessment and existing TMDL reference documents	4 - 6

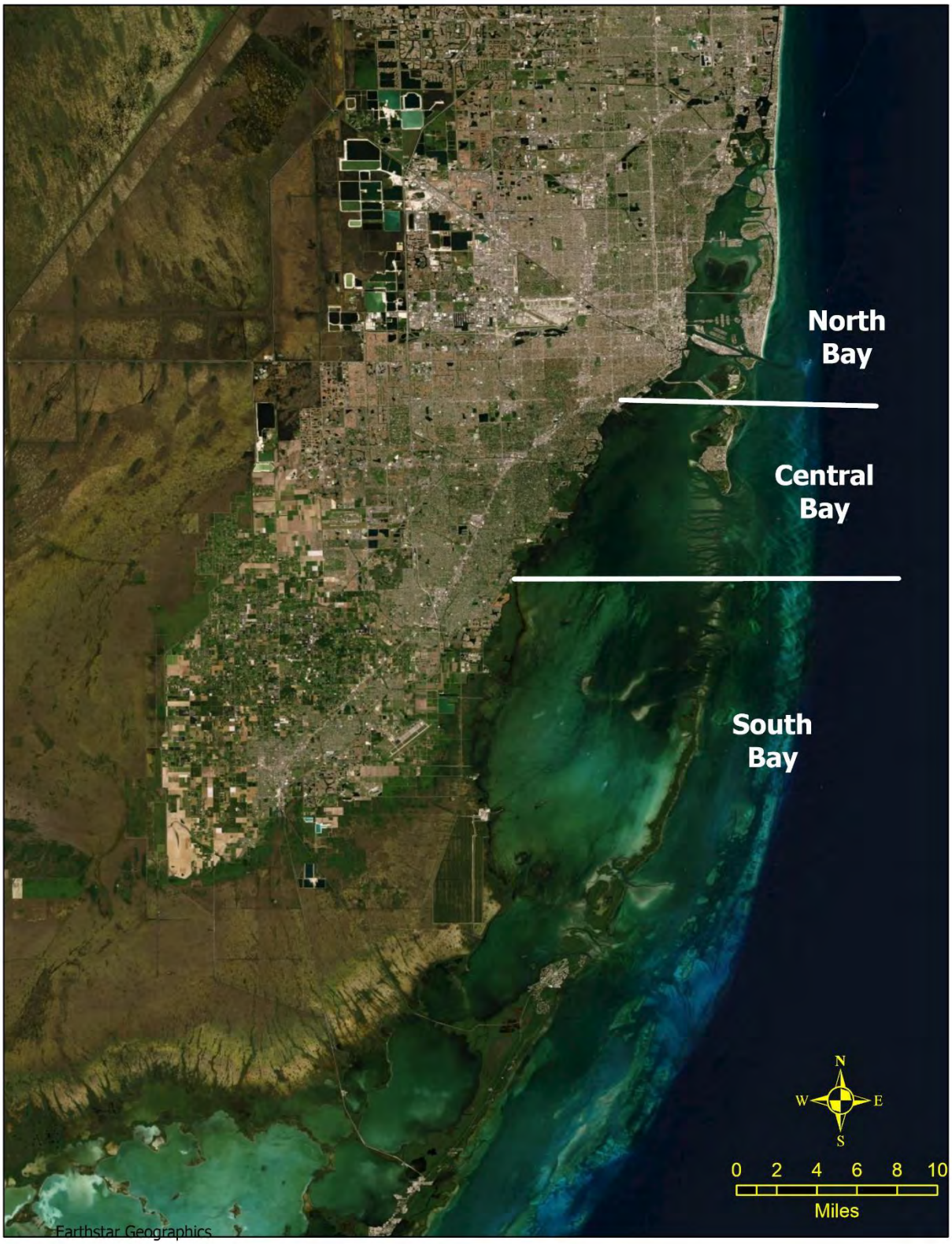
8	Identify reference period for each bay segment – i.e., the period during which water quality conditions were deemed good or acceptable	6
9	Identify key ecologic resources – seagrass and water quality conditions that provide aquatic life support in the bay	4 - 6
10	Define modeling methodology for potential nutrient loading sources	3 - 4
11	Define specific potential nutrient loading sources to the bay	4 - 6
12	• Nonpoint sources – including runoff and baseflow	10 - 12
13	• Point sources – both domestic and industrial; including reclaimed water irrigation and canal flows	10 - 12
14	• Atmospheric deposition	6 - 8
15	• Groundwater	10 - 12
16	• Septic systems	10 - 12
17	Define loading targets based on reference period, particularly nitrogen and phosphorus, to each bay area i.e., WBID, ENR, or segment	8 - 10
18	Estimate nutrient loadings to each bay area i.e., WBID, ENR, or segment.	15 - 18
19	Compare recent nutrient loading to target nutrient loadings for each bay area i.e., WBID, ENR, or segment (North, Central and South)	15 - 18
20	Estimate nutrient load reductions necessary to meet targets in each WBID, ENR or segment (North, Central and South)	15 - 18
21	Estimate stakeholder loading contributions; develop process to discretize nonpoint source loads by stakeholder	18 - 20
22	Allocate each stakeholder's load reduction	20 - 24
23	Data gathering to identify load reduction projects (Recent, and planned/future)*	6 - 18
24	Define annual reporting requirements, including development of water quality data criteria and assessment	6 - 12
25	Define 5-year reporting requirements, including previous 5-years loading estimates and assess compliance with stakeholder allocations	6 - 12
26	Develop draft RAP document	24 - 28
27	Meetings with DEP and EPA	Standing monthly meeting with DEP after Project Initiation kickoff (with other meetings as needed)

		DEP will coordinate regular meetings with EPA per EPA's guidance
28	Stakeholder meetings	Ongoing as needed, and least quarterly.
29	Miami-Dade County and Stakeholder draft RAP review	28-30
30	FDEP RAP Review and Recommendation	30-32

*Iterative process to be repeated until sufficient projects are identified to meet load reduction goals for each defined WBID/ENR or area

List of Acronyms	
BOD	Biological Oxygen Demand
ENR	Estuarine Nutrient Region
GIS	Geographic Information System
NNC	Numeric Nutrient Criteria
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
WBID	Waterbody ID

Figure 1. Draft Bay Segment Boundaries



STATUS UPDATE

RE-INITIATION OF THE MIAMI-DADE BACK BAY COASTAL STORM RISK MANAGEMENT FEASIBILITY STUDY

BISCAYNE BAY WATERSHED MANAGEMENT ADVISORY BOARD
14 APRIL 2023

Jim Murley,
Chief Resilience Officer
Miami-Dade County

Michelle Hamor - Chief, Planning and Policy Branch
U.S. Army Corps of Engineers, Norfolk District

U.S.ARMY

US Army Corps of Engineers®

MIAMI-DADE COUNTY

https://www.saj.usace.army.mil/MiamiDadeBackBayCSRMFeasibilityStudy/

Strengthening Systems Through Related Studies

Everglades (CERP & BBSEER)

'Back Bay' CSRM Study

Central and Southern Florida (C&SF) '216' Resiliency Study
emphasis on canal system

'Beach' CSRM Reauthorized in 2022
renourishment & dune enhancement

PortMiami CSRM

Key Biscayne CSRM
Combined ocean front & back bay study


PARKS & CONSERVATION LANDS


AGRICULTURE


WESTERN & SOUTHERN SUBURBS


SLOUGHS


THE RIDGE


MAINLAND BAYFRONT


ISLAND BAYFRONT


ISLAND OCEANFRONT

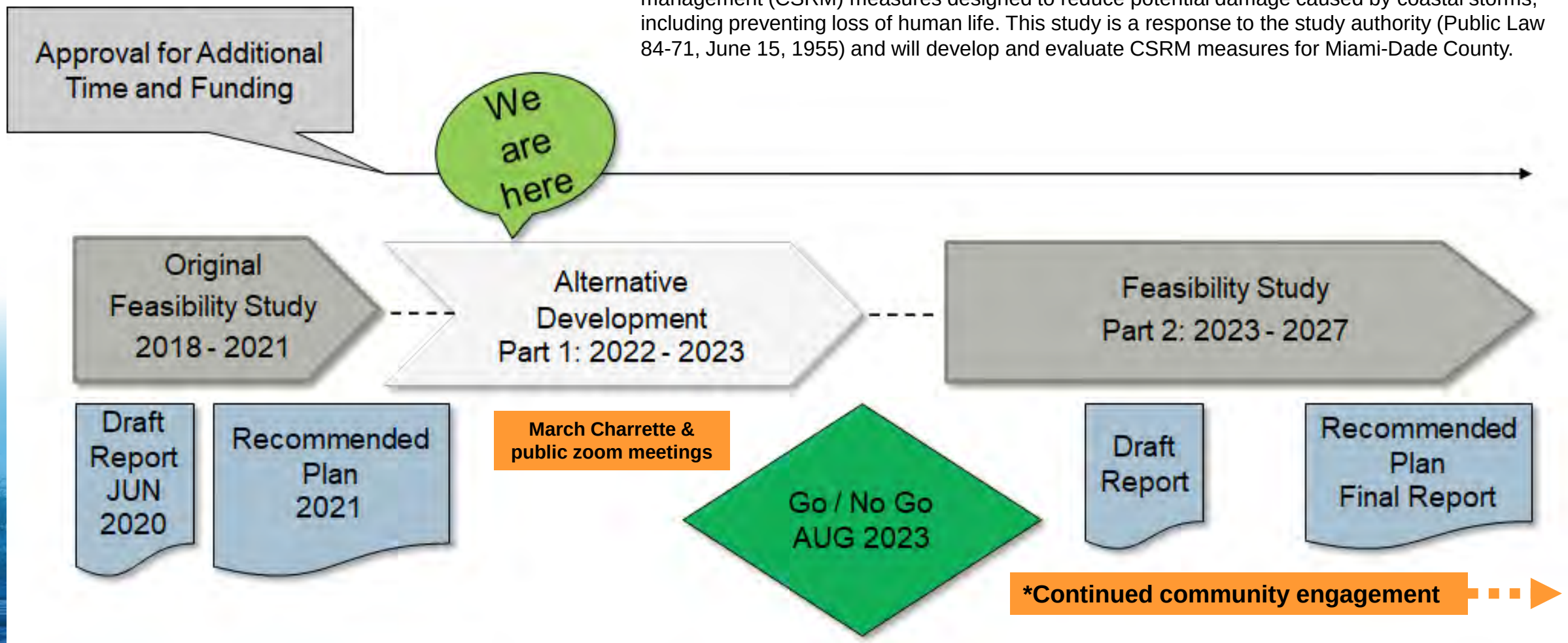

WATER

Mainland *Islands*

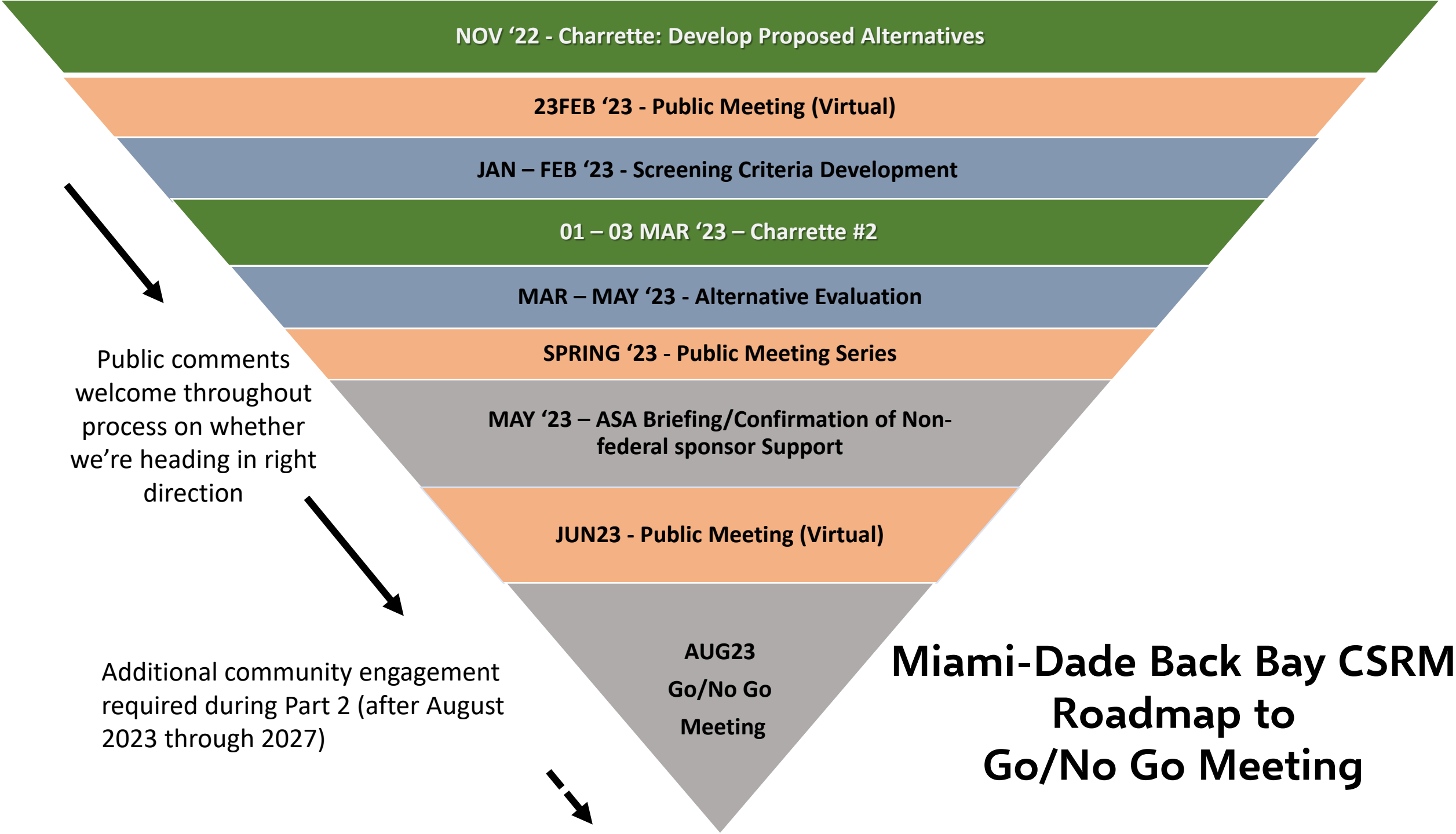
Other Efforts: SFWMD Level of Service (LOS) | County & Municipal Resilience, Stormwater Master Plans, etc. | Biscayne Bay Reasonable Assurance Plan

MIAMI-DADE BACK BAY CSRM FEASIBILITY STUDY: PAST TO PRESENT

Study Purpose: To reduce coastal storm risk through the implementation of coastal storm risk management (CSRM) measures designed to reduce potential damage caused by coastal storms, including preventing loss of human life. This study is a response to the study authority (Public Law 84-71, June 15, 1955) and will develop and evaluate CSRM measures for Miami-Dade County.



Miami-Dade Back Bay CSRM Roadmap to Go/No Go Meeting



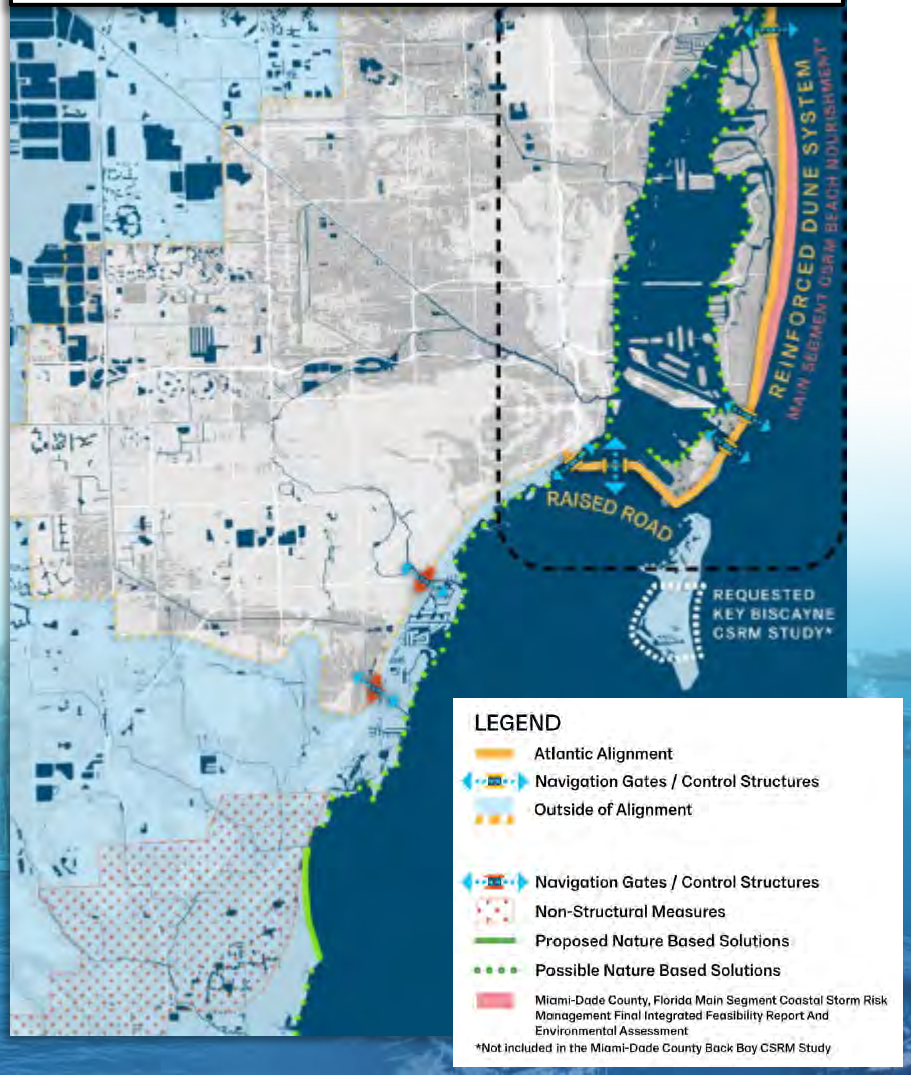
Proposed Draft Alternatives

A) Elevate & Flood-Proof Alternative (Non-Structural)

Living with more water and maximizing nature-based features

B) Atlantic Coastline Alternative

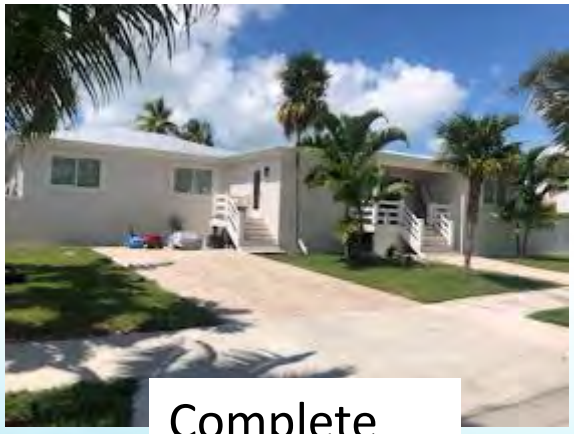
Temporary closure of storm surge structures to keep water out



‘Non-Structural’ Examples

Elevating residential structures

In-progress examples



Complete examples

*Individual projects subject to surveys, feasibility assessment, etc.

Floodproofing commercial properties

Removable flood barriers Miami-Dade County

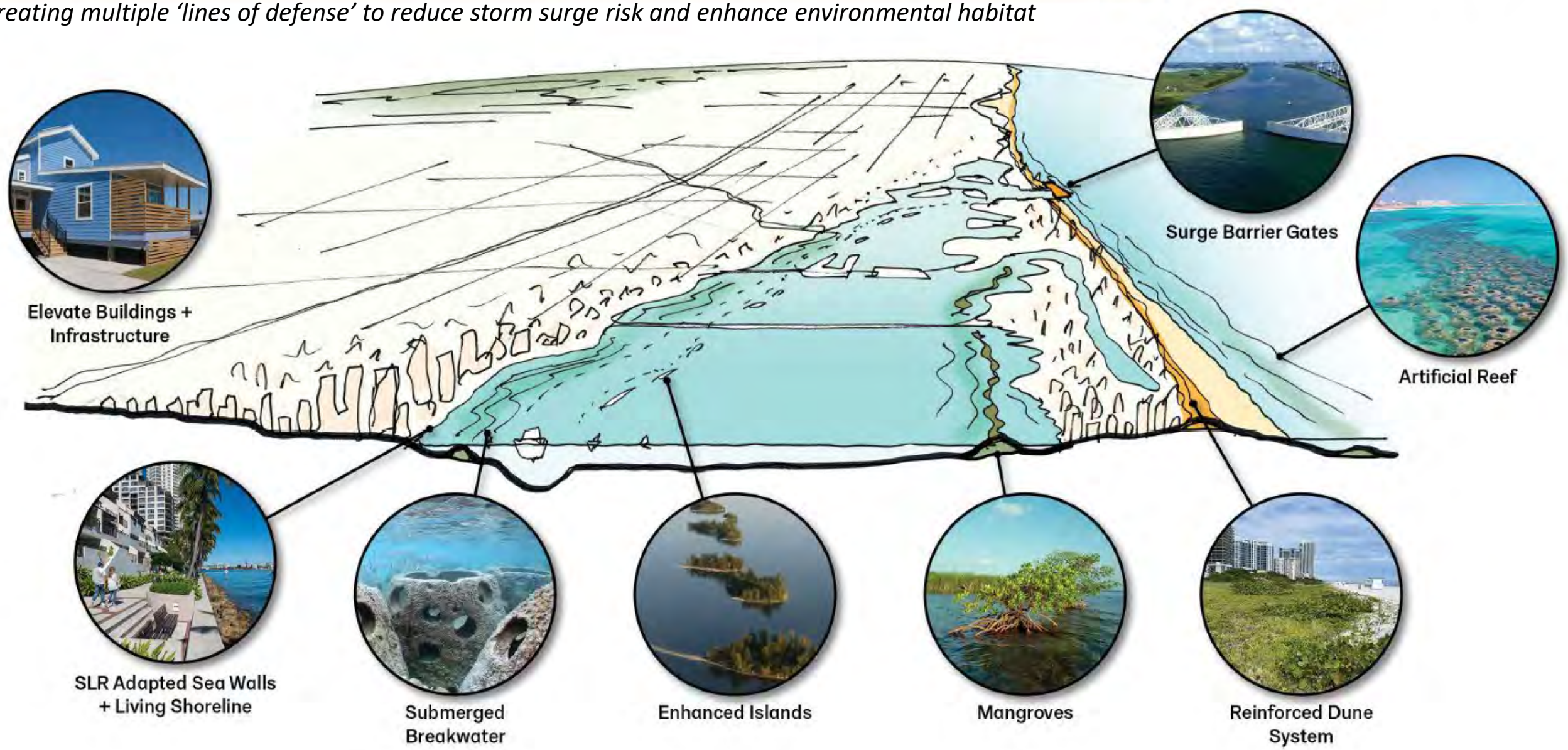
Proposed Atlantic Coastline Alternative

Illustrative concepts inclusive of November 2022 Charrette and January 2023 Meetings

MIAMI-DADE COUNTY

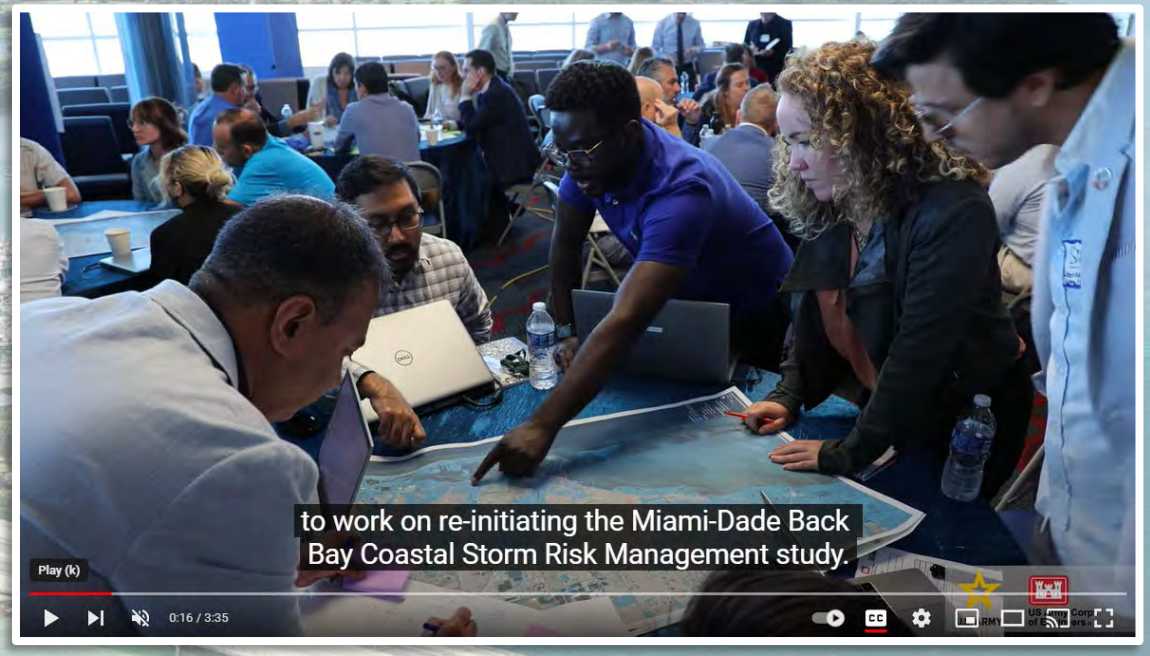
moffatt & nichol

Creating multiple 'lines of defense' to reduce storm surge risk and enhance environmental habitat



March 2023 Design Charrette

YouTube Videos & Takeaways



Scan to watch YouTube Video

https://www.youtube.com/watch?v=WFevVcID5P0

Explored range of storm surge risk reduction strategies by **creating 'Lines of Defense"**:

- hybrid reefs offshore,
- reinforced and elevated dune & beachwalk
- surge gates at inlets, line or protection for Fisher Island, Virginia Key, to Rickenbacker Cswy
- living shorelines and restored mangrove islands,
- elevation of homes & floodproofing of businesses,
- expanded restoration near Cutler Bay,
- protection of critical facilities

Scan to watch YouTube Video

https://www.youtube.com/watch?v=J_b3vTizzYU

BBWMAB Meeting Update - April 14, 2023
Stormwater & NPDES
RER-DERM-Water Management

FDEP Grants - Funded Stormwater Project Status

The County Stormwater Management Program has a number of exciting initiatives underway to address the needs of residents and the natural environment and to ensure that we work today and every day towards building a sustainable future. Clean and sufficient water is key to the success of our countywide Stormwater Management Program. Managing the surface water quality and quantity is a critical environmental strategy, especially since surface water impacts groundwater, water supply and wellfields, tidal effects, and rainfall control

- ✓ RER-DERM just awarded the Biscayne Bay Water Quality Characterization and Pollution Reduction contract to test the use of innovative technologies to treat stormwater before discharging to the Little River Canal (C-7 Basin). These innovative applications and testing of new technologies is part of on-going activities being implemented leveraging a State DEP $3.3 million grant with a 15% local match. The Pre-Construction Meeting was held on March 31, 2023 and Notice to Proceed is anticipated to be issued in April. Pre-installation sampling has been completed. The system is being cleaned/CCTV the week of April 3rd, and resampled one more time before construction starts

- ✓ The design has been completed and permitting is underway for the improvements to the stormwater Biscayne Shores Pump Station No. 3, and design is underway for a new stormwater pump station, Lake Belmar Pump Station. These pump station projects totaling over $4.5 million are located in the C-8 and C-7 Basins, respectively. RER-DERM is funding construction of these stormwater pump station improvements by leveraging two State DEP Resilience grants totaling $2.25 million with a 50% local match. Construction awards are anticipated by fall 2023

- ✓ RER-DERM will be bidding design-build contracts totaling $32 million to raise secondary canal banks to meet 2060 hydraulic and hydrologic requirements. These projects will increase the Level of Service to 25 YR/72 HR for 2060 scenario with Sea Level Rise (stormwater storage) for the network of secondary canals in the C-7 and C-8 Basins, respectively. These projects are being implemented by leveraging three State Resilience DEP grants of over $16 million with a 50% local match. Awards are anticipated by the fall of 2023

Other Project Status

- ✓ RER-DERM has scheduled a May 24, 2023 bid opening for the first contract of a new multi-year effort, Secondary Canal Maintenance Mechanical Harvesting of Drainage Canals. With this initiative, the County will be increasing up to 80% the maintenance of the network of secondary canals (i.e. 160 of the 200 miles of secondary canals countywide) using mechanical harvesting. The balance of the canals will need to continue to be treated with approved chemicals due to physical constraints and access challenges. This is, however, a significant departure from the current maintenance procedures that rely on only chemicals to supplement manual removal of aquatic weeds. In addition, this same contract

includes the installation and testing of booms to collect floating debris from secondary canals. The County has coordinated with the South Florida Water Management District to identify new products and select systemwide locations for boom installation. Maintenance cycles will also be optimized to decide on future boom deployments in the network of secondary canals. These activities are fully funded by the County's Stormwater Utility

New Cycle 5 NPDES Permit Status

- ✓ FDEP staff discussed the draft cycle 5 permit during the quarterly teleconference on January 25, 2023
- ✓ Permittees were offered an opportunity to provide comments on the draft permit until February 22, 2023
- ✓ According to FDEP staff as of the end of March, FDEP has received a significant number of comments, and they are currently going through them
- ✓ Per FDEP, it may take more than a couple of months for FDEP to come up with the next version of the draft permit (estimated for after May 2023)
- ✓ It is expected that co-permittees may be submitting an NPDES year 6 annual report next year, due to compliance issues and consent agreements with some of other NPDES co-permittees
- ✓ It is expected that all permittees will have the same permit language starting with the new permit (including City of Miami and Hialeah)

Update on Stormwater Management Standards

- ✓ RER-DERM has been focusing on updating the County code that works together with Federal and State standards and is used to design, permit, construct and operate stormwater management systems
- ✓ Below is the status of recent legislative changes related to stormwater management:
    - Adopted in October 2022; changes to Chapter 11C (coordinated and approved by the State DEM team, needed for a class improvement in the County CRS Program)
    - Adopted in October 2022; updated the new County Flood Criteria which implements 2060 resilience elevation requirements for future conditions with Sea Level Rise. Changes apply to developed properties, roads, secondary canal banks and seawalls
    - Adopted in October 2022; updated the County Water Control Map for the network of secondary canals countywide. Implements 2060 resilience requirements for canal bank elevation, storage and conveyance to increase Level of Service from a

10 YR/24 HR rating to a new 25 YR/72 HR scenario for 2060 with Sea Level Rise

- Currently ongoing, estimated adoption for 2023; impervious ordinance update; key ordinance changes are being done to Chapters 24, 33.and 8 of the County code;
    - Revising standards and procedures for drainage and changes to impervious areas (reviews, minimum retention, requirements for technical engineering analysis/data/sources, use of green/pervious areas to satisfy minimum retention requirements for water quality)
    - Explicit requirement that post-development stormwater impacts and runoff be limited to pre-development levels
    - Direct discharges may be prohibited when they result in discharges of sediment into waterways, off-site, or into stormwater infrastructure where such discharge impacts the flow or degrade water quality
    - Further related to water quality, requiring the stricter of: post-development loads not exceeding pre-development levels, or setting minimum post development pollutant reduction based on average annual loading, or post development pollutant load not causing water quality violations in the receiving water bodies
    - For outfalls to Biscayne Bay, surface waters that have been designated as outstanding Florida waters, canals and tributaries, a minimum retention and detention system performance is established along with a post-development pollutant reduction
    - Public row projects not part of a subdivision have minimum additional standards established for water quantity and water quality
    - Erosion and sedimentation controls are established for construction projects
    - Standards are established to use up-to-date current and future design seasonal groundwater elevations for engineering analysis and design
    - Establishing a re-certification standard for stormwater infrastructure. The re-certification process calls for meeting chapter 24 requirements and committing to correcting any deficiencies found
    - Annual submittal requirements for operating records (including asset inventory, infrastructure mapping data, maintenance records)

- Currently ongoing, estimated adoption for 2023; key ordinance changes are being done to Chapters 28 of the County code; changes related to stormwater management and infrastructure in subdivisions;
    - Revises standards for drainage plans
    - Requirement that the drainage systems serving new development not be allowed to impact existing or proposed public stormwater systems, or to impact adjacent properties (upstream and downstream)
- Currently on-going, estimated adoption in 2024 Stormwater Utility Ordinance; key ordinance changes are being done to Chapters 24 of the County code;
    - More equitable collection of revenue for the Stormwater Management Program
    - Also considering expanding countywide activities that can be shared in support of municipalities to fulfill their own stormwater management responsibilities

Upcoming Municipal Discussions

- ✓ County currently working on coordinating meeting ahead of the upcoming rainy season like the one held last year

SW Asset Management System

- ✓ Currently on-going; integration of the existing County stormwater infrastructure mapping (GIS) data set into the County's Asset Inventory Management system. FDOT and Municipal infrastructure information included in the County's data is to be available as well
- ✓ County ITD is going out with an RFP to obtain LIDAR and imagery data to locate the traffic and roadway assets for which an inventory does not exist at this time; that effort will likely take through the second half of 2024
- ✓ That asset information is to be integrated with the County Asset Management system as well
- ✓ Ultimately, the goal is for the inspections as well as the maintenance of the stormwater infrastructure to be recorded through the asset management system, estimated for completion for 2025

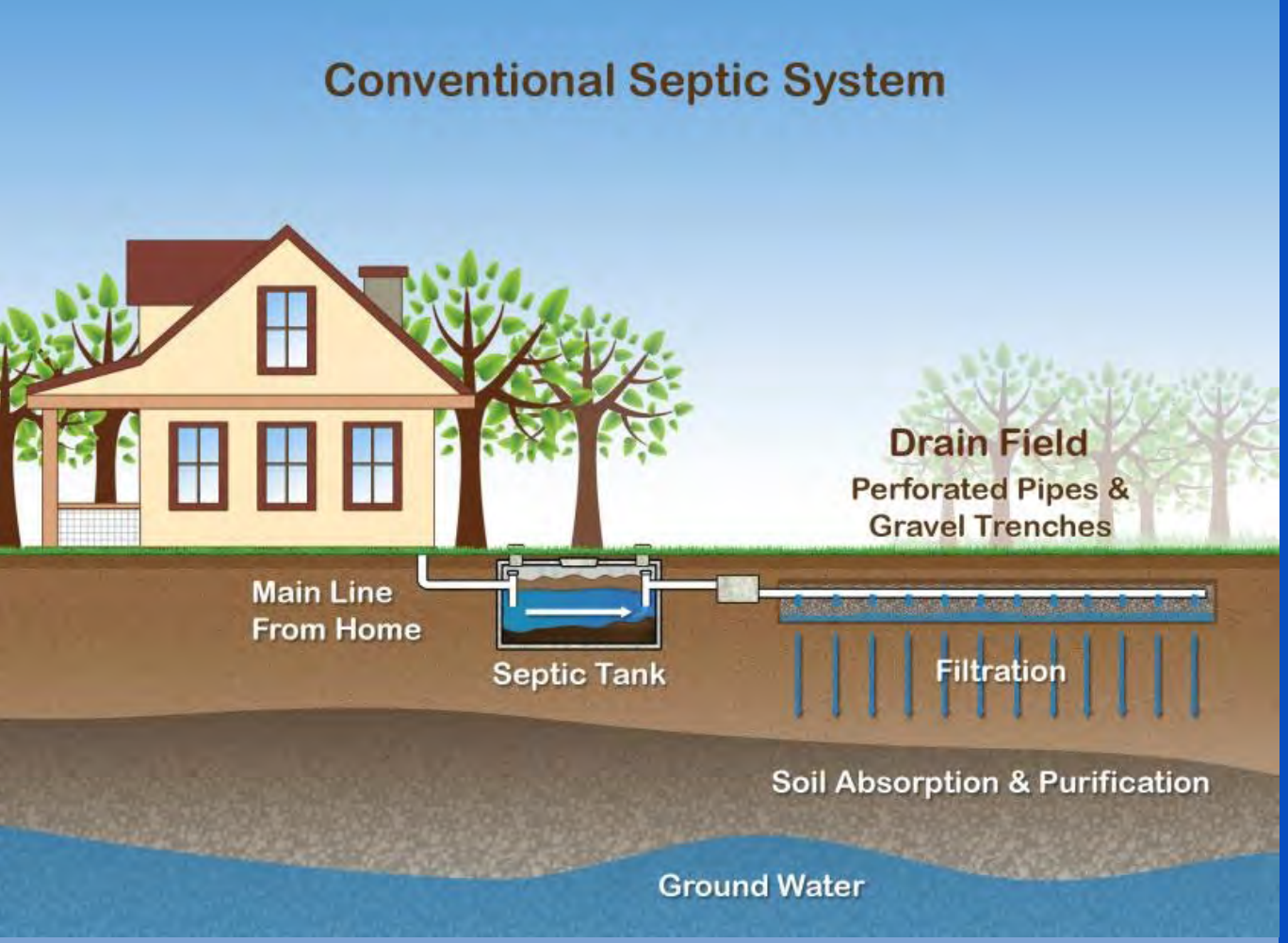
CONNECT TO PROTECT OVERVIEW AND PROGRAMMING

April 2023

AMANDA KINNICK,
CHIEF OF STAFF

CONNECT 2 PROTECT

miami-dade water



HOW DO SEPTIC TANK SYSTEMS WORK?

CONNECT 2 PROTECT

miami-dade water

Less Frequent

More Frequent

Storm Surge

Rise in ocean water levels from coastal storms

Flooding from Canals

Overtopping of canal banks from heavy rains, and higher than normal high tides in coastal areas

Tidal Flooding

Higher than normal high tides which may occur absent storm conditions and compromise drainage infrastructure

Saltwater Intrusion

Movement of saline ocean water into freshwater acquirers

Groundwater Flooding

Elevated groundwater tables due to rising tides

Stormwater Flooding

Caused by heavy rains overwhelming drainage infrastructure and natural percolation

Shoreline Erosion

Loss of beach sediment due to natural processes and accelerated by sea level rise and heavy storms

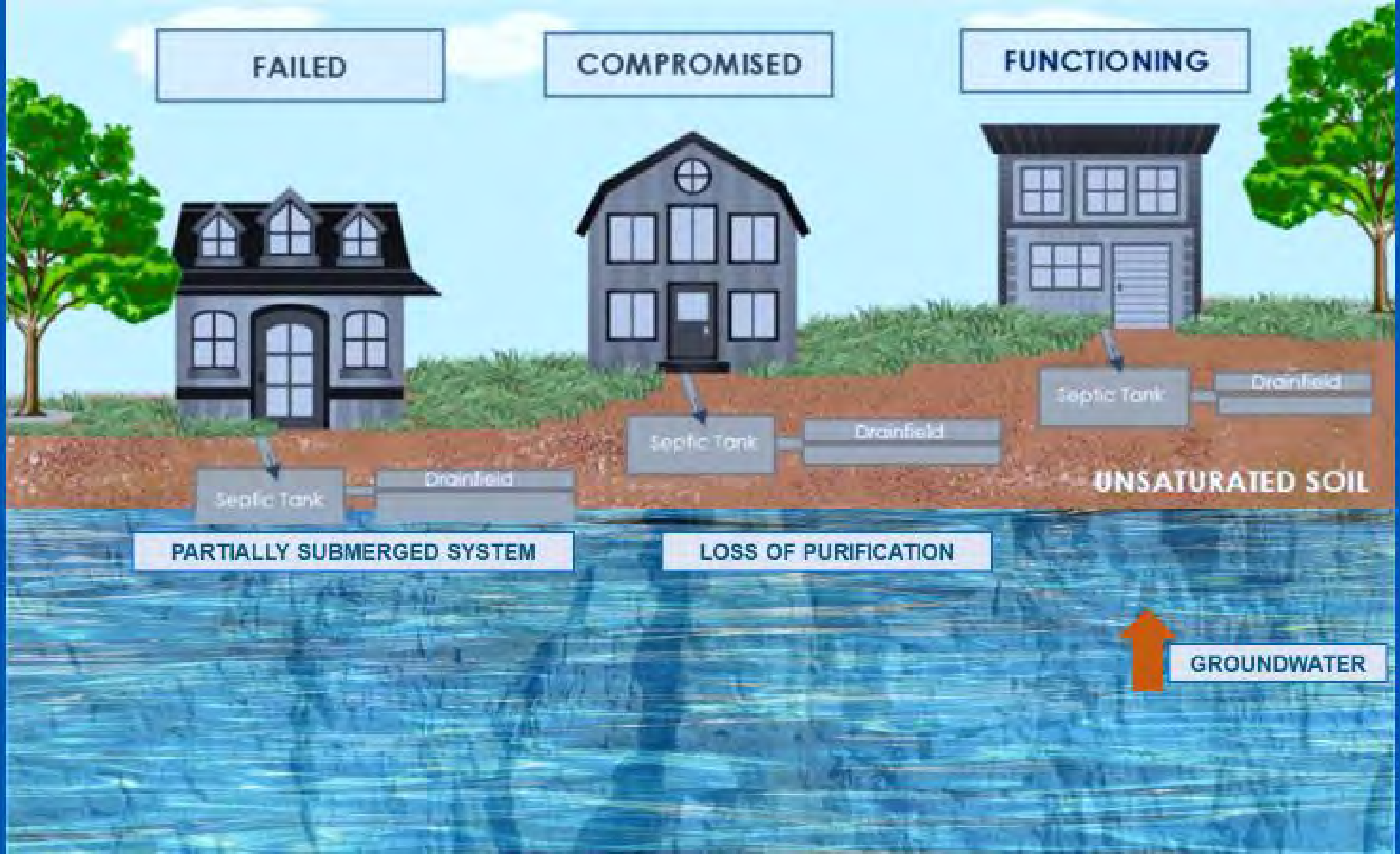
Waves

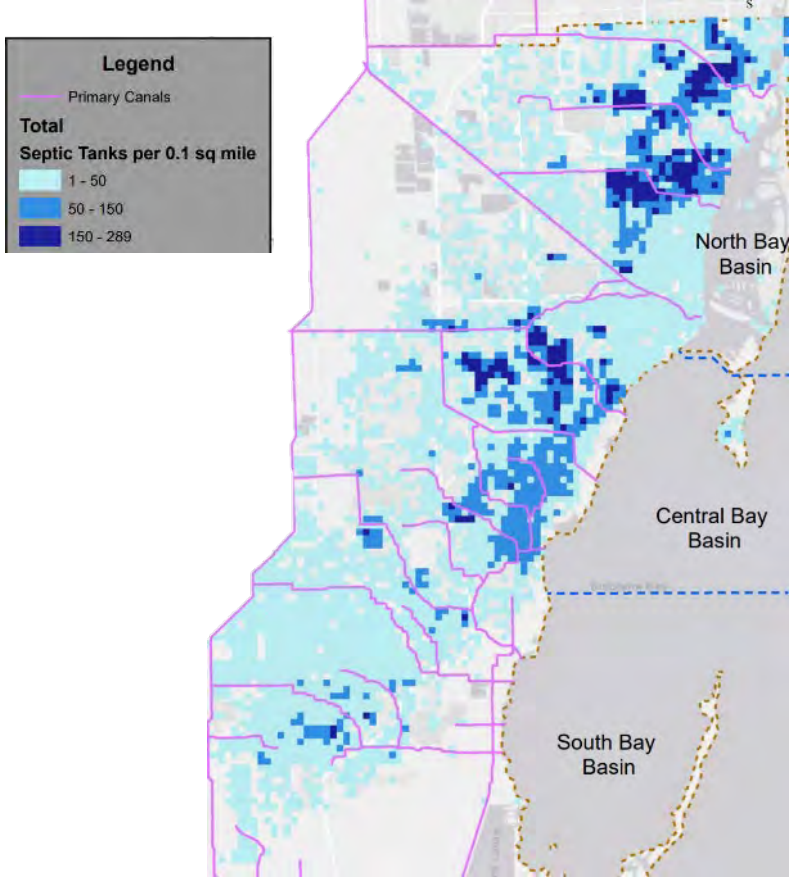
Ocean waves can lead to erosion and cause damage to structures during storm events

WHAT DOES IT MEAN THAT A SEPTIC TANK SYSTEM IS "VULNERABLE" OR "FAILING"?

CONNECT 2 PROTECT

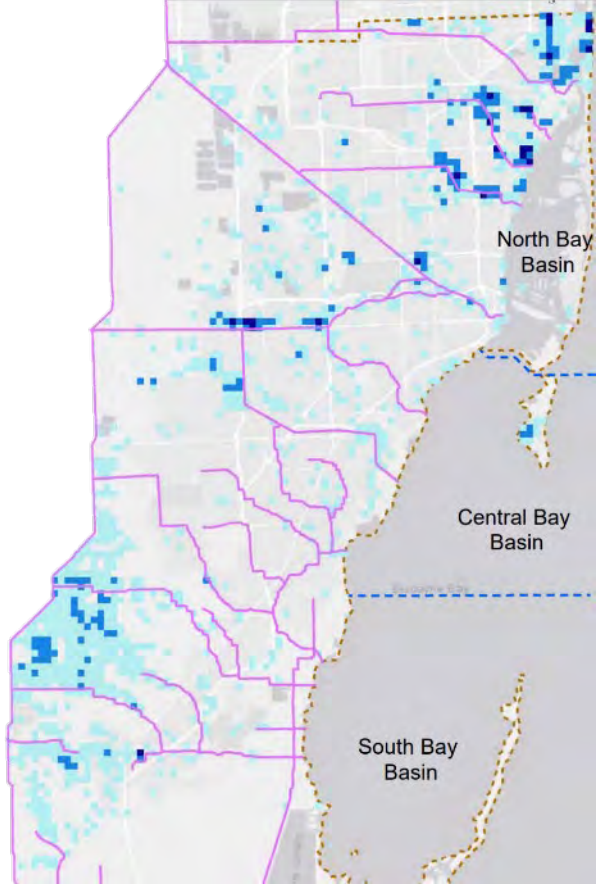
miami-dade water


FAILED
COMPROMISED
FUNCTIONING
Septic Tank
Drainfield
Septic Tank
Drainfield
Septic Tank
Drainfield
UNSATURATED SOIL
PARTIALLY SUBMERGED SYSTEM
LOSS OF PURIFICATION
GROUNDWATER



Septic Tank Systems

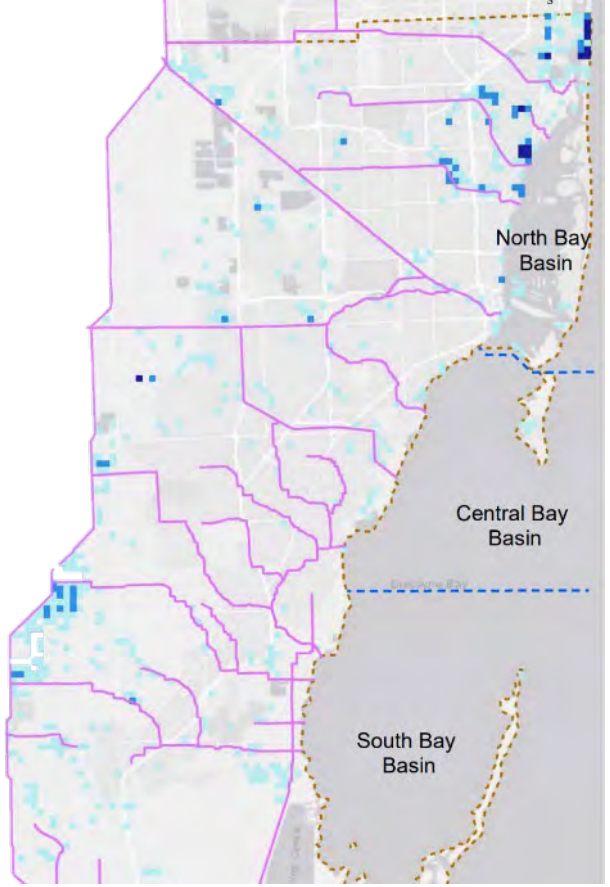
~120,000 Countywide



Compromised Septic Tank Systems

2020: ~2,000
2040: ~3,500

Loss of purification



Failing Septic Tank Systems

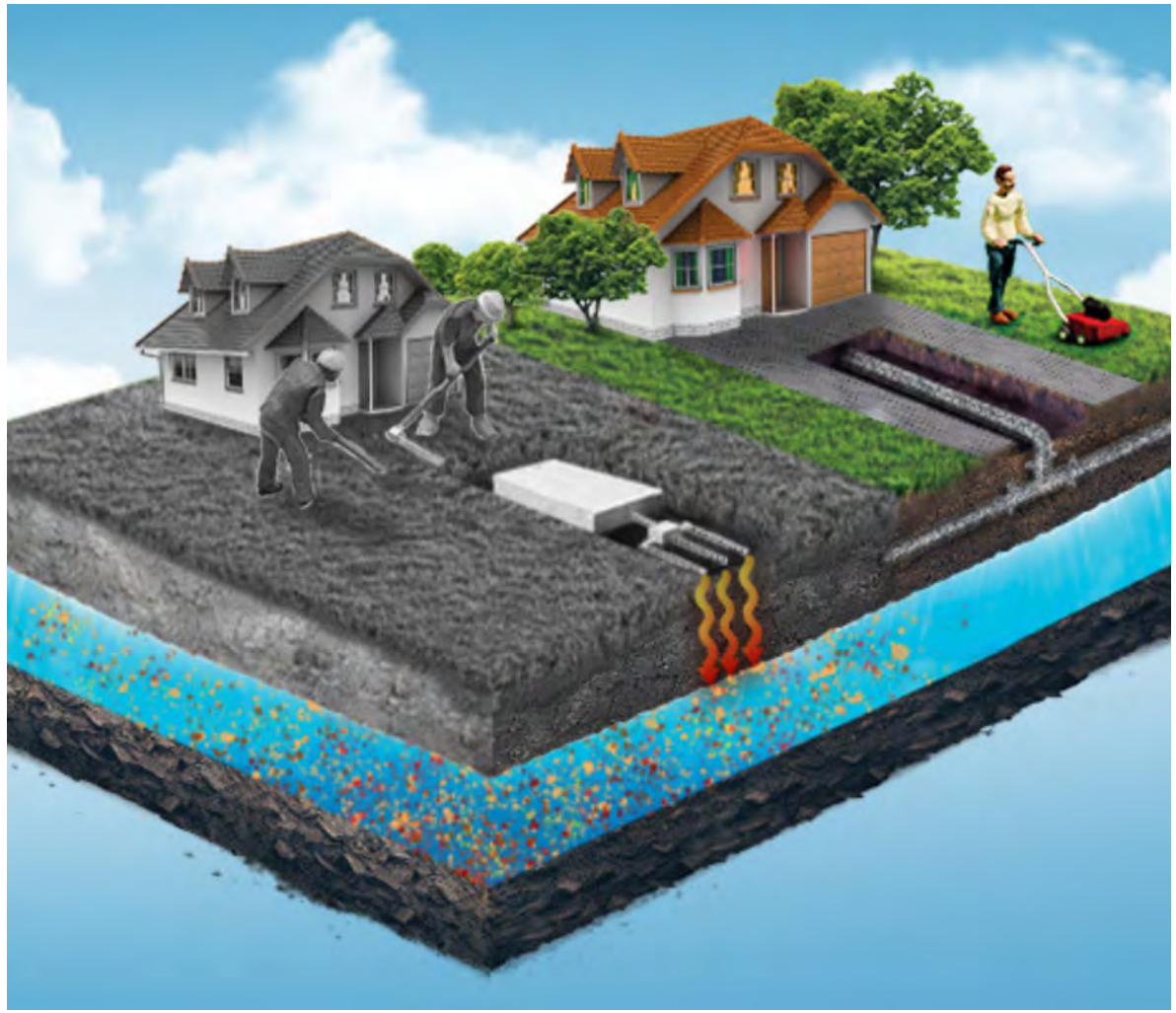
2020: ~7,000
2040: ~10,500

Partially submerged system

WHAT ARE THE BENEFITS OF CONNECTING?

CONNECT 2 PROTECT

miami-dade water



- Protect your home from damage, reduce maintenance, and get more use from your yard
- Protect your health from exposure to overflows and septic effluent in flood water
- Protect our natural resources including drinking water and surface waters such as Biscayne Bay!

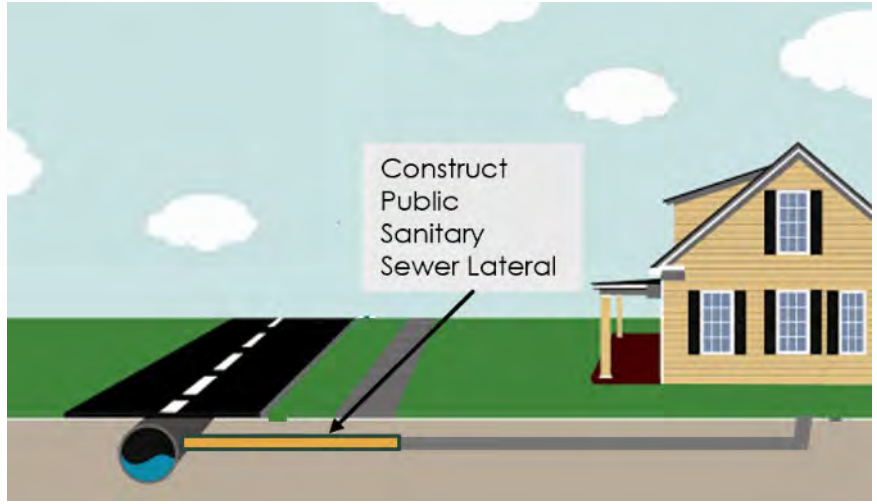
miami-dade water

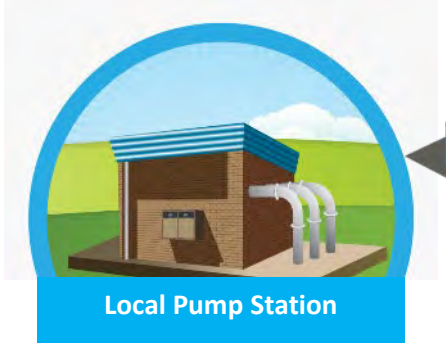
HOW MUCH DOES IT COST TO CONNECT TO THE SANITARY SEWER SYSTEM?

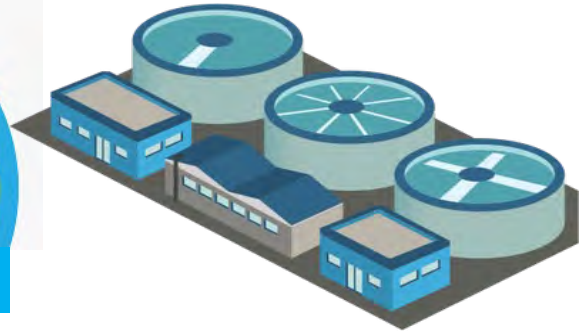
CONNECT 2 PROTECT

miami-dade water

Properties Abutting Existing Sewer Without Sewer Lateral Available	Properties with no Access to Sewer
Total Cost: ~$15,000 - $20,000	Total Cost: ~$50,000- $55,000
Private property costs include plumbing, septic tank abandonment, and associated permits $7,500 - $15,000	



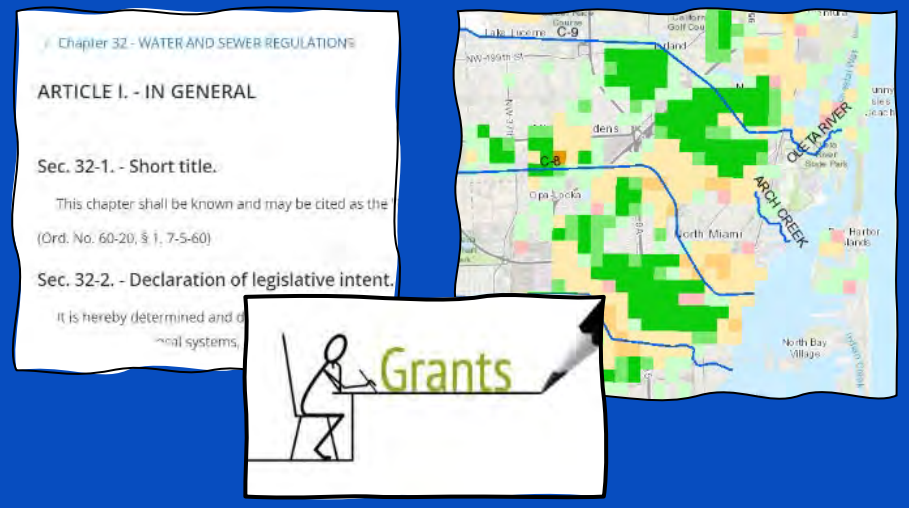




PROJECTS UNDERWAY

CONNECT 2 PROTECT

miami-dade water



- Implementing sewer expansion projects
- Seeking funding and finance tools
- Prioritizing areas for sewer expansion
- Working with municipalities on planning and funding efforts
- Updating ground/surface water models
- Enhancing water quality sampling (RER-DERM)
- Modifying supporting policies (RER-DERM)

miami-dade water

Little River Adaptation Action Area

Miami-Dade County/Florida Department of Environmental Protection Joint Funding

Connection of approximately 370 homes

- Installation of sewer laterals along NE 87th Street
- Sewer system expansion to Larchmont Gardens

The projects were identified through an ongoing planning process for the Little River Adaptation Action Area (AAA). The County is using the AAA planning tool to address issues in areas most vulnerable to sea level rise. In 2011, the Florida Legislature created this designation tool for local government comprehensive plans (S.163. 3177 Florida Statutes).

Projects Underway

Commercial Corridor Connection Program

- $126 Million
- ~1,000 properties
- Miami-Dade Building Better Communities General Obligation Bond (GOB)
- 35 projects in key commercials:
  - Green Technology Corridor (NW 37 Ave)
  - NW 7th Ave.
  - NW 27th Ave.
  - NW 22nd Ave
  - NW 79th St.

Ojus Urban Area District Project

- Special Benefit Area – cost assessed to the property owners at their request
- Located in NW Miami-Dade County between Biscayne Boulevard and the Oleta River
- ~100 properties

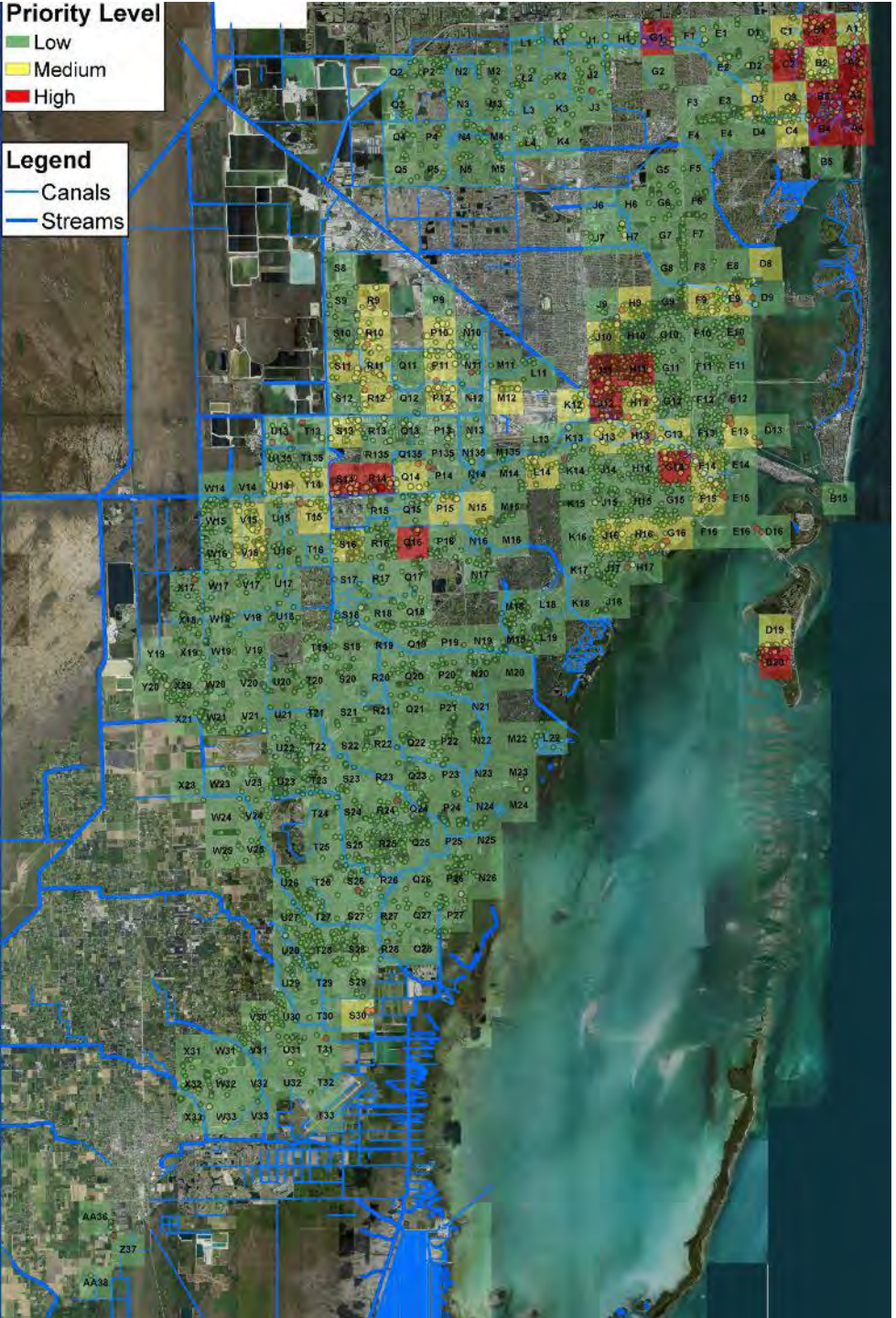
PHASE I

Connect 9,000 septic tanks systems abutting existing sanitary sewer infrastructure

- starting with those most vulnerable to elevated ground water levels
- residents with properties abutting sewer can also request a sewer lateral

Phase	Properties	Approximate Cost	Funding	Implementation
I	9,000	$90 Million	WASD Revenue Bonds	1-5 years

- Implementable in immediate/short term
- FY 22-23 includes $9 Million in funding
- Funding does not include private property connection and septic tank abandonment



Moving Forward: Connect 2 Protect Prioritization

WASD is currently working on the planning, design, permitting and construction of 9,000 laterals throughout Miami-Dade County's sewer service area.

The map at left shows prioritization by vulnerability, with each square representing a square-mile.

- Green squares are areas of low vulnerability
- Yellow squares are areas of medium vulnerability
- Red squares are areas of high vulnerability

TIMELINE FOR PROJECTS INITIATION

- 2022 - January

- Connect 2 Protect Groundbreaking, Little River, East & West
- 40 properties

- 2022 - August

- Ojus Groundbreaking
- 100 Properties

- 2023 - March

- Little River System Expansion
- 300 Properties

- 2023 - May

- Countywide Lateral Program
- 1,400 Properties

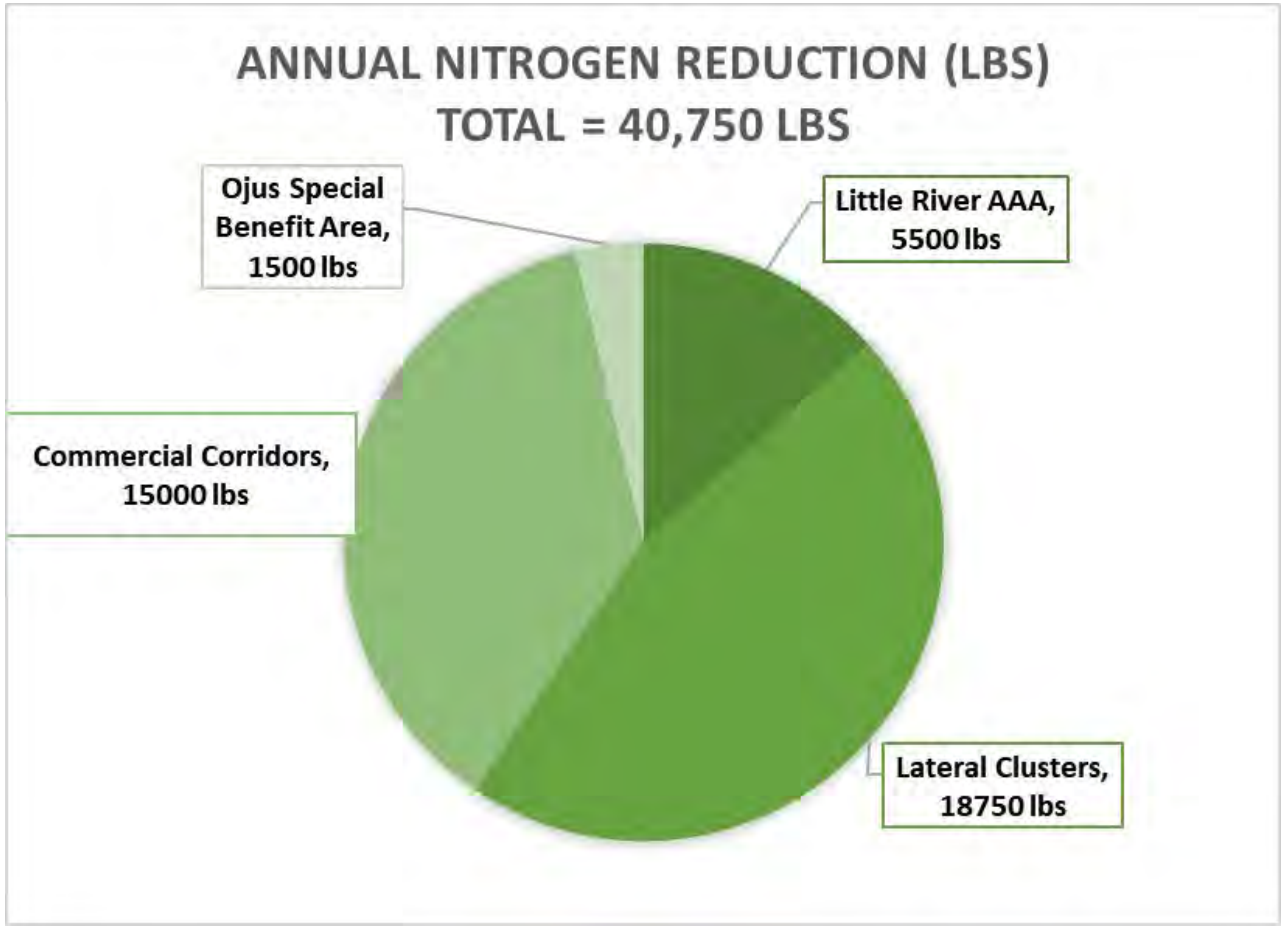
- 2023 - July

- Commercial Corridors
- 1,000 Properties

CONNECT 2 PROTECT

miami-dade water

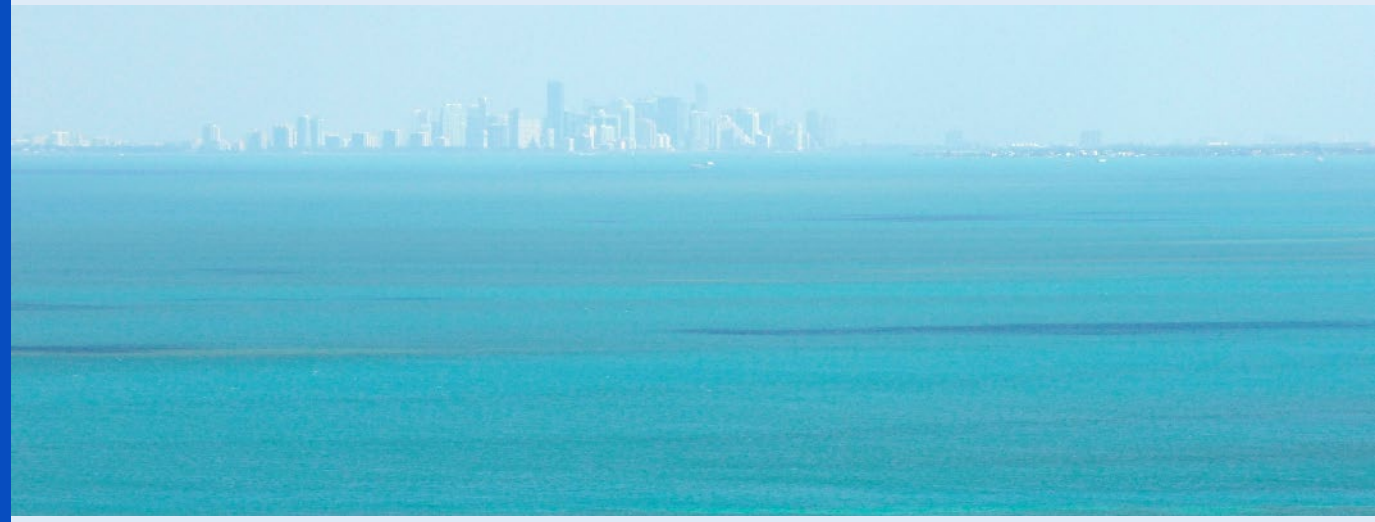
EXPECTED OUTCOMES OF PROJECTS UNDERWAY



CONNECT 2 PROTECT

miami-dade water

WHAT'S NEXT?



CONNECT 2 PROTECT

miami-dade water

PHASES 2 & 3

- Extend sanitary sewer infrastructure to properties within WASD's service area currently served by septic tanks

PHASE	PROPERTIES WITHIN WASD SEWER SERVICE AREA	APPROXIMATE COST	FUNDING	IMPLEMENTATION
2	9,200 vulnerable by 2040	$500 million	-	3-7 years
3	90,000 remaining	$4 billion	-	30+ years

- Unfunded - establishment of funding model required
- The establishment of a recurring revenue stream (user fee or similar) to fund infrastructure for septic to sewer conversion, along with supplemental state and federal funding, connection of all properties on septic is possible over a multi-decade horizon.
- Other options include GOB funding, special taxing districts, etc.
- $4 billion in investment requires an annual debt service of approximately $200 million per year (at today's rates) to fund

FUNDING SOURCES

Public Infrastructure Funding Sources
General Obligation Bonds
Special Taxing Districts
Grant Funding (State of Florida Resilient Florida and Clean Water Grants, Federal Grants, others)
Surtax or User Fee
Private Property Funding Sources
Solar Energy Loan Fund (http://www.miamidade.gov)
Traditional Home Equity Loans
Community Development Block Grant Funding

GRANT FUNDING – More than $250 Million Awarded

Grant Program Name	Amount Awarded	Status
Water Resources Development Act (WRDA)		
Water Resources Development Act (WRDA) of 2022 - sewer system expansion	$ 190,000,000.00	Authorized by Congress
FDEP Biscayne Bay Water Quality Grant Program		
Connect to Protect // Little River Adaptation Action Area (Funding Year 1)	$ 4,900,000.00	In Construction
Connect to Protect // El Portal (Funding Year 2)	$ 6,700,000.00	Approved Work Plan
Connect to Protect // Future PS Basin along Little River (Funding Year 3)	$ 14,500,000.00	Award Notification
Resilient Florida Grant Program		
Resilient Florida Grant - Schenley Park Septic to Sewer Conversion	$ 27,500,000	Award Notification
Federal Appropriations (Earmark) Requests - 2021		
Sewer Laterals; Sponsor: Diaz-Balart	$ 750,000	Award Notification
Install Pump Station; Sponsor: Salazar	$ 1,600,000	Award Notification
Federal Appropriations (Earmark) Requests - 2022		
Assist Property Owners with connection cost; Sponsor: Mario Diaz-Balart	$ 3,000,000	Award Notification
Assist Property Owners with connection cost; Sponsor: Gimenez	$ 1,500,000	Award Notification
Expand Sewer to El Portal and Miami Shores; Sponsor: Federica Wilson	$ 3,452,972	Award Notification
Federal Appropriations (Earmark) Requests - 2023		
Connect to Protect – Assisting Property Owners to Convert; Sponsor: Federica Wilson	Requested $3,000,000	pending sponsorship
State Appropriations (Earmark) Requests 2023		
Connect to Protect – Assisting Property Owners to Convert; Sponsor: Representative Alex Rizo	Requested $1,000,000	award announcement pending
Miami-Dade Sewer Connection Assistance Schenley Park Neighborhood; Sponsor: Representative Juan Fernandez-Barquin (HB1524)	Requested $2,000,000	award announcement pending
Miami-Dade County Bird Road West Sanitary Sewer Extension; Sponsor: Representative Alina Garcia (HB 862)	Requested $2,000,000	award announcement pending

…as fellow community members

Check to Protect - Please properly maintain your septic system. It will add years to its service life, keep problems at bay and save you money. But when you neglect septic system maintenance, the system is sure to fail and become a threat to your family's health, to your wallet and to our environment. For tips on how to Check to Protect your septic system and to find a permitted service professional, visit the Department of Regulatory and Economic Resources' Septic System Care page at https://www.miamidade.gov/global/economy/environment/septic-system-care.page

Connect with us by taking the C2P Survey! - We want to hear from you to improve our planning as we develop new projects

https://www.miamidade.gov/global/water/connect-to-protect-septic-to-sewer.page

THANK YOU

CONNECT 2 PROTECT

miami-dade water

Miami-Dade County

RER

SSOP[4]

Sanitary Sewer Overflow Prediction and Prevention Pilot Plan

DERM

Carlos L. Hernandez, PE, CFM, LEED AP, CEHP

Miami-Dade County SSOP[4]

Minimize SSOs

- Protect public health,
- Protect Property Values,
- Protect Development,
- **Protect Environmental Resources,…**

BISCAYNE BAY!

Miami-Dade County

SSOP[4]

Minimize

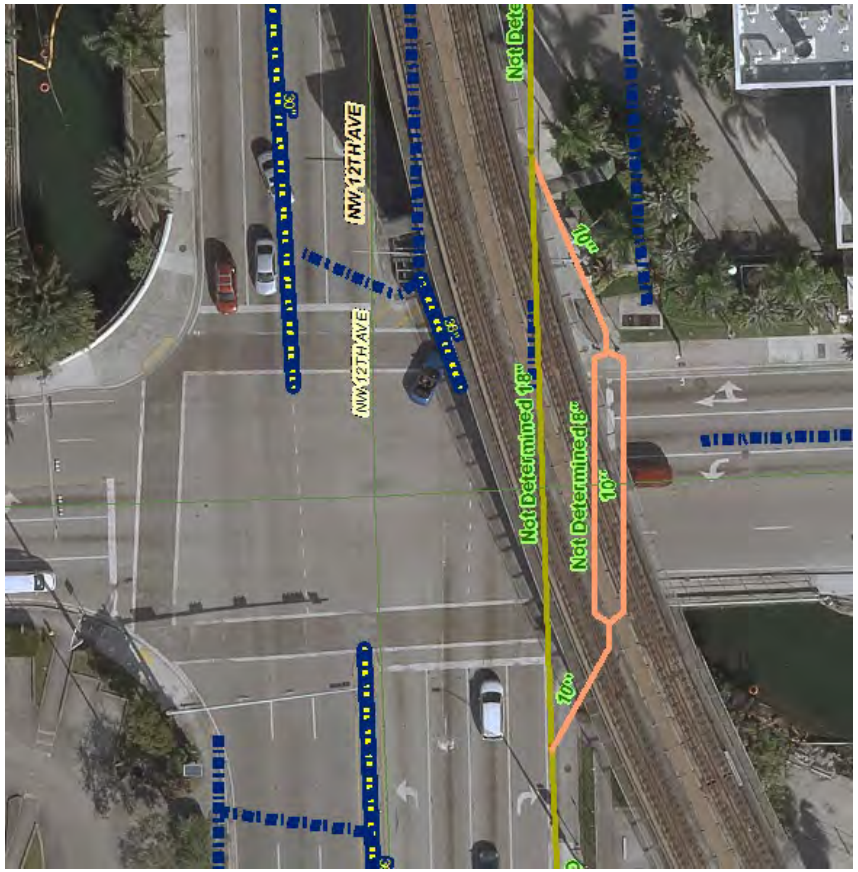
SSOs

- Protect public health,
- Protect Property Values,
- Protect Development,
- **Protect Environmental Resources,…**

BISCAYNE BAY!

Miami-Dade County

SSOP[4]



Minimize

SSOs

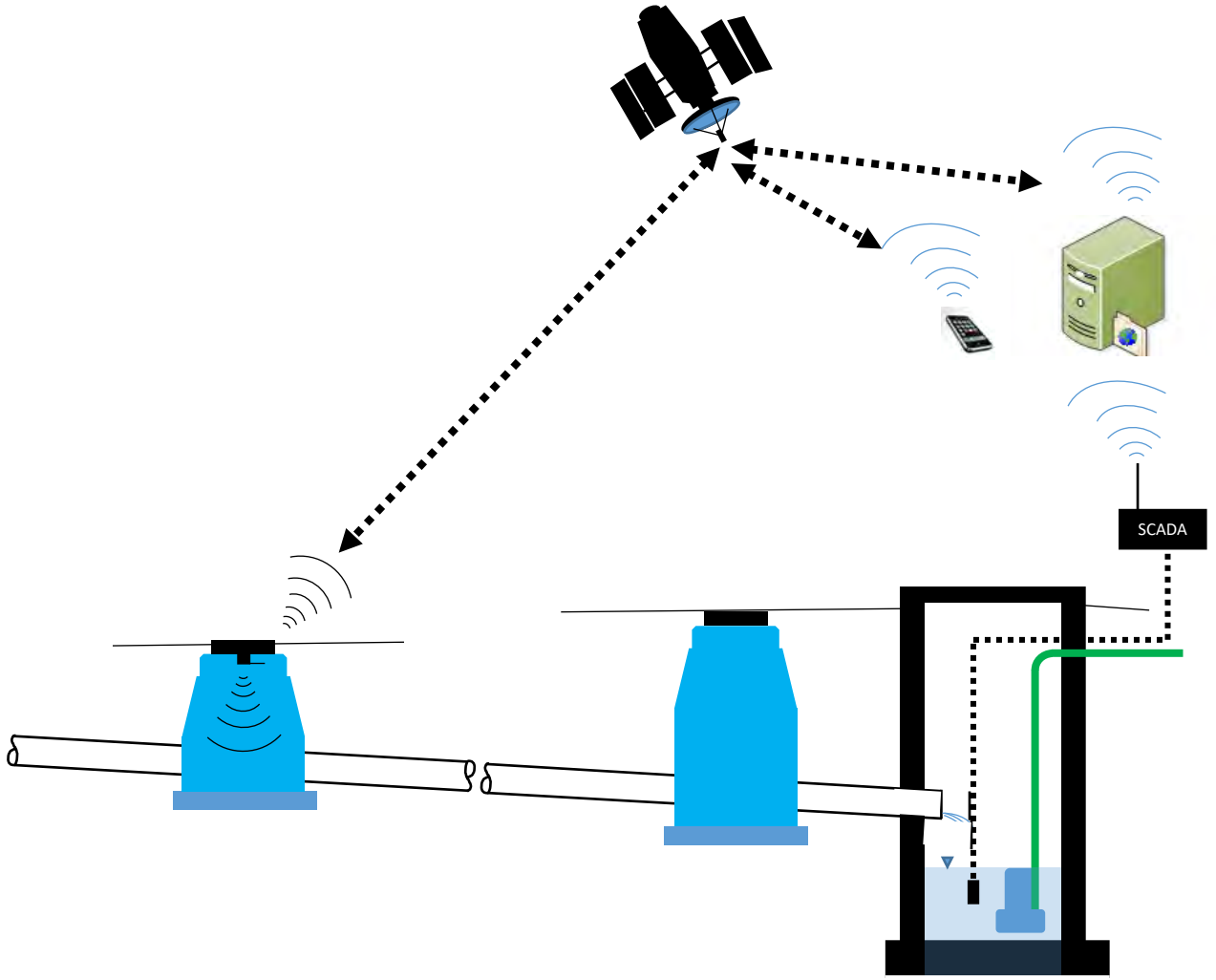
- Protect public health,
- Protect Property Values,
- Protect Development,
- **Protect Environmental Resources,…**

BISCAYNE BAY!

Miami-Dade County

SSOP[4]

Making the Wastewater Collection System SMARTer

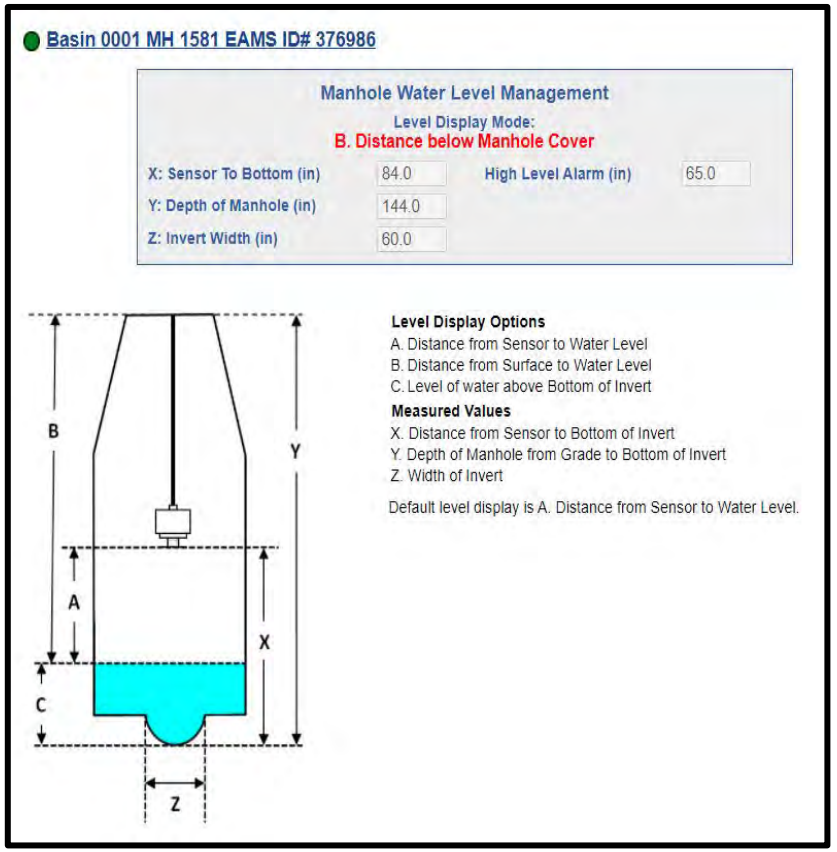


Miami-Dade County

SSOP⁴

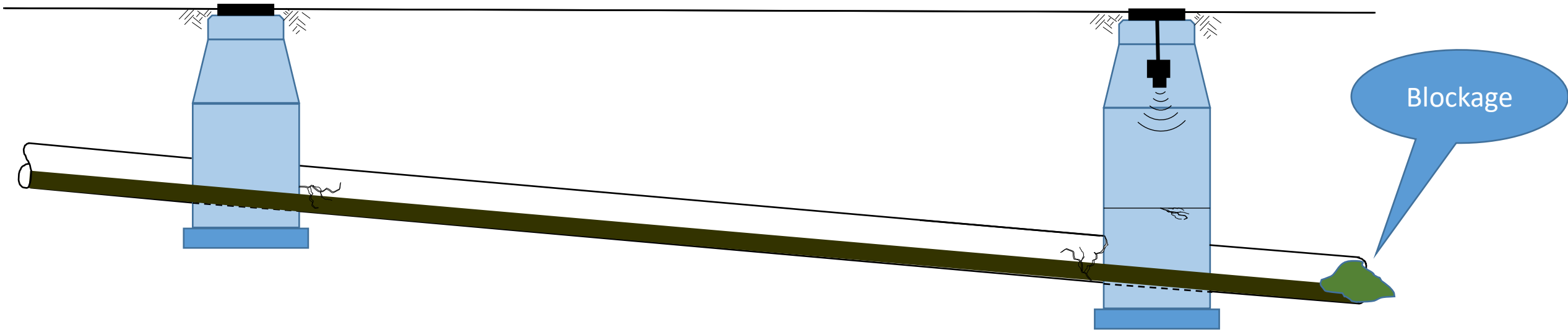
Making the Wastewater Collection System SMARTer

SSOP⁴ – Real-Time Monitoring



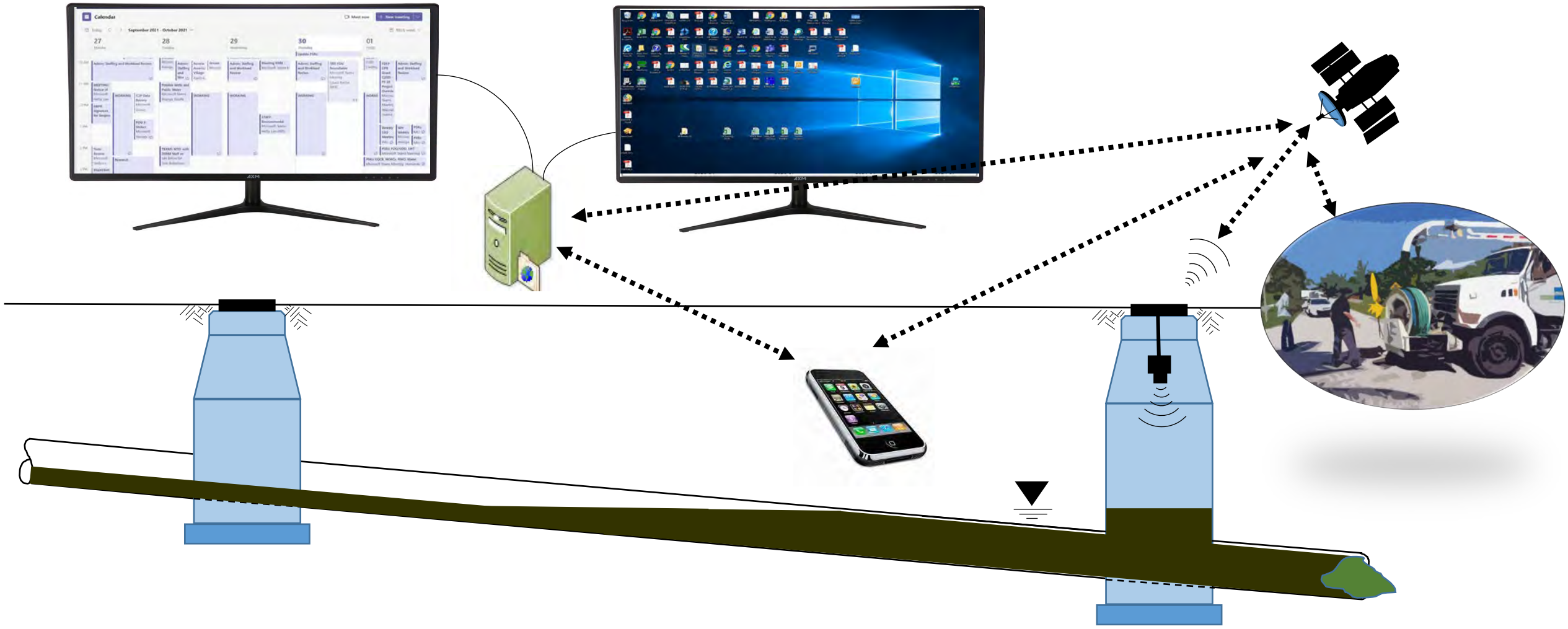
Miami-Dade County

SSOP^4



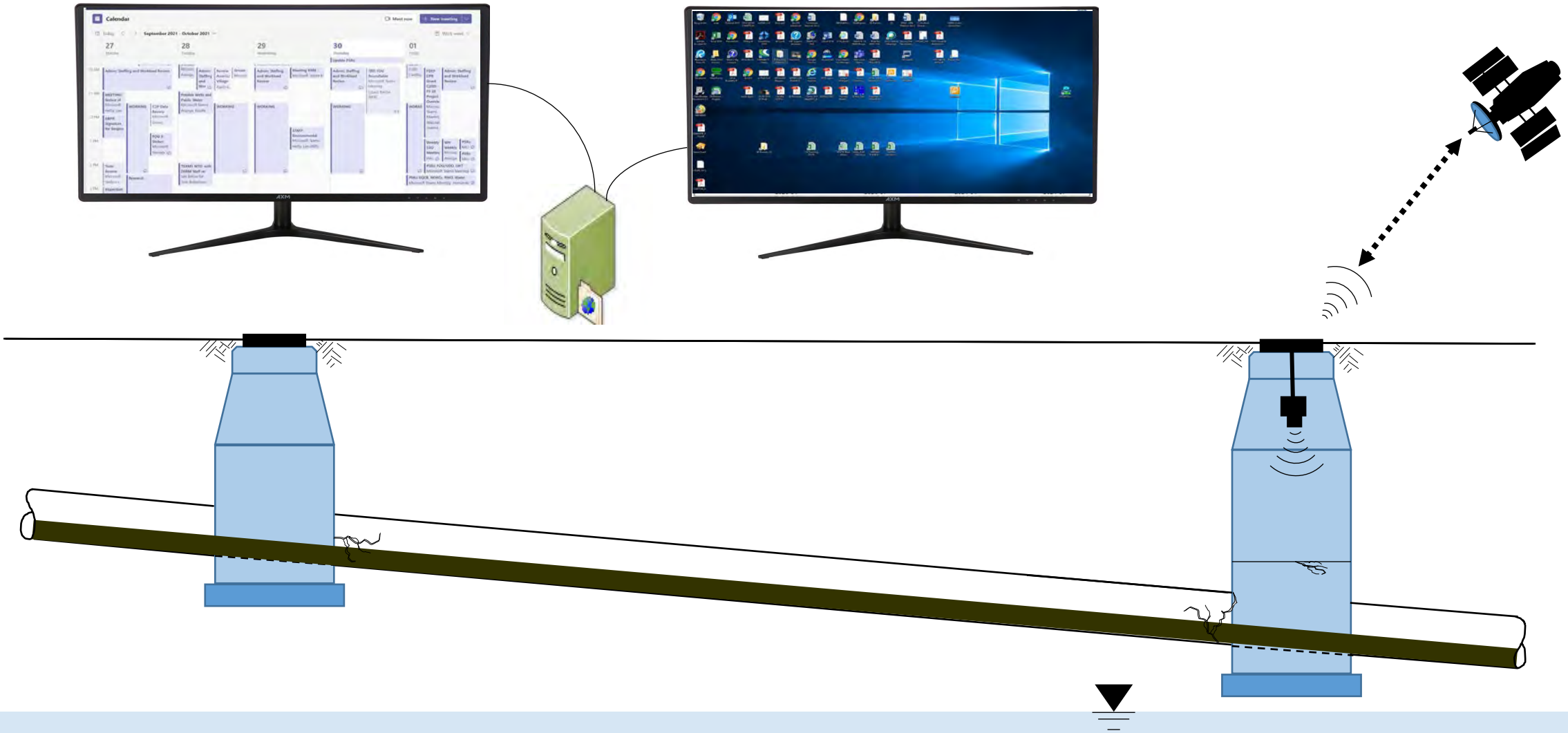
Miami-Dade County

SSOP^4



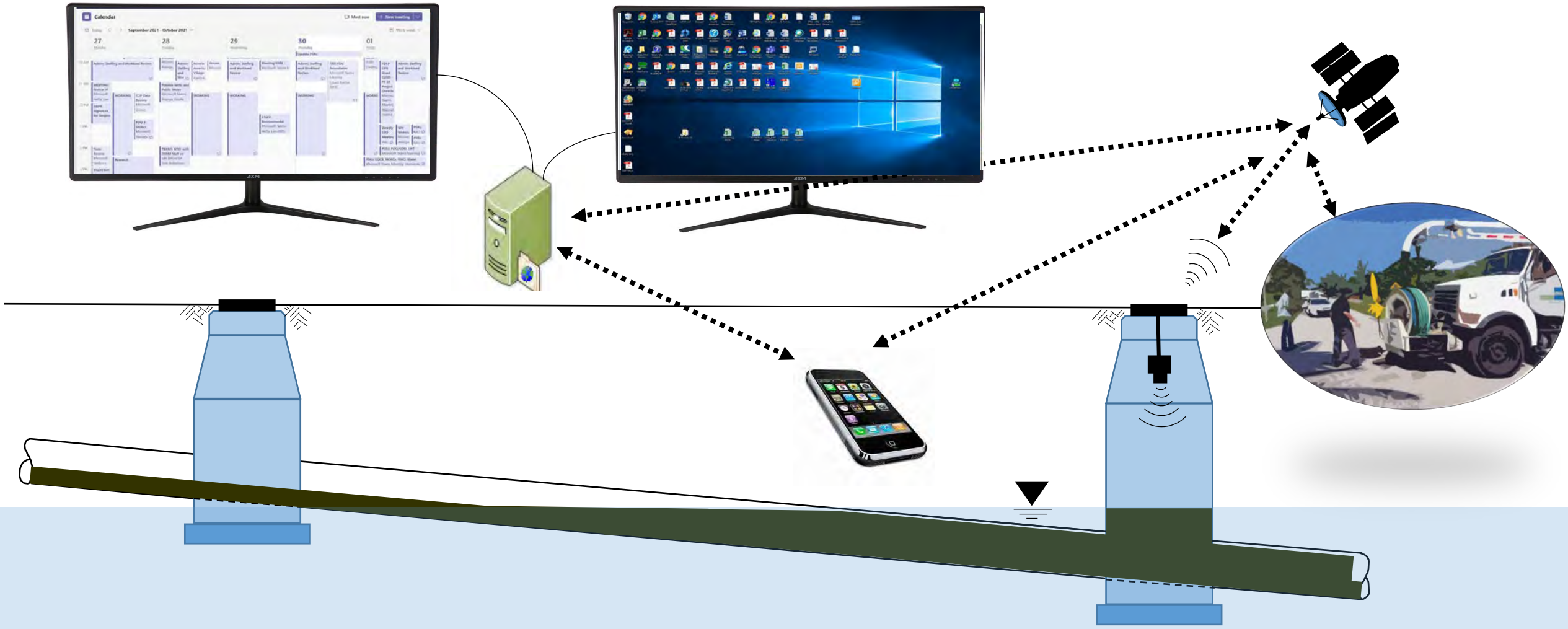
Miami-Dade County

SSOP[4]



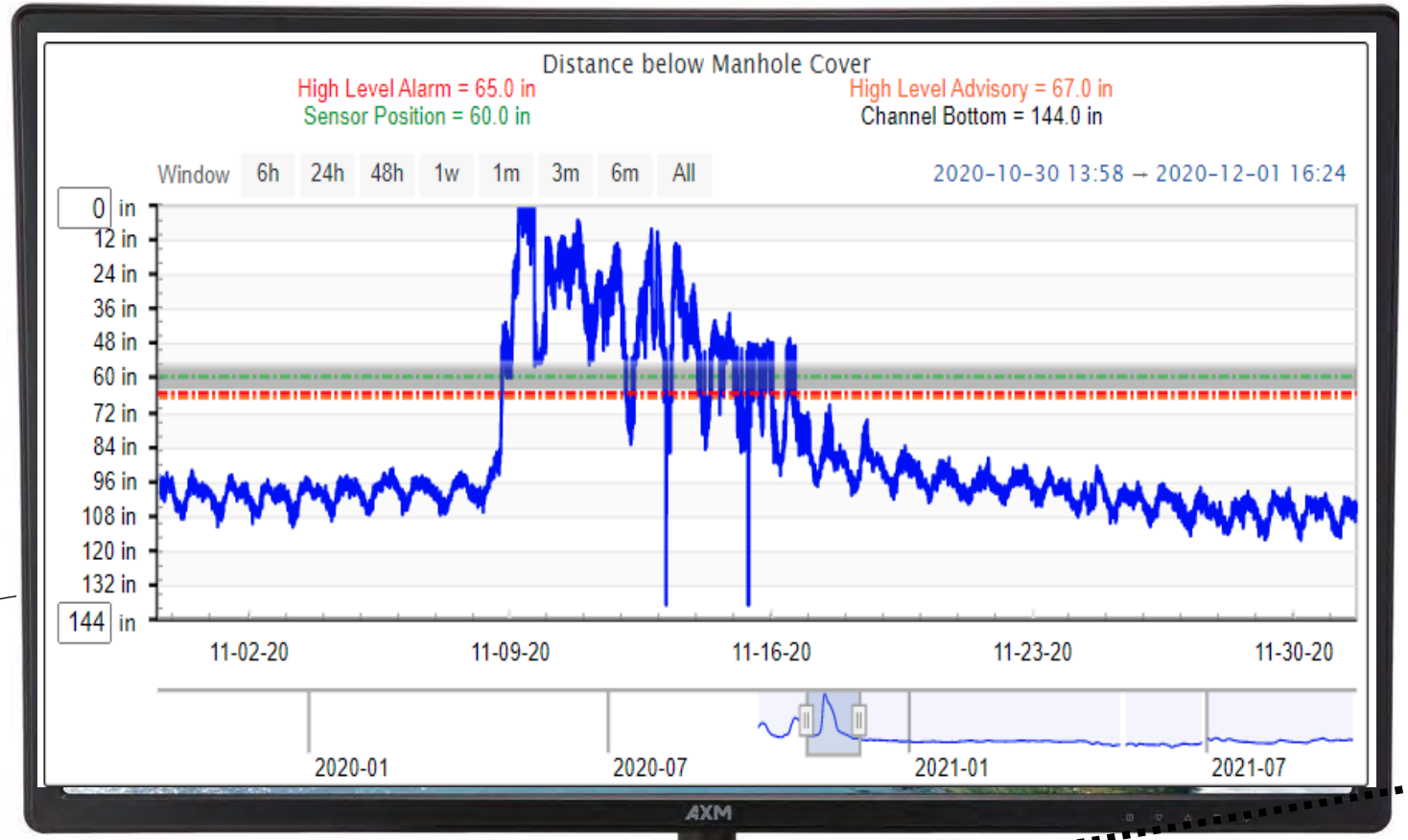
Miami-Dade County

SSOP^4

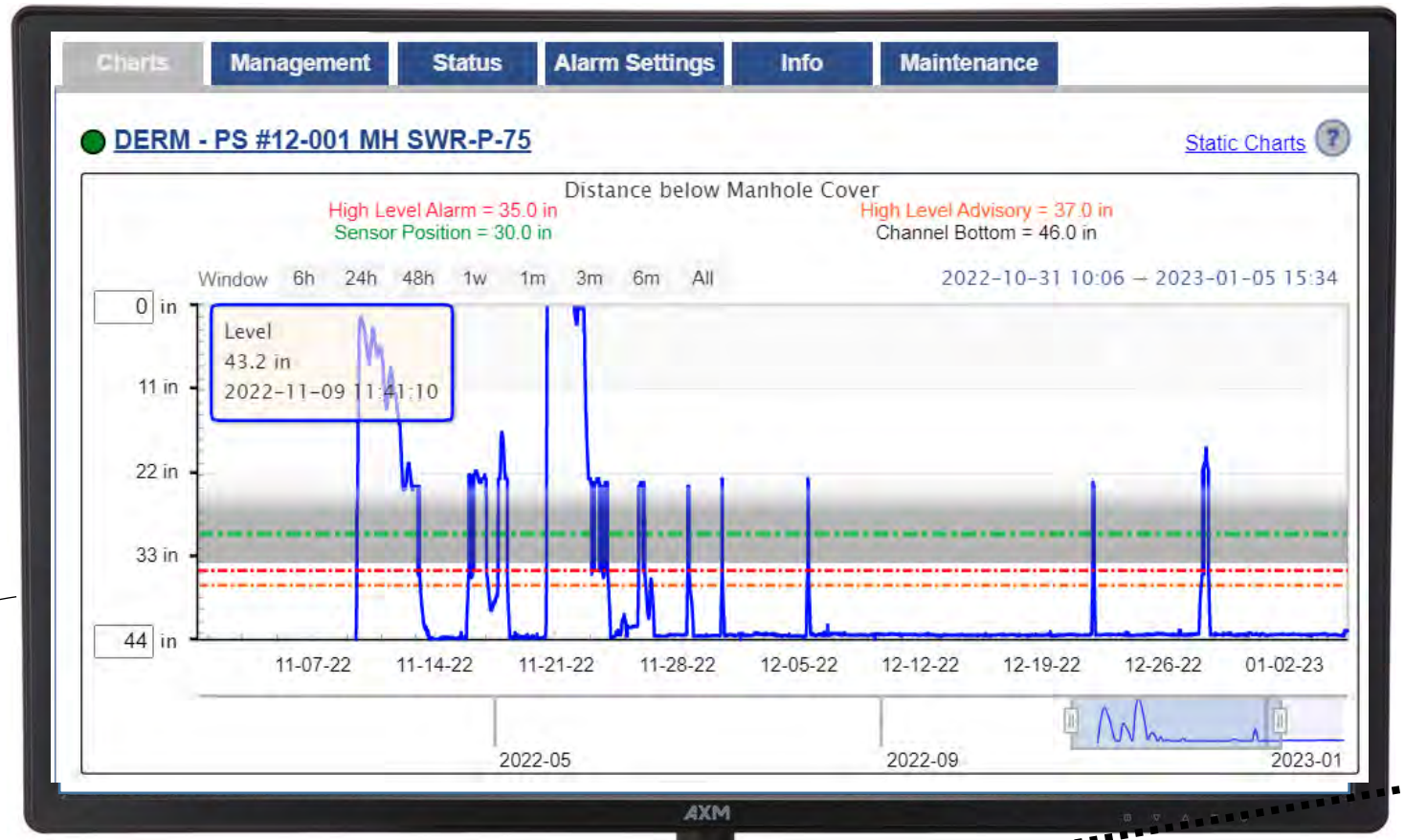


Miami-Dade County

SSOP[4]



Miami-Dade County SSOP[4]



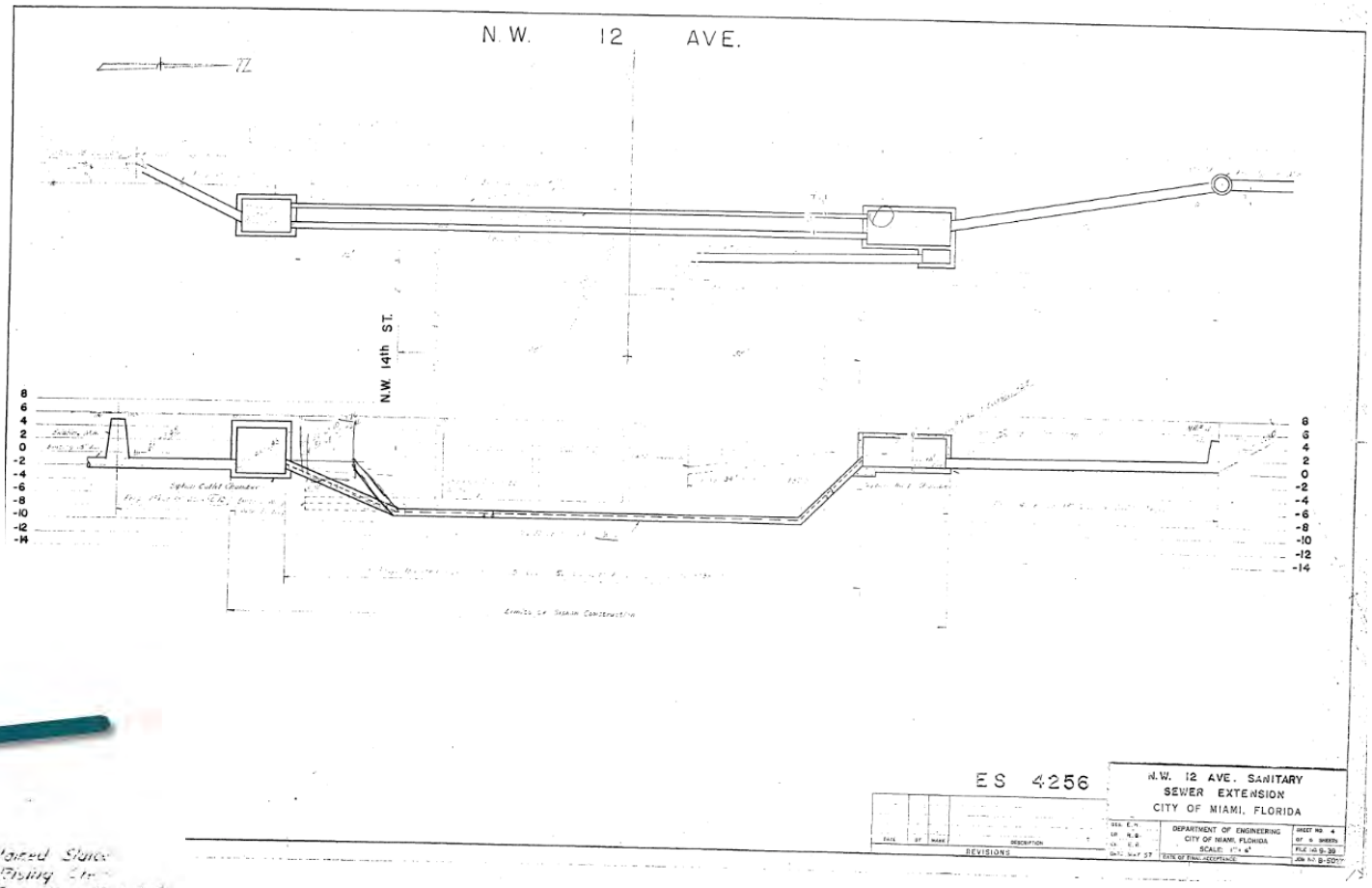
Sanitary Sewer Overflow
Prediction and Prevention Pilot Plan

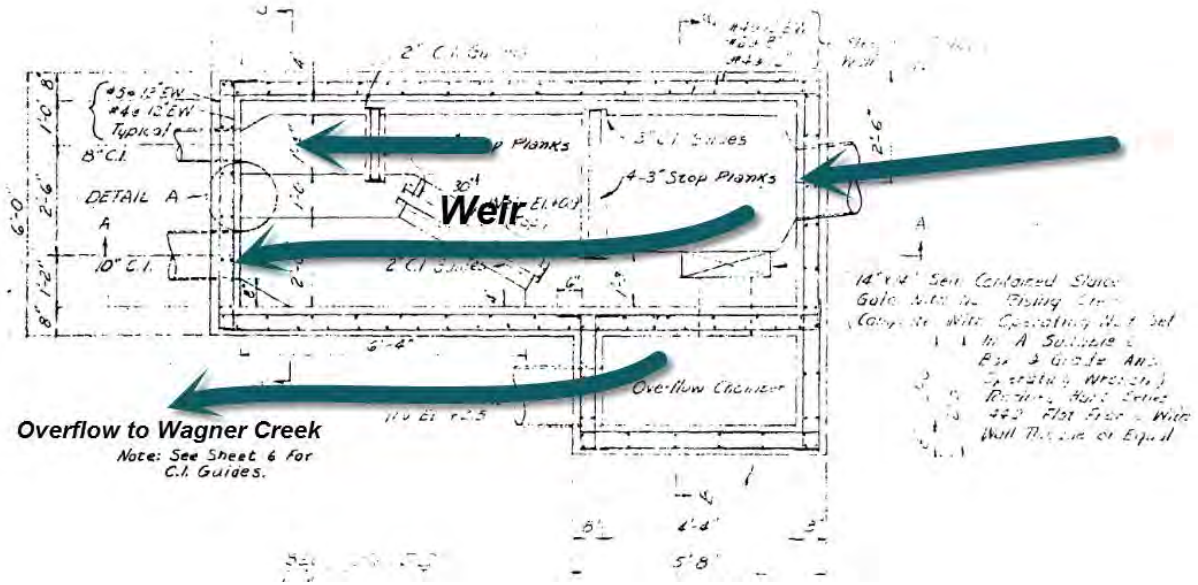
SSOP4

Minimize SSOs!

Questions?

Miami-Dade County SSOP[4]





Biscayne Bay Commission Meeting Update

BISCAYNE BAY COMMISSION (BBC) MEETING – February 15th, 2023

Click Here to Watch the Recording

MEMBERS PRESENT: **Noah Valenstein** – Chair | **Adam Blalock** - Vice-Chair | **Scott Wagner** – SFWMD | **Mayor Tim Meerbott** – Cutler Bay | **T. Spencer Crowley III** - Florida Inland Navigation District

WELCOME AND INTRODUCTIONS: Chair Valenstein welcomed members of the Commission, attendees and staff to the meeting. Mentioned that the board is still pending 2 board appointments and that they will work with the County to get those positions filled.

SUMMARY OF PRESENTATIONS

PRESENTATION ON THE MUNICIPAL SEPARATE STORM SEWER (MS4) AND INDUSTRIAL STORMWATER PERMITTING PROGRAMS - **Presented by: Michelle Bull, Division of Water Resource Management, FDEP**

- Ms. Bull provided an overview on the state's National Pollutant Discharge Elimination System (NDPES) permit for stormwater.
    - The State is re-evaluating their NDPES standards and has held several public meetings to gather input.
    - The goal of the stormwater system is to treat water prior to discharge to the extent practicable.
    - Stormwater discharge association with industrial use is regulated under the multi-sector generic permit; 190 permitted facilities in Miami-Dade County (4,000 in entire state).
- The NPDES permit is evaluated every 5 years with Miami-Dade's permit having its evaluation last December (2022). Miami-Dade County is the main permittee with 32 municipalities as co-permittees under the County. The City of Hialeah and City of Miami have their own permits.

DISCUSSION:

- Vice-Chair Adam Blalock asked about treatment prior to discharge; asked for more details. Existing stormwater infrastructure built prior to the permitting requirements means that there will be areas where there is no treatment prior to discharge. There are no current numeric limits for the nutrient discharging out of the stormwater system.
- Miami-Dade County tends to use exfiltration trenches given density and lack of land for stormwater retention systems. Older infrastructure leads to pipes right into surface water. Vice-Chair are their outfall discharge points technologies that can address nutrient impacts? Some staff are looking at backflow on outflows; retrofitted may include baffle box or some other box that has technology to reduce nutrients before stormwater is discharged. No specific requirement for MS4s to reach a specific nutrient limit, we rely on Best Management Practices (BMPs) and in some cases a total numeric effluent limit for any outfall. MDC, not including co-permittees, has 200 major outfalls and stormwater pipes that are 36" wide. Total Maximum Daily Load (TMDL) is a way to make people meet a requirement. Reasonable Assurance Plan (RAP) would do the same as TMDL correct? Yes, based on stakeholder feedback we can accept a RAP in lieu of a TMDL.
- Scott Wagner how do we measure if these things are working if we don't know what the nutrient loads are on the outfalls? Need to know numbers on the discharge side, can we calculate that somehow? FDEP does require in Phase 1, MS4s require assessment and pollution load analysis. Each large permittee has robust monitoring programs including Miami-Dade County. Mr. Wagner stated that without that and relying on BMP seems hard for oversight to get decent read on what is happening with discharges without the numbers. Hard to achieve the goal even if work all together without those.
    - Vice-Chair Adam Blalock with MDC looking at a RAP, that process will help identify loads and measure that we are reducing them.
    - Spencer Crowley would like to see maps of the stormwater system. Distinction between Phase 1 and Phase 2. Phase 1 MS4 were permitted first back in the 1990s by EPA and represent medium and large municipalities. State and EPA jointly decided to regulate smaller municipalities as co-permittees within a larger permittee. Phase 2 In 2000s we regulated smaller MS4s cities of 50k or less down to 1k population based on US Census. Mr. Crowley stated that the County and State have this elaborate permitting process, reports, sampling but we don't see improvements in the Bay. Renewal is opportunity to examine the process and make it better. County said that in their current MS4 permit there is no enforcement on 32 co-permittees. That is something that could be done better. Logical next step is applying state's updates to MDC's permit.
    - Measurements with MS4, for follow up let's get the map and see current measurement points and then get the DEP recommendation on items that are being missed. Ms. Bull will do follow up presentation on those points.

UPDATE ON THE BISCAYNE BAY WATER QUALITY IMPROVEMENT GRANT PROGRAM - **Presented by: Victoria Barker, Coral Protection and Restoration Program, FDEP**

- Ms. Barker provided an update on the Department's Biscayne Bay Water Quality grant program.
    - Gov. DeSantis announced $20M for preservation and protection of Biscayne Bay for dedicated to targeted water quality projects in the Biscayne Bay area in 2021. Evaluation criteria to make awards were actionable and measurable improvements to water quality in Biscayne Bay.
    - Ninety percent of funding awarded to local municipalities for infrastructure septic to sewer and stormwater pump upgrades and treatment; outreach and education; and monitoring.
    - 2022 additional $20M, June of 2022 (Request for Proposal) RFP was released, and grantees were awarded recently.

- Gov's budget for next year includes an additional $20M for these water quality projects.
- 7 projects selected for this second phase in categories like those in the first year.
- City of Miami Springs stormwater treatment drain will service 80 acres of residential area; City of North Miami 153 septic systems will be connected to sewer; Miami River Fund awarded $600K pertaining to Stormwater and Marine Debris services: drain cleaning, street sweeper, and the operation of a Scavenger Vessel which collects debris while it injects oxygen to the water column; Miami Dade County(MDC), the largest grantee, with $14.5M entirely dedicated to septic to sewer conversion of north side of Little River - which will convert 200 parcels from septic to sewer; Cutler Bay awarded $700K for 53 acre wetland restoration project in combination with the SFWMD, supports CERP;
  Village of Key Biscayne $650K to test materials, designs and configurations for green infrastructure in a pilot area, results will help inform Village-wide green structure implementation; and finally Coral Gables was awarded $2M to either replace or a repair a gravity sewer pipe that due to its age is known for exfiltration and infiltration polluting groundwater and surface water.

DISCUSSION OF THE STRATEGIC PLAN FOR WATER QUALITY RESTORATION IN BISCAYNE BAY - Presented by: Christine Morris, Assistant Deputy Secretary for Ecosystem Restoration, FDEP

- Ms. Morris seeking direction from the BBC for the Department's Strategic Plan for the restoration of Biscayne Bay. We will bring information for a draft strategic plan for you all to review at your next meeting.
  - State Legislature directed the BBC to consolidate existing plans including the Biscayne Bay Task Force (BBTF) recommendations into a coordinated strategic plan for the improvement of water quality in Biscayne Bay.
  - Seven areas of the BBTF: we would like to focus on two, water quality and infrastructure. Hoping to use these as a catalyst for discussion and preparation of the consolidated strategic plan.
  - BBC discussion for inclusion in the strategic plan: ID land for future conservation, green infrastructure, reach out to local municipalities so that they have an opportunity to identify projects; sync up with the RAP.

DISCUSSION:

- Chair Valenstein requested Chief Bay Office (CBO) Ms. Bagué to comment on the strategic plan with regard to the RAP. CBO mentioned annual report from the Biscayne Bay Watershed Management Advisory Board (BBWMAB) includes a lot that can be included in the strategic plan. We are expanding our RAP to include the entire watershed. We are implementing projects now, not waiting for RAP.
  - Think about how USACE projects (multiple) can benefit Biscayne Bay.
  - BBSEER and CERP too; we can no longer just move dirty water into the Bay
- Ms. Pamela Sweeney stated that we are expanding the RAP to include the entire Bay; focused geographic approach taken last year did not account for all the nutrient loading that affects the Bay. We are moving forward with CDM Smith but have also brought on Dr. Janicki to give us more technical bandwidth. Will be engaging with EPA and DEP. Next steps: drafting a Plan of Study which is an outline of the RAP. Currently being discussed and exchanged with DEP for comments. This will guide the RAP.

COMMISSION DISCUSSION HIGHLIGHTS

Spencer Crowley *(FIND)* –Mentioned all the great success stories and how often we hear from local government officials and other stakeholders about projects being funded or finalized. Suggests that all stakeholders work together to update these achievements and communicate them in a coordinated fashion hopefully using the BBC to assemble and elevate. We're making big impact collectively on improving the Bay.

FIND grant cycle is open now for local governments. Encourages local governments to apply for this grant cycle which closes at the end of March 2023.

COMMISSIONS ITEMS DISCUSSED FOR NEXT MEETING

- Stormwater as important source of nutrient load and trash could to hear from regulatory side, DEP planned changes to permits and how this process including design, maintenance and oversight can make a big difference in a relatively short amount of time. Water quality and requirements of MS4 permitees we need a deeper dive on this to see how we can loop this into the strategic plan.
- Challenges to implementing projects especially septic to sewer conversions with a special emphasis on funding. How to knit together State, local and homeowner funding in such a way to overcome obstacles to implementing this important project.
- Commission appointments as homework, we have some vacant seats.
- Wastewater projects impacting the C6 and C7 basins.
- County MS4 status and deeper dive at the local level.

MEETING ADJOURNED

BBWMAB Policy Update and Reports:

- Policies Adopted
- Illegal Dumping Report

BBWMAB POLICY UPDATES

The following is a listing of legislative actions taken by the Board of County Commissioners related to Biscayne Bay since the last BBWMAB meeting.

File Number: 230557
Agenda Item Number: 4F
File Name: PROHIBITING SMOKING IN PARKS AND BEACHES
Sponsors: Kionne L. McGhee, Prime Sponsor
Roberto J. Gonzalez, Co-Sponsor
Legislative Matter (miamidade.gov)
Status: Adopted – 4/4/2023 - Set for public hearing before the Housing, Recreation, Culture & Community Development Committee on Monday, May 8, 2023, at 2:00 p.m.
BBTF Recommendation: Marine Debris

Information Item:
File Number: 230615
Agenda Item Number: 11A13
File Name: SEAWEED REMOVAL ON BEACHES
Sponsors: Eileen Higgins, Prime Sponsor
Sen. Rene Garcia, Co-Sponsor
Micky Steinberg, Co-Sponsor
Legislative Matter (miamidade.gov)
Status: Adopted

Memorandum

MIAMI-DADE COUNTY

Date: February 28, 2023

Agenda Item No. 2(B)(13)
April 4, 2032

To: Honorable Chairman Oliver G. Gilbert, III
and Members, Board of County Commissioners

From: Daniella Levine Cava
Mayor

Subject: Report on Funding Received and Expenditures Made from the Illegal Dumping Trust Fund - Directive 211534

Executive Summary

The following information is provided in response to Resolution No. R-907-21, adopted by the Board of County Commissioners on October 5, 2021, establishing the Illegal Dumping Trust Fund (IDTF), disbursing all funds from the Florida Environmental Trust Fund into the IDTF, and requiring the Mayor or Mayor's designee to provide a report to the Board within six months of the effective date and every six months thereafter. The IDTF is utilized by the Miami-Dade Police Department's (MDPD) Illegal Dumping Unit to conduct operations and investigations that target various environmental crimes plaguing Miami-Dade County. The fund had a beginning balance of $785,222.34. Expenditures total $425,948.19, and the ending fund balance as of January 31, 2023 is $374,699.87.

Background

On August 1, 2022, the IDTF had a balance of $769,659.10, which is $15,563.24 less than the $785,222.34 previously reported. This adjustment is due to a delay in the INFORMS system reporting overtime expenditures. IDTF expenditures during the reporting period of August 1, 2022, through January 31, 2023, totaled $410,384.95. Revenues received by the IDTF during this reporting period included interest in the amount of $5,647.15, court ordered payments totaling $4,778.57 and an allocation of $5,000.00 from Commission District 8 for the purchase of equipment. On January 31, 2023, the IDTF had an ending balance of $374,699.87 (see attached). Expenditures made from the IDTF supported investigations conducted by 2 sergeants and 11 Illegal Dumping Unit investigators. A total of 539 investigative cases were completed that resulted in 62 felony arrests, 101 misdemeanor arrests, 10 subjects with warrants apprehended, and 398 civil citations issued. Of those arrested, 88 were for illegal dumping violations, 6 for operating unpermitted transfer stations, and 69 for various County ordinance violations. While working throughout the County, the MDPD's Illegal Dumping Unit executed six search warrants, seized three vehicles and $1,900.00 (litigation pending), impounded two vehicles, and coordinated the removal of 354,593 cubic feet of trash.

Additionally, water vessels that have been abandoned or discarded along roadways continue to be an issue throughout the southern areas of the County. As such, the MDPD's Illegal Dumping Unit recovered three junk boats and one abandoned trailer. They also successfully investigated and arrested one suspect for felony illegal dumping and issued various civil citations for an incident of illegal dumping in Biscayne National Park located on Ragged Keys Island.

The MDPD's commitment to the County and the environment remains steadfast, and the Illegal Dumping Unit will continue to utilize the IDTF to enforce, educate, and collaborate so the County's diverse ecosystem remains protected.

Per Ordinance 14-65, this memorandum will be placed on the next available Board meeting agenda.

Should you require additional information, please contact Director Alfredo "Freddy" Ramirez III, Miami-Dade Police Department, at (305) 471-3272.

Attachment

c: Geri Bonzon-Keenan, County Attorney
Gerald Sanchez, First Assistant County Attorney
Jess McCarty, Executive Assistant County Attorney
Office of the Mayor Senior Staff
Alfredo "Freddy' Ramirez III, Director, Miami-Dade Police Department
Adeyinka Majekodunmi, Commission Auditor
Jennifer Moon, Chief, Office of Policy and Budgetary Affairs
Basia Pruna, Director, Clerk of the Board
Eugene Love, Agenda Coordinator

Illegal Dumping Trust Fund R-907-21
Reporting Period 7/1/2022-1/31/2023

Beginning Balance		$785,222.34
JULY 2022	**Expenditures**	
	Equipment	$0.00
	Investigative Overtime	$11,487.48
	Fringes	$4,075.76
	Funds Received	
	Revenues	$0.00
	Interest Income	$0.00
	Trust Fund Balance	$769,659.10
AUGUST 2022	**Expenditures**	
	Equipment	$0.00
	Investigative Overtime	$96,308.68
	Fringes	$34,170.32
	Funds Received	
	Revenues	
	Interest Income	$723.89
	Trust Fund Balance	$639,903.99
SEPTEMBER 2022	**Expenditures**	
	Equipment	$0.00
	Investigative Overtime	$0.00
	Fringes	
	Funds Received	
	Revenues	$200.00
	Interest Income	$1,655.22
	Trust Fund Balance	$641,759.21
OCTOBER 2022	**Expenditures**	
	Equipment	$0.00
	Investigative Overtime	$66,003.36
	Fringes	$23,417.99
	Funds Received	
	Revenues	$0.00
	Interest Income	$875.34
	Trust Fund Balance	$553,213.20

NOVEMBER 2022	**Expenditures**	
	Equipment	$0.00
	Investigative Overtime	$66,399.91
	Fringes	$23,558.69
	Funds Received	
	Revenues	$0.00
	Interest Income	$1,116.99
	Trust Fund Balance	$464,371.59
DECEMBER 2022	**Expenditures**	
	Equipment	$0.00
	Investigative Overtime	$74,199.88
	Fringes	$26,326.12
	Funds Received	
	Revenues	$0.00
	Interest Income	$1,275.71
	Trust Fund Balance	$365,121.30
JANUARY 2023	**Expenditures**	
	Equipment	$0.00
	Investigative Overtime	$0.00
	Fringes	$0.00
	Funds Received	
	Revenues	$4,578.57
	Interest Income	$0.00
	Allocation from FY 21/22 to purchase equiptment	$5,000.00
	Trust Fund Balance	$374,699.87
Reporting period Totals	**Expenditures**	
	Equipment	$0.00
	Investigative Overtime	$314,399.31
	Fringes	$111,548.88
	Funds Received	
	Revenues	$9,778.57
	Interest Income	$5,647.15
Ending Balance		$374,699.87

Supplemental Items:

- Glossary and Acronyms

Glossary/ Acronyms

303(d) List
The term "303(d) list" is the list of impaired or threatened waters that do not meet state water quality standards. The Clean Water Act Section 303(d) requires states to submit their list for EPA approval every two years (on even numbered years). To conform to the expectations of Section 303(d) of the Clean Water Act and federal regulations at 40 C.F.R. 130.7(b), waterbodies and associated parameters identified on the Verified or Study List are submitted to EPA as water quality limited segments.

Alternative Restoration Plans
Alternative restoration plans provide a faster path to restoration. They are locally developed pathways to water quality improvements provide the best opportunity for stakeholders to plan for efficient, proactive, and effective management of water quality activities, having more control over the recovery of the impaired waterbody. FDEP's role in these stakeholder-led plans is one of technical guidance, facilitation, support, and feedback. Below is an example of assessment categories:

Assessment Category*	Assessment Category Definitions
4b	**Impaired for one or more designated uses but does not require TMDL development because the water will attain water quality standards due to existing or proposed measures.**
4c	**Impaired for one or more criteria or designated uses but does not require TMDL development because impairment is not caused by a pollutant.**
4d	**Waterbody indicates non-attainment of water quality standards, but the Department does not have enough information to determine a causative pollutant; or current data show a potentially adverse trend in nutrients or nutrient response variables; or there are exceedances of stream nutrient thresholds, but the Department does not have enough information to fully assess non-attainment of the stream nutrient standard.**
4e	**Waterbody indicates non-attainment of water quality standards and pollution control mechanisms or restoration activities are in progress or planned to address non-attainment of water quality standards, but the Department does not have enough information to fully evaluate whether proposed pollution mechanisms will result in attainment of water quality standards.**
5	**Water quality standards are not attained and a TMDL is required.**

**There are additional assessment categories 1, 2, 2b, 2e, 2t, 3a, 3b, and 3c. View them all here: https://floridadep.gov/dear/water-quality-assessment/content/impaired-waters-listing-process*

Adaptation Action Area (AAA)
An Adaptation Action Area is known as a designation in the coastal management element of a local government's comprehensive plan which identifies one or more areas that experience coastal flooding due to extreme high tides and storm surge, and that are vulnerable to the related impacts of rising sea levels for the purpose of prioritizing funding for infrastructure needs and adaptation planning.

Basin Management Action Plans (BMAPs)
A basin management action plan (BMAP) is a framework for water quality restoration that contains local and state commitments to reduce pollutant loading through current and future projects and strategies. BMAPs contain a comprehensive set of solutions, such as permit limits on wastewater facilities, urban and agricultural best management practices, and conservation programs designed to achieve pollutant reductions established by a total maximum daily load (TMDL). These broad-based plans are developed with local stakeholders and rely on local input and commitment for development and successful implementation. BMAPs are adopted by Florida Department of Environmental Protection Secretarial Order and are legally enforceable.

Biological Oxygen Demand (BOD)
Biochemical oxygen demand is an analytical parameter representing the amount of dissolved oxygen (DO) consumed by aerobic bacteria growing on the organic material present in a water sample at a specific temperature over a specific time period. The BOD value is most commonly expressed in milligrams of oxygen consumed per liter of sample during 5 days of incubation at 20 °C and is often used as a surrogate of the degree of organic water pollution.

Clean Water Act (CWA)
The Clean Water Act (CWA) is the primary federal law in the United States governing water pollution. Its objective is to restore and maintain the chemical, physical, and biological integrity of the nation's waters; recognizing the responsibilities of the states in addressing pollution and providing assistance to states to do so, including funding for publicly owned treatment works for the improvement of wastewater treatment; and maintaining the integrity of wetlands. The Clean Water Act was one of the United

States' first and most influential modern environmental laws. Its laws and regulations are primarily administered by the U.S. Environmental Protection Agency (EPA) in coordination with state governments, though some of its provisions, such as those involving filling or dredging, are administered by the U.S. Army Corps of Engineers. Its implementing regulations are codified at 40 C.F.R. Subchapters D, N, and O (Parts 100-140, 401-471, and 501-503).

Dissolved Oxygen (DO)
Dissolved oxygen (DO) is the amount of oxygen that is present in water. Water bodies receive oxygen from the atmosphere and from aquatic plants. Running water, such as that of a swift moving stream, dissolves more oxygen than the still water of a pond or lake.

Enhanced Nutrient Reducing (ENR)
Enhanced Nutrient Reducing is the use of technologies that will allow wastewater treatment plants to provide an advanced level of treatment.

Florida Watershed Restoration Act
The Florida Legislature enacted the Florida Watershed Restoration Act (FWRA) in 1999, to protect Florida's waters with the development of a Total Maximum Daily Load (TMDL) program for state ground and surface waters as required by the Clean Water Act (CWA).
http://www.leg.state.fl.us/Statutes/index.cfm?App_mode=Display_Statute&URL=0400-0499/0403/Sections/0403.067.html

Geographic Information System (GIS)
A geographic information system (GIS) consists of integrated computer hardware and software that store, manage, analyze, edit, output, and visualize geographic data. Much of this often happens within a spatial database, however, this is not essential to meet the definition of a GIS.

Green infrastructure (GI)
Green infrastructure is a cost-effective, resilient approach to managing wet weather impacts that provides many community benefits. While single-purpose gray stormwater infrastructure conventional piped drainage and water treatment systems is designed to move urban stormwater away from the built environment. Green infrastructure reduces and treats stormwater at its source while delivering environmental, social, and economic benefits.

Impaired Water Rules (IWR)
The Florida Impaired Waters Rule (IWR) establishes a methodology to identify those waters that will be included on the State's "Section 303(d) list" of impaired waters that is required to be reported to EPA.
https://www.flrules.org/gateway/ChapterHome.asp?Chapter=62-303
https://www.epa.gov/sites/default/files/2015-11/documents/1.5.3_epa_iwr_decision_2008.pdf

Low-impact development (LID)
Describes a land planning and engineering design approach to manage stormwater runoff as part of green infrastructure. LID emphasizes conservation and use of on-site natural features to protect water quality.

Numeric Nutrient Criteria (NNC)
Numeric nutrient criteria are established for all estuary segments, including criteria for total nitrogen, total phosphorus, and chlorophyll a. For open ocean coastal waters, numeric criteria are established for chlorophyll a that are derived from satellite remote sensing techniques.

Pollutant Reduction Plan (PRP)
A plan developed to identify and then reduce a baseline amount of a specific pollutant by some preset percentage (using various facilities, BMP's and programs). Total Maximum Daily Load (TMDL)

Reasonable Assurance Plans (RAPs)
The development of a Reasonable Assurance Plan (RAP) is a process that can be undertaken to improve a water body where a Total Maximum Daily Load (TMDL) has not been established. The process is similar to the Basin Management Action Plan (BMAP) that is undertaken where a TMDL has been established to indicate the impairment of the water body. The RAP will provide more local control over development and implementation of prevention and restoration activities for the water body. The RAP will also make grant funding more available.

Sanitary sewer overflow (SSO)
A sanitary sewer overflow (SSO) is any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system. A sanitary sewer overflow can spill domestic wastewater out of manholes and onto streets and into storm water systems, surface water bodies or into toilets, sinks and drains before it can reach a treatment facility.

Statewide Biological Database (SBIO)
The DEP Laboratory administers the Statewide Biological Database (SBIO). The SBIO database was developed in the early 1990's in response to the need for centralization of biological data collected by DEP and its predecessor agencies.
Some macroinvertebrate taxa attributes may be used to calculate the Stream Condition Index (DEP SOP SCI 2100(5)). For clinger taxa, include only those taxa whose sole habit is listed as "clinger." Calculate percent filter feeders as the number of individuals that are filter feeders divided by the total number of individuals in the aliquot. Count an individual of a taxon for which filter feeding is one of two feeding strategies as 0.5 individuals.
https://geodata.dep.state.fl.us/datasets/FDEP::biological-stations-from-statewide-biological-database-sbio/about

Total Maximum Daily Loads (TMDL)
A TMDL is a scientific determination of the maximum amount of a given pollutant that a surface water can absorb and still meet the water quality standards that protect human health and aquatic life. Water bodies that do not meet water quality standards are identified as "impaired" for the particular pollutants of concern - nutrients, bacteria, mercury, etc. - and TMDLs must be developed, adopted and implemented to reduce those pollutants and clean up the water body.
The threshold limits on pollutants in surface waters - Florida's surface water quality standards on which TMDLs are based - are set forth primarily in rule 62-302, Florida Administrative Code (F.A.C.), and the associated table of water quality criteria.

Total Suspended Solids (TSS)
Total suspended solids is the dry-weight of suspended particles, that are not dissolved, in a sample of water that can be trapped by a filter that is analyzed using a filtration apparatus known as sintered glass crucible. TSS is a water quality parameter used to assess the quality of a specimen of any type of water or water body, ocean water for example, or wastewater after treatment in a wastewater treatment plant. It is listed as a conventional pollutant in the U.S. Clean Water Act.

Water Body Identification number (WBID)
A Water Body Identification number (WBID) is an assessment unit that is intended to represent Florida's waterbodies at the watersheds or sub-watershed scale. WBIDs have a unique identification number that is tracked by the department and have a geographic delineation as a polygon layer. The assessment units are drainage basins, lakes, lake drainage areas, springs, rivers and streams, segments of rivers and streams, coastal, bay and estuarine waters in Florida. The polygons roughly delineate the drainage basins surrounding the waterbody assessment units. The WBIDs are used in the annual impaired waters assessment, implementation of Total Maximum Daily Loads (TMDLs) and Basin Management Action Plans (BMAPs) as well as other applications.

Watershed Information Network (WIN)
WIN, the Watershed Information Network, provides a modernized centralized environmental data management platform (excluding regulatory databases) as a successor to Florida STORET (STOrage and RETrieval).
WIN provides front-end quality assurance, data input, storage, and reporting of surface water (and including sediment and fish tissue) and ground water data. WIN provides a platform for data providers to submit their data and perform data quality checking interactively prior to allowing the data to be migrated into the published WIN environment. WIN is used to store and manage data, and to report data to interested users and the U.S. Environmental Protection Agency.

Sources:

Florida Department of Environmental Protection: https://floridadep.gov/

Howard County, Maryland: https://www.howardcountymd.gov/public-works/lpwrp-enhanced-nutrient-removal

Miami Beach Rising Above: https://www.mbrisingabove.com/climate-adaptation/adaptation-action-areas/#:~:text=An%20Adaptation%20Action%20Area%20is%20known%20as%20a,prioritizing%20funding%20for%20infrastructure%20needs%20and%20adaptation%20planning.

Wikipedia: https://en.wikipedia.org/wiki/Low-impact_development_(U.S._and_Canada)#:~:text=Five%20principles%20of%20low-impact%20development%201%20Conserve%20natural,the%20water%20leave%20the%20site%29.%20More%20items...%20

https://en.wikipedia.org/wiki/Total_suspended_solids

https://en.wikipedia.org/wiki/Geographic_information_system

EPA: https://www.epa.gov/research/epa-enterprise-vocabulary

https://www.epa.gov/national-aquatic-resource-surveys/indicators-dissolved-oxygen#:~:text=Dissolved%20oxygen%20%28DO%29%20is%20the%20amount%20of%20oxygen,the%20still%20water%20of%20a%20pond%20or%20lake.