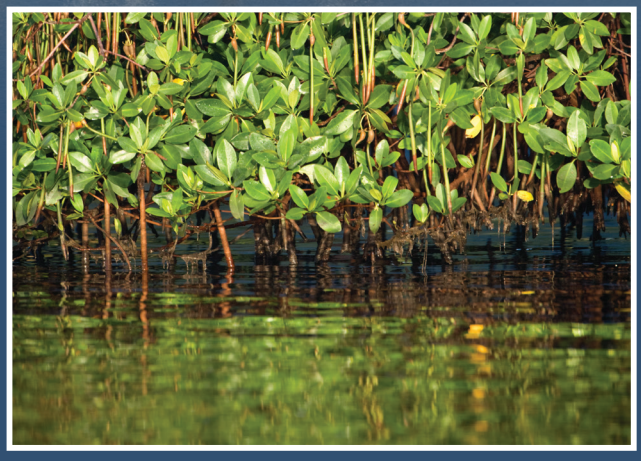
2024 SEA LEVEL RISE AND FLOOD RESILIENCY PLAN



Building Resilience and Mitigating Risks to South Florida's Water Resources

PUBLIC COMMENTS

(Public Comment Period: May 29, 2024 through June 28, 2024)

MARTIN COUNTY

BOARD OF COUNTY COMMISSIONERS
2401 S.E. MONTEREY ROAD • STUART, FL 34996

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June 24, 2024

Dr. Carolina Maran, PE
Chief of District Resiliency
South Florida Water Management District (SFWMD)
3301 Gun Club Road
West Palm Beach, Florida 33406
Email: resiliency@sfwmd.gov

RE: 2024 Draft Sea Level Rise and Flood Resiliency Plan

Dear Dr. Maran:

Thank you for leading resiliency efforts to safeguard and restore South Florida's water resources and ecosystems, protect communities from flooding, and ensure adequate water supplies. We appreciate the District's continued effort to collaborate and partner with us as the District develops the Flood Protection Level of Service (FPLOS) Phase 1 Study for Martin County, St. Lucie County, and the northern part of Palm Beach County.

Martin County prioritizes building water resource resilience and mitigating climate change risks and sea level rise. We applaud the District for its continued commitment and significant progress in addressing land development, population growth, and climate change impacts on regional water resources.

Resilient Martin is the program that Martin County is using to address its own efforts in resiliency. As we finalize our vulnerability assessment and work towards a climate adaptation plan for the entire county, we believe our collaboration and partnership will help build a more resilient Treasure Coast. Therefore, it is important to work effectively together on regional solutions. The work toward resiliency must be consistent across all the plans. Martin County invites collaboration and partnership with the District to ensure consistent regional planning.

Martin County appreciates the opportunity to comment on the South Florida Water Management District (District) 2024 Draft Sea Level Rise and Flood Resiliency Plan. We feel that we must coordinate our efforts. The following comments are based on our review of the document:

1. Flood Protection Level of Service Assessment (FPLOS) Phase 1 Studies - These studies are critical to understanding not only the impacts on District infrastructure but also the impacts to the communities upstream and downstream of structures. Martin County is currently working with the District on the Phase 1 study. As the District is aware, hydrologic and hydraulic modeling is imperative in assessing impacts and determining the exposure and sensitivity to critical infrastructure**. Martin County is committed to provide its critical assets and any additional information to ensure that we understand the District's and Martin County's vulnerabilities.** Please include the FPLOS study areas on the project map so that the public can know the timing of the studies and please consider adding local entities identified areas of vulnerability in addition to adopted adaptation action areas, which most municipalities have not adopted in their comprehensive planning documents.
2. FPLOS Phase 2 Studies – The purpose of the Phase 2 studies is to develop climate adaptation measures. The report mentioned that the District would be anticipating future conditions, specifically future land use. In the Phase 1 study, please include a future land use condition without adaptation measures in the analysis. This would allow governmental entities to consider policy changes in vulnerable areas or determine if Phase 2 adaptation measures should be considered to protect future land use.
3. Based on the need for resiliency and the planning for improving current infrastructure, will the District be considering a reduced level of service on its infrastructure, or will the District be looking to ensure that its infrastructure continues to serve its current level of service? If the level of service is reduced, how will the District convey that to the public? For example, on page 5, under "The Need for Resiliency," it is mentioned that the 25-year condition is being exceeded. As the District evaluates its infrastructure, will the public know the level of service for each component?
4. The District appears to be utilizing the Key West and Virginia Key NOAA stations for projections, yet it has several other NOAA stations within the District. The updated Florida Statutes at this last session mention using interpolations between stations. Will the District consider using localized stations in its next update to the report?
5. The District uses the NOAA Intermediate Low and Intermediate High for its current FPLOS studies. Will the District adjust these projections to the updated Florida Statute recommending the NOAA Low and Intermediate Low?
6. The C&SF Flood Resiliency Study only includes Palm Beach, Broward, and Miami Counties, yet the C&SF system goes beyond these counties. Please consider resiliency in the Comprehensive C&SF Study so that the entire system has been evaluated.
7. The report mentions that the ecosystem analysis has been kept to the CERP elements. Based on preliminary results of Martin County's vulnerability assessment, sea level rise will impact the areas of Kitching Creek and Cypress Creek along with other natural areas along our shoreline. Martin County recognizes that Kitching Creek and Cypress Creek are within the Loxahatchee River Watershed Project, which is considered part of CERP, but please include these areas along with other natural areas as part of the FPLOS analysis.
8. In Table 9-5, there is a study identified as "Enhancing Tidal Predictions". As with any vulnerability assessment, getting a base point from which to start is important. Typically, this base point is the Mean Higher High Water (MHHW) elevation or the Mean High Water (MHW) elevation. Please consider including an analysis of this base point in the intracoastal systems. This elevation is drastically different than the elevation used at the NOAA tidal stations, which are located on the ocean side.
9. Saltwater Interface Mapping. The District monitors and maps the saltwater interface (SWI) location within freshwater aquifers. Movement of the interface is essential to water supply planning and adaptation strategies. Monitoring programs guide groundwater well operations and provide early warning of threats to the water supply. **The County appreciates the District's preliminary evaluation of monitoring wells in Martin County. The County**

seeks continued coordination with the District to strengthen its monitoring network, better define the SWI interface, and provide data critical to planning efforts and protection strategies.

10. Alternative Water Supply (AWS) Investment and Water Resource Protection. Martin County is committed to protecting its water sources. The County protects traditional surficial aquifer water sources by reusing nearly 100% of its reclaimed water supplies. In addition, Martin County has implemented Floridan Aquifer System (FAS) wells and reverse osmosis treatment at its regional water plants. We know that effective FAS management results in greater resource sustainability. We also know that the cost of constructing FAS wells has escalated to over $4 million each. **To meet demands and protect its water resources, Martin County requests the District to advocate for additional state funds to help local governments and utilities invest in AWS.**
11. Water Supply Vulnerability Assessment (WSVA). The District has taken steps to include sea level rise (SLR) and climate change impacts in water supply planning efforts by initiating a Water Supply Vulnerability Assessment (WSVA). The WSVA utilizes existing surface and groundwater modeling tools like the East Coast Surficial Model (ECSM) and East Coast Floridan Aquifer System Model (ECFM) to evaluate the effects of SLR and climate on water supplies. The outputs of the model runs will identify potential impacts on water resources and support strategies and projects that can increase water supply resilience. **Martin County appreciates the District's diligence in completing work on the ECSM for the Upper East Coast (UEC) planning region this year and conducting a WSVA in parallel with the upcoming Upper East Coast Water Supply Plan efforts beginning in 2025. We look forward to working collaboratively with the District to assess the impacts of SLR and climate change on local water supplies.**

Thank you for allowing us to comment on this report and look forward to our continued collaboration. Should you have any questions or need any additional information, please let us know.

Sincerely,

Amy Eason, PE
Environmental Resource Engineer

cc: Drew Bartlett, South Florida Water Management District
Anne Murray, Martin County

Miami-Dade County
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Miami, FL 33128
T 305-375-5593

June 28, 2024

Executive Director Drew Bartlett
South Florida Water Management District
Contact Information
3301 Gun Club Road
West Palm Beach, FL 33406

Re: South Florida Water Management District's 2024 Draft Sea Level Rise and Flood Resiliency Plan

Dear Director Bartlett,

The collaborative approach that your agency is taking to address the large issues of climate change and sea level rise is very commendable. We appreciate the District's consideration of the comments we provided last year and we look forward to continuing our collaboration during the upcoming South Florida Water Management District Resiliency Coordination Forum Meetings. This coordinated approach should create a strong foundation to seek funding in support of the improvements that we know are needed to keep pace with rising sea levels, land use change and water quality impacts.

With respect to this year's resiliency plan, the addition of components focused on energy efficiency, renewable energy, nature-based solutions, and ecosystem restoration is welcome. There are many components that we strongly support such as hardening coastal control structures and implementing "self-preservation" mode, increasing locally distributed and regional storage, increasing basin interconnectivity, and maximizing the integration of green infrastructure and nature-based solutions. Miami-Dade County will continue to partner to advance these initiatives.

We also want to recognize and express continued support for expanded collaboration and coordination among key partners and studies by the South Florida Water Management District, the U.S. Army Corps of Engineers, and other regional and local entities that influence the system. It is critical the studies, assumptions and analyses are integrated and aligned as much as possible to ensure complimentary planning, design and implementation of various resilience measures. We look forward to serving as strong local partners as conditions, priorities, and opportunities evolve.

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The partnership will be essential to address the larger regional adaptation needs to ensure that multiple flood protection measures are advanced. The excellent work by your agency has shown that expanding pump capacity on the primary canals may be necessary but may not be sufficient to address sea level rise, particularly for coastal areas. In some instances, it may be more effective, enduring, and cost-effective to transform publicly owned spaces parallel to primary canals and possibly in other public rights of way into natural or nature-based designed areas that better absorb and treat stormwater. Figure 4-1 shown below from the draft plan illustrates, the C-9 Canal Enhancement Project, a conceptual example of an adaptation approach (Expand Greenways and Blueways) promoted in the County's Sea Level Rise Strategy. We commend this initiative as it helps both to maintain or enhance the flood protection level of service while also restoring elements of the original, historical functions of the wetlands and floodplain. We look forward to the continued stakeholder engagement, evaluation, and advancement of these nature-based solutions across the entire watershed in support of a healthier, more biodiverse and resilient community for all life.

Figure 4-1: Conceptual Plan for the C-9 Canal Enhancement Project.

As described in previous comment letters, studies and conversations, the other complimentary approaches include elevating or floodproofing properties, or what the County refers to as 'Building like the Keys'. As shown in Figure 9 of the SFWMD's C-7 Level of Service assessment, in

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some instances non-structural flood mitigation measures, such as raising the lowest-lying properties (shown in green below), may have substantially longer efficacy than forward pumps.

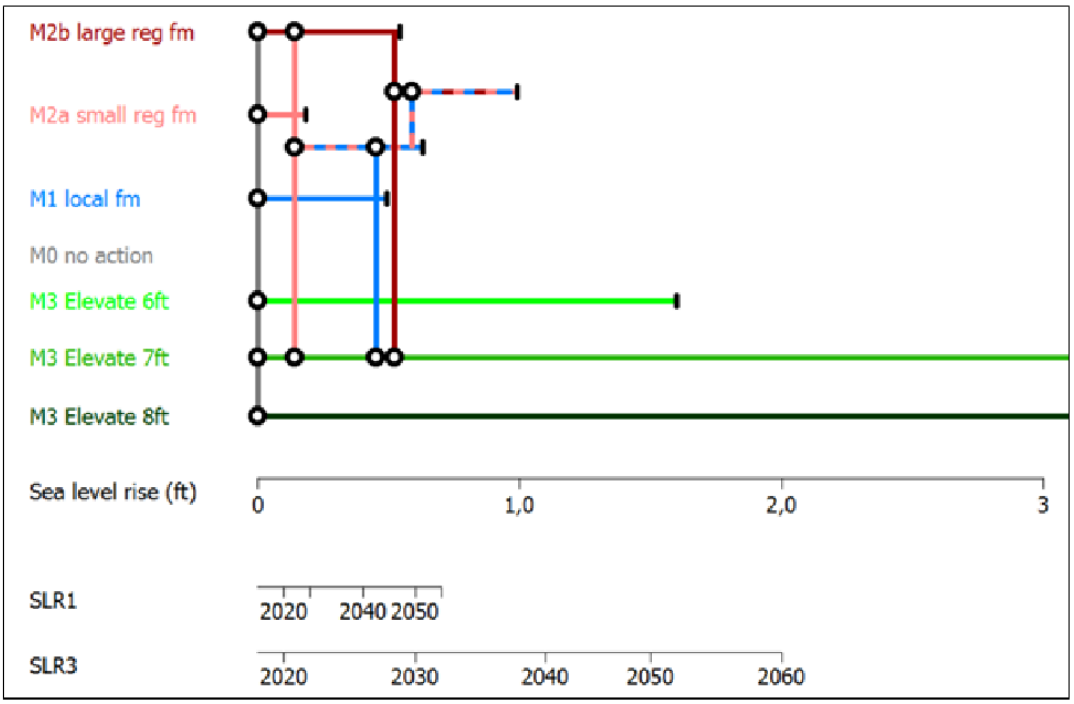

Figure 9. Adaptation Pathways map for the entire basin, based on the simulated expected annual damage for the current sea-level and the two possible future sea level rise scenarios.

Pursuing other flood protection measures in partnership with other entities may also delay or reduce the capacity needed for forward pumps. This would have the benefit of reducing energy and fuel use, reducing water quality impacts, and reducing disruption to wildlife in the canals and Biscayne Bay. While the implementation mechanisms are not yet in place, pursuing flood-proofing measures would also likely reduce the overall adaptation costs. For example, as per SWMD estimates floodproofing all structures in the C-7 below six feet could cost between $110M and $220M.[1] It is likely that the most cost-effective approach is an optimized combination of measures. While additional pump capacity may be needed long term, greater emphasis should also be placed on protecting water resources and minimizing negative impacts to the Bay now. In this regard, additional flood mitigation alternatives should be considered in concert with Miami-Dade County and the U.S. Army Corps of Engineers to, among other opportunities, address compound flooding more holistically, increase storage capacity, divert or otherwise reduce the volume of water conveyed through coastal structures and received by the

[1] Based on an estimated 736 structures below that threshold and a low end estimated cost of floodproofing/elevation of $150,000 per structure and a high-end estimate of $300,000 per structure.

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Outstanding Florida Water body through restoration and infrastructure improvement pilot projects and implementation of innovative technologies that improve water quality. This could include identifying opportunities for additional wetlands rehydration projects that can improve wetland habitat and function while providing additional water storage and water quality improvement prior to discharging to Biscayne Bay.

As part of the decision-making process, it should also be considered which measures will help protect our water quality, which our economy and community depends upon. In many canals, including the C-7 and C-8, existing water quality is compromised and is already stressing the health of Biscayne Bay and other water bodies. Moving toward a system that relies upon extensive forward pumping will continue to compromise the health of the Bay. Given the current water quality conditions, it may be very difficult to design a forward pumping system that does not incidentally increase turbidity and pulsed discharges of nutrients and bacteria. This would be counterproductive to several on-going water quality initiatives funded locally and with state funding support. Understanding that the District understands the importance of the local water quality issues, Miami-Dade County values the District's partnership and commitment to the implementation of projects and activities related to the Biscayne Bay Reasonable Assurance Plan once it is developed to address issues of degraded water quality and verified impairments in many segments of the watershed.

Recognizing that a gravity-driven system may not be able to continue indefinitely, we would ask that the District fully consider and implement other flood mitigation and water quality programs in advance of moving toward extensive forward pumping. Other measures such as optimizing operations, non-structural flood mitigation, increasing basin interconnectivity, distributed storage, emergency detention basins, raising canal banks, canal dredging, and nature-based solutions could be pursued aggressively in the short term ahead of deployment of multiple forward pumps. We also encourage further exploration and consideration of potential strategies like voluntary home buyouts for the most vulnerable areas which could be paired with environmental restoration, expansion of storage areas and other nature-based features to help restore more natural floodplain functions and reduce reliability on mechanical pumping systems. In many instances, this type of approach will require coordination with other entities to implement flood mitigation measures that are outside the District's purview, and Miami-Dade County stands ready as a dedicated partner to pursue those projects.

In an effort to advance our collective understanding and capabilities to more efficiently analyze the combined effects of coastal and interior flooding, known as compound flooding, the County strongly supports the continued efforts to develop the Super-Fast Inundation of Coastal Systems (SFINCS) model as part of the overall Community Flood Resilience Support System (CFRSS). In consultation with our local modeling efforts and expertise, we look forward to leveraging new and more sophisticated tools for potential local application in ways that promote planning,

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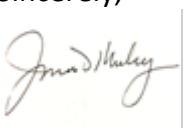
design and implementation of multi-benificial projects that address the combined effects of multiple flood hazards along with anticipated future conditions. We believe continued coordination and collaboration between SFWMD, USACE, our university and other flood resilience partners will ensure our mutual goals are achieved in the short- and long-term.

To address the County's and District's shared concerns related to risks to the water supply as the result of reduced groundwater flow to the southernmost wellfields which may lead to increased saltwater intrusion and reduced freshwater flows into Biscayne Bay, the County suggests incorporating mitigating strategies that would provide both hydraulic and water quality measures to protect our water supply and natural resources.

In support of the County's Climate Action Strategy and Southeast Florida Regional Climate Action Plan 3.0, the County strongly support any and all actions that the District can take to help increase energy efficiency, achieve sustainability and resiliency third-party certifications, and use renewable solar energy. Maximizing actions such as energy efficient design and sizing of infrastructure, inclusion of comprehensive automated demand response, intelligent pumping controls and data benchmarking will help save money on operations, reduce overall energy use and greenhouse gas emissions, and create a more resilient system overall. The County encourages the SFWMD to seek and require, at a minimum, certifications of LEED Silver for all building development projects and ENVISION Silver for all infrastructure projects to maximize sustainability and resilience of future projects. In addition, the SFWMD should consider how any thermal energy needs can be addressed through solar energy and how battery storage can help manage peak demand and demand response.

Again, we would like to thank your agency for taking our previous comments into consideration and for working so diligently, proactively, a collaboratively to identify innovative and creative approaches to minimize water quality impacts. Our team recognizes that this is a difficult challenge and there are few easy solutions, but our teams are ready and willing to continue a partnership to identify the best path forward that helps us achieve our collective climate adaptation, climate mitigation, environmental, and resiliency goals.

Sincerely,



James F. Murley
Senior Resilience Advisory
Miami-Dade County
James.Murley@miamidade.gov

From:	Pisani, Alberto (RER)
To:	Resiliency
Cc:	Marina Blanco-Pape
Subject:	RE: Seeking Public Input on 2024 Draft Sea Level Rise and Flood Resiliency Plan
Date:	Friday, June 21, 2024 11:06:01 AM
Attachments:	Draft Proposed Reuse BBSEER Map V2.pdf

[Please remember, this is an external email]

Thank you for the opportunity to review the 2024 Draft Sea Level Rise and Flood Resiliency Plan. We look forward to our continued collaboration at the quarterly SFWMD Resiliency Public Forum and collaboration on BRIC and other grant opportunities.

Just a few comments and observations for consideration.

In Chapter 4, reference to the C-8 basin project as described in the BRIC grant. After the recent meeting with Miami Shores, it seems like the proposed storage over the golf course may need to be limited to the existing water hazards, and the S-28 structure moved to the edge of the course (east or northwest boundary) to avoid pump structure in the middle of the golf course. Perhaps not necessary to describe changes in this report, but suggest adding a statement that conceptual plan to be refined with input from stakeholders. Conceptual S-28 site plan (Appendix A) would need to be revised.

In Chapter 7, the C-9 BRIC project could be a good candidate for ENV SP certification with the linear wetlands along the canal.

In Appendix A:

Consider including a rough planning level implementation schedule for each project. Some having grant funds allocated and having complete FPLOS Phase 2 may have a more defined schedule than other more conceptual projects. Recommend to also include under which (one or more) program the project would be implemented under (FPLOS, CS&F, CERP, etc). This could also be used to show what has already been completed for any individual project (including Phase 2 or 3 assessments, and if not when they are estimated to be done).

In the C-9 basin, you propose to construct temporary pump pads at secondary canal outfalls. The pads are meant to make it easier to deploy temporary pumps during and after extreme events, as needed. Can this concept be implemented in other basins?

Are any stretches of C7, C8, and C9 canal banks deficient when compared to County Flood Criteria?

By increasing the upstream carrying capacity of the C6 through canal widening, wouldn't you see increased stages on the downstream segments once the cross sections narrow?

Should the S-25A Coastal Structure project be advanced on the priority list, if it isn't already, since it would achieve immediate flood protection benefits, at a relatively low cost?

When raising canal banks, it will be important to maintain the drainage capacity into the canal from adjacent low-lying areas, to ensure flooding in those areas isn't exacerbated, particularly during smaller storm events when the canal isn't overbanking. What currently is sheet flow into the canal will need to be accounted for.

For the C1/C1W canal bank enhancement, are the proposed higher than the Miami Dade County Flood Criteria (CFC)? For some basins you reference CFC, for others you do not. Suggest elevating to whichever is higher. In all the other basins if your analysis showed that a higher elevation than the CFC was needed to prevent overtopping under your design scenario, use the higher elevation. i.e. use the CFC as a minimum standard.

Regarding the S-25B coastal structure project, has coordination with City of Miami/Inter Miami taken place to ensure the planned development of the Melreese golf course does not interfere with the proposed project? Real estate should be requested as part of that development agreement.

Are the modifications to S-380 described to add storage in the Pennsuco wetlands the same as proposed under BBSEER? Recommend to reference BBSEER here.

For the C2 basin, Appendix A states that FPLOS assessment will be available in 2023. Was it completed?

Under BBSEER, the County is proposing to eliminate the Goulds canal east of the turnpike and replace it with pumping capacity into a spreader. The area east of the turnpike would be a constructed wetland to treat reuse water prior to discharge into the bay. Please coordinate the Goulds canal conceptual project with the BBSEER team, see attached draft concept (concept may have been refined by the BBSEER team).

Best regards

Alberto Pisani, P.E., ENV SP
Sr. Professional Engineer
Department of Regulatory and Economic Resources
Division of Environmental Resources Management
Water Management
701 N.W. 1st Court. 5th Floor
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Please find below the Miami-Dade County Parks, Recreation and Open Spaces Department (PROS) Planning & Research Section's overall feedback on the Draft 2024 Sea Level Rise and Flood Resiliency Plan dated May 29, 2024.

- **When addressing canal features such as: enhancing canal banks to improve conveyance and discharge capacity, increase storage, hardening levees, etc., consider nature-based solutions that provide water recreation and access.**
    - Home Rule Charter Article 7 – *parks shall be used for public park purposes only*.

- **Modifications related sea level rise and flood mitigation enhancements should be developed to ensure connectivity and access to existing and future-proposed trails, greenways, and blueways.**
    - Recreation and Open Space Element (ROSE) – *[PROS] shall guide the creation of an interconnected framework of parks, public spaces, natural and cultural areas, greenways, trails, and streets that promote sustainable communities, the health and wellness of County residents, and that serve the diverse local, national, and international communities*.
    - CHDE – Enhance *natural systems through performance criteria for capital improvements*.
    - CHDE – The *County shall investigate onsite stormwater management alternatives, such as bio-swales and green roofs, which reuse stormwater and reduce the rate of runoff from impervious surfaces*.

- **Consider integrating key health, safety, and welfare components (amenities and access) for local residents to adaptation strategies.**
    - CHDE – *Design and develop neighborhoods that provide a comfortable and safe environment conducive for programs that integrate physical activity in the daily lives of children and adults*.
    - CHDE – *Encourage well-designed infill and redevelopment to… support an outdoor environment that is suitable for safe physical activity*.

- **For all areas where passive and active recreation is anticipated, PROS recommends using nature-based features to enhance site safety when considering heat and other environmental factors impacting health.**

From: Lindell, Heather M
To: Resiliency
Subject: C-29 Canal - Dredging Timeline
Date: Monday, June 3, 2024 1:10:52 PM

> Some people who received this message don't often get email from heather.lindell@ocfl.net. Learn why this is important

[Please remember, this is an external email]

Hello,

What is the timeline for widening/dredging the C-29 canal between Lake Hart and Lake Mary Jane? Orange County EPD is in the beginning stages of a lake assessment to assess lead in Lake Mary Jane, and we will be using the canal for lake access. Please coordinate with Orange County EPD about the dredging schedule.

Thank you,

Heather Lindell
TMDL Assessment & Implementation
Water Sciences
Orange County Environmental Protection Division
3165 McCrory Place, Suite 200
Orlando, FL 32803
Office: 407-836-1540
Cell: 407-840-1090
Email: Heather.Lindell@ocfl.net

ST. LUCIE COUNTY FLORIDA

ST. LUCIE WORKS

South Florida Water Management District
Resilience Planning Team
3301 Gun Club Road
West Palm Beach, FL 33406

June 27, 2024

RE: **ST. LUCIE COUNTY comments to Draft SFWMD 2024 Sea Level Rise and Flood Resiliency Plan**

Dear Resilience Project Team,

Thank you for the opportunity to provide comments to the Draft SFWMD 2024 Sea Level Rise and Flood Resiliency Plan. We appreciate and applaud the excellent work the District is doing in St. Lucie County and throughout the southeast Florida region, with your focus on taking a collaborative and integrative approach to resilience planning and implementation projects that involve multiple partners at the local, regional, state and federal levels.

Below please find St. Lucie County's input into the SFWMD 2024 Sea Level Rise and Flood Resiliency Plan.

- **Northern Diversion detailed plan --** Modeling and operations of the Northern Diversion detailed design plan should be included in the District's Resiliency Plan. St. Lucie County supports the water quality benefits of the large reservoirs and stormwater treatment areas (STAs) for the storage and abatement of excess fresh water being discharged to the Indian River Lagoon and the St. Lucie Estuary.

However, St. Lucie County has concerns about flooding from the redirection of water from the C23/C24 system into the Ten-Mile Creek basin (the Northern Diversion). Ten Mile Creek, a FDEP-regulated waterway, is severely overgrown and suffers from major erosion and sedimentation, with documented repetitive flooding issues in response to high-flow events.

The C23/C24-NFSLR system modeling effort should include 10-Mile Creek and involve FDEP to effectively address long-term impacts. In addition, a detailed operational plan has not been provided to the County to demonstrate that this additional flow into the system will not cause undue harm.

Sincerely,

George Landry
St. Lucie County Administrator

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slayk@stlucieco.org
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OFFICE OF THE TOWN MANAGER
Rafael G. Casals, ICMA-CM, CFM
Town Manager

June 28, 2024

Ms. Carolina Maran, P.E., PhD.
Chief of District Resiliency
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, FL 33406
cmaran@sfwmd.gov
resiliency@sfwmd.gov

RE: Comments on the 2024 South Florida Water Management District Draft Sea-level Rise and Flood Resiliency Plan

Dear Ms. Maran:

The Town of Cutler Bay ("Town") submits the following comments regarding the South Florida Water Management District's ("District") May 2024 draft of the Sea-level Rise and Flood Resiliency Plan ("SLRFRP"). We would like to take this opportunity to thank the District for continued work and collaboration on this important project, which is crucial to the communities and ecosystems of South Florida, the Everglades, and Miami-Dade County ("County"). As a coastal municipality, the Town represents a major stakeholder in all regional water control and restoration projects, and the well-being of its residents is intimately and uniquely connected to the SLRFP outcomes and successes. On behalf of the Town Council and residents, I would like to acknowledge the improvements that the District has made in response to continued stakeholder input following the original publication of the plan in 2021, and while we continue highlighting areas for improvement (e.g. the issue of saltwater intrusions) we are confident that continued cooperation will yield a highly comprehensive plan that will adequately address pressing concerns County-wide.

1. **Extreme Precipitation, Flooding, Sea Level Rise and Water Control Infrastructure Improvement Requirements**

The Town represents one of the most vulnerable municipalities within our County, both to the impacts of sea level rise ("SLR") and climate change due to its coastal location combined with low elevation (Figures 1 and 2). This vulnerability was exposed in early June of 2022 during the passage of Tropical Storm Alex, when the Town experienced widespread and persistent flooding receiving 26.35 inches of rain between June 2nd and June 9th. This event alone deposited 47% of the previous year's rainfall total over the course of a week and constituted a near 1-in-200-year flood event for 1-day and 3-day flooding. The presence of standing water in parts of our municipality, first reported on June 7, 2022, occurred as the existing water management systems were assessed to be operating "*as intended, with capacity and no obstructions*", highlighting the inability of the current system in place to absorb flooding of this magnitude. The frequency of cataclysmic rainfall such as one generated by Tropical Storm Alex is only projected to increase with warming climate, as just two weeks ago, parts of South Florida saw more extreme precipitation, this time amounting to a 500-to-1,000-year event, with portions of the County receiving ~20 inches of rain in just 48 hours. Flooding of this intensity does not

only keep people from leaving their homes and incurring damage to their property, but represents a major risk of injury and loss of life, and **must** be addressed in a **preventative** manner. This point was also emphasized in our letter to the District dated July 14, 2022 ("Letter") pertaining to the previous iteration of the plan in 2022.

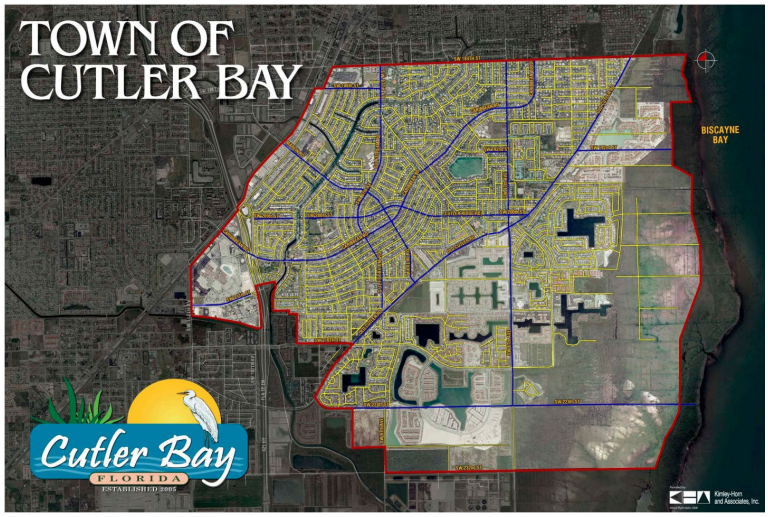

Figure 1- Aerial Map of the Town of Cutler Bay [1]

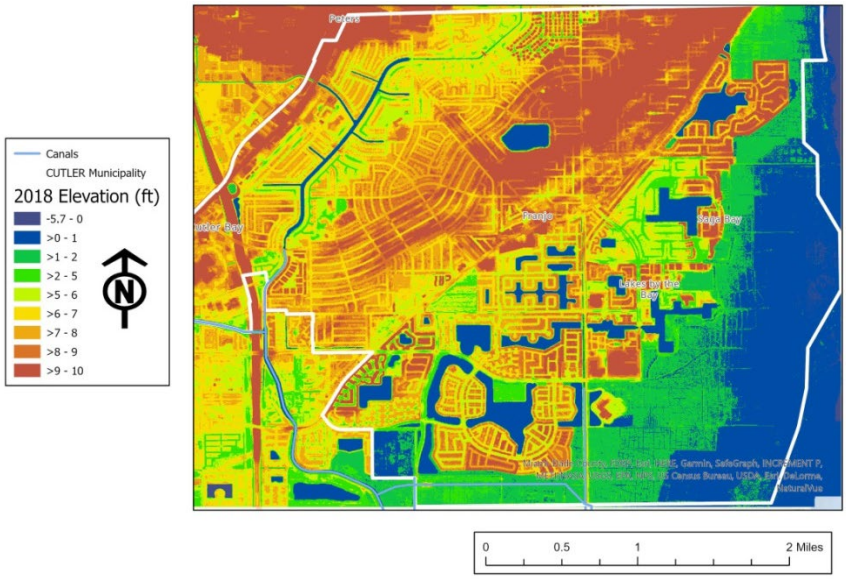

Figure 2- LIDAR Map of the Town of Cutler Bay Selecting the Vulnerability to Sea-level Rise

[1] Town of Cutler Bay, Florida. (n.d.) *Town Map.* Community. Cutlerbay-fl.gov. https://www.cutlerbay-fl.gov/sites/default/files/fileattachments/community/page/2971/2cutler_bay_arial.pdf

We would like to thank the District for including additional flood control infrastructure components and improvements to the pumping capacity in the C-1 and C-102 watersheds (e.g. the newly proposed 500 cubic feet per second [cfs] drainage pump near the Goulds Canal Crossing and additional forward pump at S-21A coastal structure) in response to our comments, which will help improve drainage throughout our municipality including mitigation of nuisance/sunny day flooding, especially during King Tides.

2. **Expansion of Green Infrastructure for Flood and Climate Change Mitigation**

The District's efforts in including additional Flood Protection Level Of Service plans which incorporate green infrastructure to improve County's overall flood resilience e.g. employment of living shorelines in the C-8 basin and wetland flowthrough in the C-9 basin are also admirable, but are still lacking in both, scope and distribution. For example, in 2020 the Town partnered with the District to increase resiliency to sea-level rise and flooding in the region by purchasing an 8.4-acre parcel of land adjacent to Biscayne Bay Southeastern Everglades Ecosystem Restoration ("BBSEER") project for the purpose of increasing the efficacy of regional restoration efforts. Another example involved attempts to find opportunities to restore a 53-acre parcel adjacent to the Biscayne Bay Coastal Wetlands ("BBCW") footprint currently in District's ownership. We would like to find more ways to partner with the District to increase utilization of natural and nature-based features for flood and climate change adaptation. One example would be through mangrove and wetland restoration projects. This would generate a suite of regional benefits from flood resiliency and water quality improvements to reduction of our carbon footprint, all while helping restore the Everglades. *We maintain that investments in gray infrastructure must occur in coordination/conjunction with an aggressive land-buying program for local- and regional-scale restoration.* It is also worth noting that investments in green infrastructure may also yield benefits in the form of reduction of the urban heat island effect, as evidenced by an incredible 3.6ºF drop in average temperatures in the Columbian city of Medellin in the first 3 years of the Green Corridors program[2].

3. **Mitigation for Excess Saltwater Intrusions into County's Groundwater Supply**

We continue to emphasize the importance of mitigation of saltwater intrusions into the County's groundwater and freshwater wells of the Florida Aquifer and addressing the diminishing flow of groundwater to Biscayne Bay. The District indicates that, due to the significant reductions in discharge capacity of low-lying coastal structures during periods of high tides and storm surge, the efficacy of these structures, as salinity barriers, is substantially reduced. These saltwater intrusions represent not only a major threat to South Florida's freshwater supply, but also have consequences for the integrity of the Everglades ecosystem, as well as carbon sequestration capacity of South Florida peatlands. The latter, in fact, was mentioned in the Town's Letter in response to the previous iteration of the SLRFRP, where we have specifically stated that the plan should focus more on reducing peat subsidence as a tool for carbon sequestration. The Town appreciates the continued focus directed towards preservation of peat marshes, which have already begun to collapse in South Florida, and looks forward to implementation of the Everglades Mangrove Migration Assessment pilot study poised to evaluate the ability of coastal communities to shift to foundational plant communities more resilient

[2] *This Colombian city is growing 'green corridors' to tackle Rising heat* (no date) *World Economic Forum*. Available at: https://www.weforum.org/agenda/2021/08/colombias-medellin-plants-green-corridors-to-beat-rising-heat/ (Accessed: 27 June 2024).

to increased water depths and salinities, which in turn may stimulate more peat accretion, sediment capture, carbon sequestration, and keep up with SLR.

Additional concerns, which were also voiced in our previous letters, stem from the proposed implementation of the South Miami-Dade curtain wall in the southernmost portion of the water management district. The construction of the curtain wall described in the plan will further limit already compromised groundwater flow to Biscayne Bay in addition to limiting inflow of freshwater into the Biscayne Aquifer, thereby **exacerbating conditions of saltwater intrusion**. While we understand the benefits of a curtain wall for water supply to the Taylor Slough and Florida Bay, the Town cannot, in clear conscience, support a curtain wall project until the District provides a clear mitigation strategy for impacts to Biscayne Bay salinity and water quality, and the County's water supply. The Town urges the District to implement and complete projects that restore the flow of fresh groundwater to Biscayne Bay and improve the Bay's overall health before additional sections of the curtain wall are approved. Should the District move forward with the extension of submerged bentonite wall infrastructure, described in the current iteration of the plan, representatives **must** ensure that the amount of water flow from the Everglades to Biscayne Bay required to support current and future phases of Central Everglades Restoration Project ("CERP") including BBCW and BBSEER remains the same or improve. These considerations should be incorporated into the ongoing planning efforts for all CERP projects.

While the latest iteration of the plan does demonstrate progress made towards a more comprehensive strategy by emphasizing elements of both green and gray infrastructure intended to keep saltwater out, it does not go far enough and continues to disregard several important factors such as seasonal agricultural drawdown and operations at the Turkey Point Nuclear Generating Station ("TPNGS"). The former represents one of the major exacerbating factors, enabling saltwater intrusions into the Biscayne Aquifer, as the current drawdown practices reduce the groundwater level by releasing an average of 332 billion gallons per day (gpd) obtained from groundwater sources[3]. Without sufficient recharge from the Everglades, the release of this volume of freshwater from the aquifer leaves our only source of drinking water increasingly vulnerable. In addition, these practices drive increases in hyper-saline conditions in the nearshore environments of the Biscayne Bay due to compromised freshwater inflow. Alternatives to current agricultural drawdown operations have been proposed which deserve further investigation at an expedited timeline.

In our feedback following earlier iterations of the plan, the Town has also recommended utilization of reuse water in TPNGS's cooling canal system. Utilization of the reuse water promotes sustainability by removing the need to tap into the regional water supply and we ask the District to consider incorporating this suggestion into existing plans for increasing water supply resiliency. We would also like to note that the District has failed to provide any details for remediation of the deep hypersaline plume emanating from TPNGS's cooling canals and through the subsurface aquifer. This plant is operating at sea-level and no mitigation, to date, has been required to offset decades of impacts to Biscayne Bay. The current mitigation and remediation plan is only for the water supply to the west and is flushing hyper saline water into the nearshore environment of Biscayne Bay, in clear conflict with project metrics outlined in BBSEER. Both the National Park Service and the District have noted historical increases in salinity in Biscayne Bay, which has already affected the population of several aquatic species. This hyper saline plume also contains nutrients that have been concentrated over

[3] SFWMD 2021 Estimated Water Use Report

decades of evaporation and operations at the plant that have impacted and changed the flora and fauna of the benthic habitat in the nearshore area.

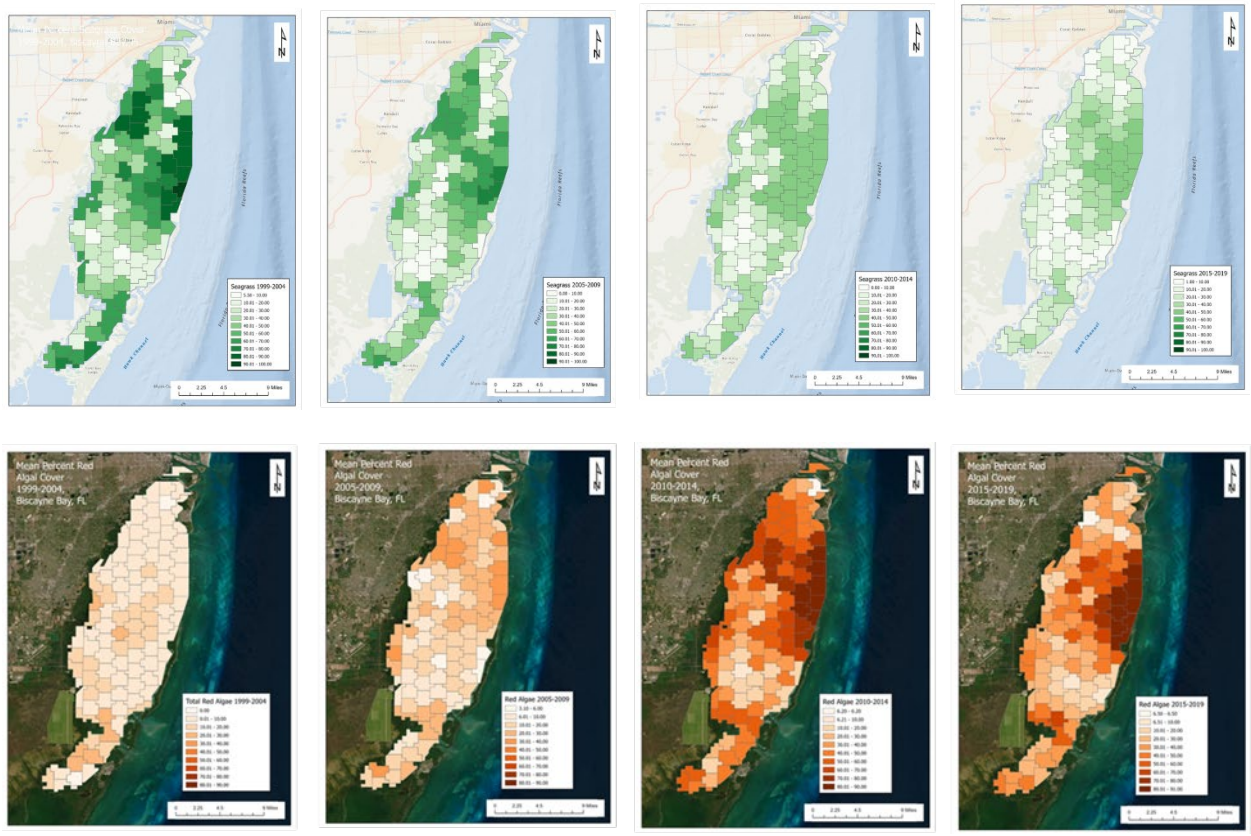

Figure 3- Data collected over a 20-year period (1999-2019) by DERM was then plotted using the polygon system from this sampling design. Each polygon was sampled once per year in a random location and then all 5 of those samples were averaged to come up with a % cover map shown here. This reveals significant seagrass loss and replacement of the original benthic community by faster growing more nutrient loving species in succession. For example, there was a 24 percent loss of Thalassia cover and a 50 percent loss in total seagrass cover, in the area of study. This loss corresponds with a 23 percent increase in macroalgae cover between the same time period. (source: GEER 2023)

We want to be sure any practice that weakens our resiliency, such as the addition and concentration of pollutants like Total Phosphorus and Nitorgen, that impact the benthic habitat in the Town, are corrected or stopped to ensure our residents are safe and that we are able to provide carbon sequestration to slow the impacts of sea-level rise and provide better erosion control and flood protection. The overall health and resiliency of Biscayne Bay is critical to our residents.

The Town understands this draft of the SLRFLP is only the first step to increasing resilience in the District, and we want to continue working with you to help improve the plan and its effectiveness. As previously stated, the Town is one of the County's most vulnerable municipalities to the effects of sea

level rise and the resulting flooding and, as such, we look forward to closer collaboration to increase our understanding of your plans and vision, and ultimately our resilience against sea-level rise and flooding in the Town.

On behalf of the Town Council, we thank you for taking time to review our comments. If you should have any questions or concerns, feel free to contact me at (786) 573-5518 or via email at rcasals@cutlerbay-fl.gov.

Sincerely,

Rafael G. Casals, ICMA-CM, CFM
Town Manager

CC: Florida State Representative Alina Garcia, alina.garcia@myfloridahouse.gov
Florida State Senator Alexis Calatayud, calatayud.alexis.web@flsenate.gov
Executive Director, South Florida Water Management District, Drew Bartlett, dbartlett@sfwmd.gov
Division Director for Ecosystem Restoration & Capital Projects, SFWMD, Jennifer Reynolds, jreynolds@sfwmd.gov
Mayor, Miami-Dade County, Daniella Levine Cava, mayor@miamidade.gov
Miami Dade County District 8 Commissioner, Danielle Cohen Higgins, District8@miamidade.gov
Miami Dade County District 9 Commissioner Kionne McGhee, KionneMcGhee@miamidade.gov
Laura Reynolds, Environmental Consultant, Town of Cutler Bay, lreynolds@conservationconceptsllc.org
Cutler Bay Mayor Tim Meerbott, tmeerbott@cutlerbay-fl.gov
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Miami Dade County Director RER, Lourdes Gomez, Lourdes.Gomez@miamidade.gov
Miami Dade County Chief Bay and Water Resources Officer, Loren Parra, Loren.Parra@miamidade.gov
Chief Resiliency Officer, Miami-Dade County, Jim Murley, resilience@miamidade.gov
SFWMD, Nicole Niemeyer, nniemeye@sfwmd.gov

From: Randolph Brown
To: Resiliency
Subject: 2024 Sea Level Rise and Flood Resiliency Plan
Date: Monday, June 10, 2024 5:26:02 PM
Attachments: image001.png

[Please remember, this is an external email]

Good Afternoon,
The District should provide suitable locations for future wellfields for those utilities that face saltwater intrusion as part of this plan.
Thank you,
Randy Brown

“Reach Beyond Your Grasp”

A. Randolph Brown
Utilities Director
Randolph.Brown@copbfl.com

Pompanobeachfl.gov

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WATER RESOURCES UTILITY OF THE FUTURE TODAY

SFWMD 2024 SEA LEVEL RISE AND FLOOD RESILIENCY PLAN DRAFT: FDOT COMMENTS

Comment Severity Legend:

A	Administrative changes which improve readability of the document or create standardization
S	Substantive comments correcting minor content errors of more serious nature than administrative
C	Critical comments which must be addressed because the content may have negative impacts to critical infrastructure
P	Positive comment that represents FDOT interests

Comment No.	Page No.	Section	Comment Severity	Comment
1	7	2	S	"The 'consequences of failure' scoring is based on the location and size of the structure/facility, accounting for public health, safety, security & services, its financial impact on surrounding land use, upstream/downstream impacts, and its back up operational options." Please clarify if impacts to the critical roadways/transportation system are considered in the "consequences of failure" scoring for the Capital Improvement Program (CIP).
2	24	3	S	Please clarify if the Navteq/HERE Roads data used to assess exposure as part of the Flood Impact Assesstment Tool aligns with FDOT roadway data or if FDOT roadway data is incorporated anywhere in the assessment.
3	30	4	P	The C-9 (Snake Creek) Canal Enhancement Project borders and runs through FDOT District 6/Miami-Dade County. The project proposes improvements that include raising canal bank elevations, improving the geometry, and incorporating nature-based solutions (e.g., creating a linear stormwater storage wetland). The canal passes below major roadways such as I-95, where the improvements could build resiliency against roadway overtopping under future conditions. Please continue coordination with FDOT regarding I-95.
4	30	4	S	Consider including a map of the C-9 project extent to show interaction(s) with surrounding infrastructure including transportation facilities and other critical infrastructure.
5	31	4	P	The C-8 (Biscayne) Canal Embankment Resiliency Project is located in FDOT District 6/Miami-Dade County. The project proposes improvements that include canal widening and nature-based solutions such as a living shoreline installation. The canal passes below major roadways such as I-95, where the improvements could build resiliency against roadway overtopping under future conditions. Please continue coordination with FDOT regarding I-95.
6	32	4	S	Consider including a map of C-8 project extent to show interaction(s) with surrounding infrastructure including transportation facilities and other critical infrastructure.
7	34	4	S	Consider adding a layer with planned and/or current FDOT construction projects to the Figure 4-3 map to show potential FDOT interactions with the SFWMD project.
8	38	4	P	The C-7 (Little River Canal) Basin Resiliency Project is located in FDOT District 6/Miami-Dade County. The proposed project includes nature-based solutions. The canal is adjacent to roadways that could benefit from the improvements. FDOT would be supportive of any additonal opportunies to incorporate nature-based solutions.
9	116	11	S	For Federal funding sources, consider including the Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) funding established by the Bipartisan Infrastructure Law (BIL) to support planning efforts/projects that build the resilience of surface transportation (including funding for nature-based solutions). Many of the SFWMD projects are adjacent to transportation faciliities. Therefore, applying for PROTECT grant and additional relevant funding (e.g., Infrastructure Investment and Jobs Act [IIJA], Inflation Reduction Act [IRA], etc.) could be appropriate and build collaboration among agencies.
10	80	8	P	The likelihood of occurence assessment described in Criteria Set 1 allows planners to focus effort on current/near-term issues, addressing issues that currently affect the public helps to build support for the plan and its proposed actions. Please keep including this in updated versions of the plan.
11	81	8	S	The FDEP Statewide Critical Assets Dataset used in the development of ranking critera expands consideration of the transportation sytsem accross modes identifying airports, seaports, rail, bus terminals, and roads. Please clarify how the plan identifies regionally significant transportation assets, and which assets from the FDEP dataset are included.
12	85	8	S	In applying the scoring criteria for Critial Assets / Lifelines. How are roadways accomodated in the scoring? Is each roadway considered an individual critical asset, or are roads grouped and evaluated as a single asset? Suggest including these points in the next version of the plan.
13	8	3	S	Consider early engagement with FDOT D6 in all FPLOS Phase II activities. This would facilitate development of near, mid, and longterm actions that support resilience of the transportation system and root estimated costs and benefits in current conditions. Additoinal benefits of early engagement could identify partnerships and other opportunities for collaboration.

EXTERNAL ENVIRONMENTAL COMPLIANCE

July 12, 2024

Ana Carolina Coelho Maran, P.E., Ph.D.
Chief of District Resiliency
South Florida Water Management District
cmaran@sfwmd.gov

Re: 2024 Draft Sea Level Rise and Flood Resiliency Plan

Dear Dr. Coelho Maran,

The Environmental Protection Office (EPO) of the Seminole Tribe of Florida ("Seminole Tribe") appreciates the invitation from the South Florida Water Management District (SFWMD) to provide comments on the 2024 Draft Sea Level Rise and Flood Resiliency Plan ("Draft Plan"). After reviewing the Draft Plan, the EPO offers the following comments for your consideration and incorporation:

Requested Alterations to Improve Flood Resiliency for the Hollywood Reservation

- Prior storm events have demonstrated that in certain instances, the S-13 AW structure can be operated to flow water from the C-11 East Basin to the C-11 West Basin. However, the study does not address how these two components of the C-11 can be operated to improve the overall effectiveness of the S-13 structure. The EPO requests that additional consideration be given to allow flexibility of operation with respect to S-13 AW, and either the C-11 East or the C-11 West projects should consider improvements to S-13 AW that provide redundancy to the function that S-13 currently provides.
- Within the Draft Plan, there is reference to lowering the control elevation and maintaining lower stages pre-storm in the canal. In addition to upgrading the capacity of the S-13 pump, has the SFWMD considered updating the S-13 structure with a dual-leaf configuration or modifying the underflow gate to provide additional flexibility in the system in light of the current underflow gate limitation?
- Given the lack of positive drainage outflows to the primary system, are there considerations for additional drainage pathways in the C-11 and C-9 Basins, including additional connections to the C-10 Spur and C-9 Canals?
- Given that all geographic areas within Tribal lands meet the Environmental Protection Agency's EJScreen definition of "disadvantaged communities", EPO recommends that projects benefiting the Seminole Tribe's reservations be prioritized in the SFWMD's planning considerations.

Assessing Flood Vulnerabilities

- The sea-level rise (SLR) scenarios referenced on page 12 of the Draft Plan are insufficient to predict and plan for the known climate risk. Section 380.093 (5) F.S., does not preclude flood vulnerability

assessments from utilizing more than two local SLR scenarios or timeframes. Considering the magnitude, critical nature, and interconnected dependence of the infrastructure included in the Draft Plan, EPO recommends including the National Oceanic and Atmospheric Administration (NOAA) High Scenario, as prescribed by the Southeast Florida Regional Climate Change Compact. Accordingly, projects that are shovel ready should be planned for elevations of about 64 inches, or 5.33 ft, which is significantly higher than the "See" (misspelling) Level Rise Projections included on Table 3-1.

- Furthermore, EPO finds that the planning horizons for the vulnerability assessments are too short to account for the expected lifespan of improvements. The Draft Plan uses an expected 50-year scope for infrastructure design and planning. Yet, both the 2040 and 2070 planning horizons (page 12) are premature of that 50-year timeframe. EPO recommends adding two additional planning horizons to the analysis, 2075 and 2095, to reflect a 50-year timeframe from the plan's completion, and a 50-year timeframe from the operational date for the average project (considering a project can take 10-30 years for design, funding, and build) respectively. Beyond the flood vulnerability assessments summarized in the Draft Plan, EPO recommends an iterative design and planning process, requiring project specifications based on the project's Operational Date +50 years for SLR and utilizing the critical infrastructure curve (NOAA High).
- On page 60 of the Draft Plan, the SFWMD notes that, "Many of the District's coastal structures were constructed over 70 years ago and are no longer capable of conveying their design discharge due to changes within the watershed, sea level rise, and climate change. The District is proposing to restore the original design discharge at these structures by installing forward pump stations that can continue to discharge to tide when gravity discharge ceases (during storm surge or extreme high tide events) and to augment gravity discharge at critical times." EPO agrees that structures constructed in the past century did not adequately take current nor future projections of faster changes in sea level rise, heavier rainfall events, and increased population demographics into consideration and are failing to provide the necessary flood prevention services needed to protect communities. Rather than default to decisions made in past shortcomings, EPO encourages the engineers and city planners working on designing operating plans and modifications to existing structures to adjust their schematics to anticipate long-term, future climatic changes, in addition to increased development and additional runoff that communities will actually experience.
- While the EPO supports the implementation of nature-based solutions and holistic, basin-wide solutions to maximize the capacity of flood adaption, it is not clear how the SFWMD proposes to utilize the various mitigation strategies in light of sea level rise projections. Specifically, the adaptive pathways depicted in Figure 8-5 suggests that there are no flood management actions (local, small, or regional) that will be effective over 0.8 feet SLR. This is concerning, as previous conversations with SFWMD staff alluded that the system is predicted to fail at 3 feet SLR, even though the figure in question suggests the system will fail at 1-foot SLR. As the SFWMD continues to refine its strategies, EPO

encourages the agency to set the expectations of best solutions with the appropriate models to meet changing conditions.

- The EPO supports the recommendation of the SFWMD regarding the collection of carbon data across a broad scale for each of the restoration projects. Monitoring the movement of carbon will inform assessments of additional ecosystem health indicators, especially with peat accretion and maintaining healthy vegetation communities, which are two idealized outcomes for regional Everglades Restoration efforts.
- Figure 9-1 shows the locations of numbered priority resiliency implementation projects, but there is no corresponding table that describes the respective names or specifications of these projects. Please provide additional reference materials that provide spatial recognition and extended details of the various projects.

The EPO appreciates the opportunity to review and comment on the Draft Plan. The Seminole Tribe and the SFWMD have a long history of working together in planning for water related matters. We look forward to continuing to work with the SFWMD throughout the development of the Draft Plan, particularly as it relates to the resiliency and protection of the Seminole Tribe's reservations. Thank you for your consideration of these comments.

Sincerely,

Paul Backhouse, Ph.D., RPA
Senior Director
Environmental Protection Office
Seminole Tribe of Florida

CC:
Tina Osceola, Executive Director of Operations, Seminole Tribe of Florida (STOF)
Stacy Myers, Director, External Environmental Compliance
Alfonso Tigertail, Director, Water Resources Department
Whitney Sapienza, Director, Environmental Resources Department
Megan Mills, Environmental Permitting Manager, Environmental Resources Department
Ashley Wilson, Environmental Protection Manager, External Environmental Compliance
Angelica Ocampo, Program Analyst II, External Environmental Compliance
Joseph John, Program Analyst I, External Environmental Compliance
Jill Horwitz, Climate Resiliency Officer, Environmental Protection Office

Christopher Murphy, Senior Stormwater Engineer, Water Resources Department
Armando Ramirez, Tribal and Federal Affairs Liaison, SFWMD
Telsula C. Morgan, Esquire, Lewis, Longman and Walker. P.A.

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June 21, 2024

Attn: Executive Director
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, Florida 33406

Dear Mr. Bartlett:

Thank you for the opportunity to comment on the Draft 2024 Sea Level Rise and Flood Resiliency Plan (Plan). Audubon is grateful for the District's consideration of our previous comments and for incorporating some of them into this iteration. For instance, we are encouraged to see the Plan reorganized into basin-level strategies to better demonstrate resiliency needs across the 16 counties and the inclusion of expanded funding opportunities to sustain resiliency costs.

Audubon offers the following comments to further enhance the Plan. Please review the addendum for additional details:

1) **Project Location** – We encourage the District to increase project location diversity in its prioritization process;
2) **Water Supply Resiliency** – Audubon recommends a more robust analysis of dry season/drought conditions and water storage opportunities;
3) **Nature-Based Solutions** – Audubon applauds the addition of green and blended solutions, and asks for expanding the use of these solutions;
4) **Local Government Guidance** – We encourage the District to develop guidance for local governments in each region to ensure alignment with resilience goals.

The best approach to building resiliency is to retain and protect our existing natural infrastructure. Preventing wetland loss and mitigating for them with stringent regulatory oversight is prudent and less expensive than building infrastructure to address flooding after the fact. Robust land conservation programs and removal of exotics so these natural areas can provide their full benefits should be an integral part of resiliency planning. We look forward to continuing to collaborate with the District on this planning effort and we appreciate your leadership among the Water Management Districts in the state.

Sincerely,

Kelly Cox, Esq.
Director of Everglades Policy
Audubon Florida

Addendum:

1. **Project Location**

   In this version of the Plan, projects are reorganized into basin-wide strategies and each basin includes individual project components. This is a marked improvement from previous versions of the Plan which lacked this structure. However, it remains clear that nearly all projects are focused on southern and coastal systems, with very few occurring in the northern and western regions. We encourage the District to plan for projects in these and more inland areas as well.

   Specifically, we ask the District to look closely at projects currently planned north of Lake Okeechobee. The Plan still highlights the Upper Kissimmee Basin as the highest priority location. Yet the projects mentioned in Appendix A are focused solely on increasing drainage capacity and omit broader consideration of storage projects and smart growth principles that will be essential to resiliency. This is especially urgent since the Orlando region is rapidly growing and faces immediate water supply challenges. Resolving water issues in the upper part of the watershed incrementally benefits downstream systems.

   In addition, flooding is an issue beyond the coasts and urban areas. Flood Protection Level of Service studies are focused on urban/semi-urban areas because of previously observed vulnerabilities. However, flooding in inland and natural areas is a risk as well. If the evaluation of flooding in natural regions is in the planning stages, it would be helpful to view current analyses and we would encourage the District to include such details in the next iteration of the Plan.

2. **Water Supply Resiliency**

   In Florida, as we experience heavier rain events and prolonged drought seasons, a robust water supply plan is necessary. Audubon is encouraged to see the addition of the brackish West and East Coast Floridan Aquifer System (FAS) models in this Plan. As demand for water increases (e.g., drinking water, irrigation, etc.), stressors on our water resources are likely to be exacerbated by climate change, so the District must continue to evaluate water supply planning, water conservation, and aquifer protection. The primary strategy should be to minimize the over-depletion of water resources, which can lead to saltwater intrusion and groundwater contamination. This Plan will benefit from a more thorough analysis of dry season water levels in addition to drainage capacity, when evaluating resiliency projects.

   Moreover, we are glad to see the inclusion of the Corkscrew Watershed Initiative in this Plan. This initiative was launched to build flood resiliency and reduce water level recession rates in the Corkscrew Regional Ecosystem Watershed. This study will allow for a robust assessment of dry season conditions and hydroperiods to develop a comprehensive ecological restoration strategy. Similarly, this Plan should implement strategies to prevent over-depletion of water across all geographies of the District's purview as a resiliency measure.

   In addition, increased water storage capacity, as a complement to water drainage features, is necessary to better protect our environment and communities from flooding. Several

Comprehensive Everglades Restoration Plan reservoirs will help with this, but we are not yet close to meeting water storage needs. Resiliency projects that increase storage capacity will dually ameliorate negative flooding impacts and prepare us for dry seasons ahead.

3. **Nature-Based Solutions**

We applaud the District for continuing to make strides in incorporating Nature-based solutions (NBS) into the design of projects as a cornerstone in resiliency planning.

Audubon appreciates the conceptual design of the C-9 Canal Enhancement Project, which will create a linear wetland and buffer the canal banks with NBS. While this is a relatively small NBS project, this will help reduce flood risk in a highly urbanized location. We encourage the District to move forward with this design while expanding these and similar concepts to many other regions, canals, and projects. As it stands, beyond the six listed in the last iteration, the remainder of the priority projects in Appendix A are heavily focused on "hardening" of infrastructure. Blended opportunities are available in many of these regions if planned in conjunction with District property/structures.

In addition, as development pressure continues to increase, we ask you to analyze the full spectrum of resiliency needs for the entire scope of District-owned lands, including reservations. As parcels are reviewed, opportunities for resiliency through NBS in urban and rural areas should be considered before the land is lost to development. We also ask you to look beyond areas adjacent to District structures in future plans and broaden the scope of NBS to other types of habitats, such as dunes and salt marshes to strengthen coastal resiliency.

4. **Local Government Guidance for Resilience Planning**

The District is a forerunner in state resiliency planning. Local governments, however, often lack the resources to engage in this level of analysis and thoughtful planning. To enhance the implementation of this Plan, we encourage the District to develop guidance for local governments in each region. Through this approach, local governments can build on District recommendations, make sound land use/permitting decisions, and develop projects in line with District resilience goals.

COASTAL & HEARTLAND NATIONAL ESTUARY PARTNERSHIP
1050 Loveland Blvd., Port Charlotte, FL 33980-1836
941/833-6580, *www.CHNEP.org*

June 26, 2024

Dr. Carolina Maran, District Resiliency Officer
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, FL 33406
Via email to resiliency@sfwmd.gov

RE: Technical Comments on the *Draft 2024 Sea Level Rise and Flood Resiliency Plan*

Dear Dr. Maran,

The Coastal & Heartland National Estuary Partnership (CHNEP) is writing to convey our technical comments on the *Draft 2024 Sea Level Rise and Flood Resiliency Plan* (SLRFRP) out presently for public comment. The CHNEP is part of the US EPA National Estuary Program, created by Section 320 of the Clean Water Act, to protect and preserve the estuaries from Lemon Bay to Estero Bay in Southwest Florida and their watersheds – recognized as estuaries of national significance by Congress. Long-term management, preservation, and restoration activities within the CHNEP are guided by our Comprehensive Conservation and Management Plan (CCMP), developed and implemented through coordination with all local, state, and federal entities in the Partnership. Climate Change considerations and resiliency measures are interwoven into each of our Water Quality Improvement, Hydrological Restoration, Fish, Wildlife, & Habitat Protection, and Public Engagement CCMP sections. We applaud the South Florida Water Management District (SFWMD) for convening an outstanding team of experts to serve as the project team in drafting such a vitally important plan that will enhance resiliency across the SFWMD service area. We offer the following technical comments and recommendations in support of this work.

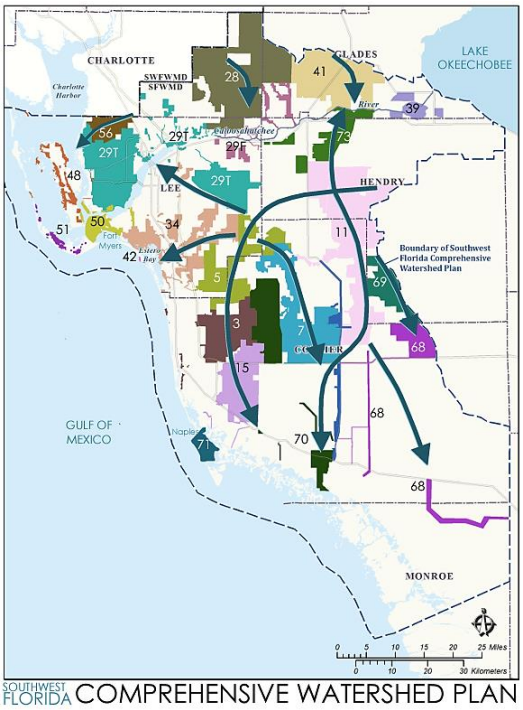
More Priority Projects aimed at Vulnerable West-Coast SFWMD Communities

In reviewing the *SFWMD Sea Level Rise and Flood Resiliency Plan Priority Projects 2024* interactive map, it is readily apparent that there are relatively fewer projects identified for vulnerable west-coast SFWMD communities than for the east coast. This seems to be potentially related to the SLRFRP outlining the goal of the planning to identify priority projects to improve the Central and Southern Florida Project (C&SF) System and the Big Cypress Basin flood control infrastructure. A more comprehensive SLRFRP would result from expanding the goal, so that in addition to enhancing the C&SF and Big Cypress Basin, this plan also incorporates other previously identified priority projects throughout the SFWMD, particularly in those areas outside the Big Cypress Basin on the west coast of Florida.

Historically it was understood that the C&SF was not adequate to address water management in the Western Everglades area (as only 2 projects, C-43 and Picayune, were originally included in the 40 major CERP "yellow book") - especially those parts that were outside the Big Cypress Basin area. Therefore, the Southwest Florida Feasibility Study (SWFFS) was initiated in 2001 to identify environmental problems and opportunities in Southwest Florida and develop a comprehensive watershed management plan for the region outside of the Comprehensive Everglades Restoration Plan (CERP) geographic area. For more than a decade, many agency officials (including the SFWMD) and natural resource management professionals (including myself) participated in numerous interagency meetings to develop a detailed list of priority projects that would improve water management to reduce flooding, recharge aquifers and wetlands and return more natural flows to areas in need of hydrological restoration in this Western Everglades region of the SFWMD. The Southwest Florida Comprehensive Watershed Plan (SWFCWP) evolved out of the SWFFS, to better address problems, needs, and opportunities within a regional watershed context and to recommend site-specific project implementation studies. Unfortunately due to funding limitations given other CERP and other priorities at the time, the SWFCWP Tentatively Selected Plan was only a subset of

the original voluminous list of water projects. While some additional Western Everglades restoration projects have been added or are being added, such as the Western Everglades Restoration Project, there are still many water projects that had been identified in SWFCWP planning process which are not moving forward with project implementation With few priority projects presently identified in this draft SLRFRP for that area, it would be advantageous to resurrect those and incorporate them into this plan where they are still incomplete and feasible so they can be implemented.

Communities devastated by Hurricane Ian including Fort Myers, Fort Myers Beach, Pine Island, Sanibel, and Captiva have little to no identified priority projects in the current draft SLRFRP, though they are in the process of rebuilding - so this would be a key opportunity to assist in the redevelopment of those areas in a way that helps them become more resilient to sea level rise and storm surges. Components of the Pine Island Buffer, Sanibel Wetlands Complex, Little Estero Island, Punta Rassa and San Carlos Bay SWFCWP proposed priority projects (see map right, projects are 48, 51, 42, and 50 respectively) could still be beneficial in improving resiliency, flood mitigation, and habitat in these communities if those components are still feasible and could be incorporated now into this planning effort to be completed. Other projects such as Yucca Pens (56) are only initializing with inadequate funding for their completion, but could provide immeasurable benefits to provide natural stormwater retention to reduce coastal flooding and provide base flows needed to sustain healthy salinity levels in tidal and coastal waters in the face of continued sea level rise if included in the SLRFRP.



More Emphasis on Accelerating Sea Level Rise Rates

While it is intuitive and natural for planning and engineering to be based on historical data, recent science is indicating that such information is not indicative of current or future conditions with regards to sea level rise. Recent research has found that average sea levels along the United States' Gulf and Southeastern coasts have increased by about half an inch per year since 2010, three times the global average and "unprecedented in at least 120 years." (Dangendorf et al, 2023) Another study corroborated the findings in that is concluded sea levels along the Gulf and Southeast coasts rose at a rate of more than 10 millimeters per year between 2010-22, a total of about 5 inches during that span. (Yin, 2023) This acceleration of sea level rise along the United States' Southwest and Gulf coasts has exacerbated recent hurricane-induced storm surge and coastal flooding, and poses a significant threat in increasing the risks and vulnerabilities of flooding in those areas. Ensuring this acceleration is emphasized and effectively communicated to policy makers and the public will be paramount in effective resiliency planning to combat it.

In conclusion, the draft plan is excellently written and does a tremendous job of outlining the opportunities to enhance resiliency with regards to improving the C&SF and Big Cypress Basin Flood Control Systems. Providing that level of thorough planning (including identification of additional priority projects) to the other parts of the SFWMD's service area outside C&SF and the Big Cypress Basin boundaries will enhance this plan document and benefit additional communities that SFWMD serves. Thank you for considering our input and we look forward to continuing to work with the SFWMD to enhance resiliency across our region.

Sincerely,

Jennifer Hecker

Executive Director

Cc Chauncey Goss, SFWMD CHNEP Policy Committee member
Phil Flood, SFWMD CHNEP Management Committee member

Resiliency Team
South Florida Water Management District
3301 Gun Club Rd
West Palm Beach, FL 33406

Dear Resiliency Team,

The Everglades Foundation appreciates the opportunity to submit comments on the South Florida Water Management District's 2024 Draft Sea Level Rise and Flood Resiliency Plan. The 2024 Draft Plan presents prioritized resiliency projects based on rigorous vulnerability assessments and evaluation processes, critical steps in the strategy to reduce risks from flooding, sea level rise, and other climate-related impacts on South Florida's natural and built systems. We support the SFWMD in developing a technically robust resilience plan that comprehensively addresses multiple risks in the region. In conjunction, we support the prioritization of environmentally positive solutions, including the ongoing restoration of the valuable Everglades, and equity-oriented risk reduction measures in disadvantaged communities.

We offer recommendations to the 2024 Draft Plan on the urgent need to develop a comprehensive plan for compound flood risk management, consideration to water quality improvements in resilience planning, incentivizing innovative funding mechanisms for nature-based solutions (NbS), and local efforts to prioritize attention to underserved communities' resilience.

1. **Aid and advance compound flood risk management in South Florida**: The increasing risk of compound flooding threatens vulnerable families, livelihoods, businesses, and the regional economy in South Florida with numerous physical and socioeconomic impacts. The 2024 Draft Plan acknowledges the significance of compound flooding (Page 23) but does not outline a clear strategy to improve flood risk assessments and inform policy development. Several gaps exist in our understanding of the multiple drivers of flooding and the non-linear impacts of their combined effect during compound flood events. For example, how will hazard models incorporate sea level rise and groundwater elevation change in simulating sea level rise scenarios? In addition to the use of change factors in extreme rainfall projections (Page 13), how will the models incorporate recent extreme events such as the one experienced in Fort Lauderdale (April 2023) to help plan for future extreme events? Which areas in our region are likely to experience compound flood events, who is likely to suffer, in what different ways, and to what extent? Neglecting the challenges posed by this complex hazard will only increase the risk for our ecosystems, communities, and infrastructure systems and prove costly to the state and local governments. Additionally, shifting the responsibility of addressing compound flooding to other regional projects, such as the Comprehensive C&SF Study, as suggested in the Draft Plan (Page 27), delays much needed action to reduce flood impacts that communities currently face.

We recommend the following key steps to improve compound flood risk management in South Florida and aid policy development: (1) Advance research for improved hazard modeling to understand the frequency, extent, and intensity of different types of flooding and the associated compound flooding events. We advise robust involvement of stakeholders in developing modeling, assumptions, and limitations to broaden the understanding of risk characteristics. (2) Incorporate each flood type (coastal, rainfall, groundwater) associated with compound flooding in South Florida into flood hazard maps. (3) Identify all direct, indirect, and cascading physical and economic impacts of compound flood events across communities and sectors of our economy. We suggest consultation and collaboration with experts across multiple disciplines in the region and local communities to inform exposure extent and differential vulnerabilities. (4) Amplify the public communication of compound flood risk and its disproportionate impacts through diverse channels. (5) Delineate priorities, needs and actionable guidance for research, emergency management, and disaster risk management programs in the regions. (6) Form an advisory group to guide decision-makers for policy development regarding compound flood risk management in South Florida.

2. **Emphasize water quality improvements and consider more storage**: We reiterate the importance of incorporating water quality improvement projects into resiliency planning to ensure that we keep sending clean water to our estuaries and bays. The ongoing construction of the Everglades Agricultural Area (EAA) reservoir, once completed, will generate a massive positive impact on our Everglades ecosystem by recharging water supply aquifers, lowering Florida Bay salinity, and improving Florida's east and west coast estuaries that suffer from red tide and blue-green algae. We acknowledge the continuous efforts to identify and create storage and raise the efficiency of stormwater treatment areas (STAs) around Lake Okeechobee. Furthermore, measures for building more storage and STAs will ensure enhanced water quality-flood protection co-benefits. Maximizing the use of green and blue infrastructure for flood mitigation and water storage in urban areas must be considered. The ranking criteria proposed to identify priority projects would benefit from the inclusion of water quality impairments and benefits as categories in the 'likelihood of system deficiency', 'consequence of system deficiency', and 'benefit of system enhancement' criteria as described in Chapter 8 of the 2024 report.

3. **Leverage public-private funding partnerships for NbS for augmenting resilience efforts**: We appreciate the importance given to NbS elements in key projects such as the C-9 canal enhancement and the C-8 basin resiliency projects alongside the continued development of a process for assessing and implementing NbS projects. However, funding is a major roadblock in the timely realization of resilience benefits. We suggest that existing funding opportunities through state and federal grant opportunities be further diversified to include bonds and other revenue resources. In addition, we recommend leveraging public-private partnerships to expand funding opportunities for NbS that reduce flood risks and enhance multiple socio-economic co-benefits. Businesses recognize that they are dependent on nature and vulnerable to the same risks as the communities in which they operate, affecting their ability to function. By encouraging businesses to partner with the public sector in NbS funding, implementation, and operations, the value of shared responsibility for risk reduction is encouraged, which in turn can enhance community participation. Nature-based resilient infrastructures are assets that can be protected through innovative mechanisms such as insurance, augmenting further industry participation in the region's resilience building efforts.

4. **Prioritize resilience projects in underserved communities**: The use of robust federal data and tools such as the Center for Disease Control's (CDC) Social Vulnerability Index (SVI) and the Council on Environmental Quality's (CEQ) Climate and Economic Justice Screening Tool (CEJS) to identify vulnerable and disadvantaged communities and rank priority projects is an excellent first step in identifying vulnerabilities. We encourage a district-led public engagement process with local groups and communities to complement the abovementioned data with on-the-ground information on specific needs and vulnerabilities of local communities. Information from such an engagement will inform ex ante estimates of project benefits that could positively influence the weightage of the Tier 4 selection criterion that prioritizes projects assisting financially disadvantaged communities. The prioritization of resilience efforts for socio-economically disadvantaged communities is in the best interests of the South Florida community at large.

We commend the excellent collaborative approach initiated through the Resiliency Coordination Forum which has been convening multiple stakeholders in quarterly meetings since December 2022. The Forum creates a conducive environment to share information, identify gaps, and generate solutions while fostering a network of practitioners that is strengthening the social capital for resilience in the region. The Resiliency Team's efforts to facilitate information exchange and technical assistance should encourage similar responses from participating entities. The introduction of the interactive resilience project locations map is an excellent resource for the public and practitioners alike.

Finally, we reiterate our appreciation of the efforts described in the 2024 Draft Plan to build a resilient South Florida. We are thankful to the District's Resilience Team and look forward to continued engagement and collaboration.

Sincerely,

Meenakshi Chabba, PhD
Ecosystem and Resilience Scientist

June 28, 2024

South Florida Water Management District
3301 Gun Club Road
West Palm Beach, FL 33406

RE: SFWMD Resilience Plan

Dear South Florida Water Management District,

Thank you for the opportunity to provide comments on the most recent iteration of the South Florida Water Management District's 'Draft 2024 District Sea Level Rise and Flood Resiliency Plan'. The Sanibel-Captiva Conservation Foundation (SCCF) represents the individuals, wildlife, and ecosystems that make up our coastal environments. Our members and the wild spaces we strive to protect are on the forefront of the impacts from our changing planet, and sea level rise and flood risks play an outsized role in both our built and natural environments. As we look to the future and work to ensure that our communities continue to exist and thrive in the face of a changing planet, it is of vital importance that we work to adapt to these changing conditions. The work the district is doing to ensure that our state is resilient in the face of storms is of the utmost importance.

We are heartened to see that the iterative approach the district has taken to this process seems to be reactive to the needs of the communities that the district is charged with protecting. The complex needs of the different stakeholders within the district make this plan a large task, and hot spot analysis is a good starting point to identify where the needs of the system lie. We are worried that, in practice, this approach is focusing an outsized amount of attention on the east coast watershed, due to their density and how that is reflected in the metrics used. While it is important to provide support for these areas, it should not come at the cost of the west coast stakeholders that also have important resiliency needs. We ask the district to evaluate if resources are being concentrated in any certain area due to the metrics chosen, at the cost of important considerations elsewhere in the district.

Additionally, while we apricate he analysis carried out concerning water supply resiliency, we ask that special attention be paid to areas, specifically in eastern Lee County, where drought conditions are becoming commonplace and water storage opportunities are becoming scarce.

Finally, we would like to commend the district for its approach to use nature-based solutions, and would ask for their use to be expanded to whatever extent possible in future projects.

Thank you for the great work you are doing, and we look forward to continuing to work with you and our fellow stakeholders in pursuit of a more resilient Florida.

Sincerely,

Matt DePaolis
Environmental Policy Director

South Florida Wildlands Association
1314 East Las Olas Blvd., #2297
Fort Lauderdale, FL 33301

June 28, 2024

Re: Draft 2024 District Sea Level Rise and Flood Resiliency Plan

South Florida Wildlands Association appreciates the opportunity to provide these comments to the Resiliency Plan.

These comments will be brief but will be supplemented by a comprehensive letter we recently submitted to the Village of Wellington in November of 2023. The letter was written in opposition to the filling of state and federal jurisdictional wetlands in the Village of Wellington for a project known as Wellington South.

In our letter, we emphasize the critical importance of natural wetlands and the many services they provide. Those include aquifer recharge, water purification, fish and wildlife habitat, outdoor recreation, and even carbon sequestration. But in the context of flood control and resiliency at a time of sea level rise and more intense and frequent "big rain events"- the most important aspect of wetlands is the tremendous boost they provide to flood control. That service is not replaced by impoundments, canals, pump stations, or other artificial flood control infrastructure.

Below is a quote from a U.S Environmental Protection Agency (EPA) document titled, Wetlands: Protecting Life and Property from Flooding, U.S. EPA, EPA843-F-06-001, Office of Water, May 2006

See: https://www.epa.gov/sites/default/files/2016-02/documents/flooding.pdf

The Federal Emergency Management Agency (FEMA) states that floods are the most common and widespread of all natural disasters—except fire. Most communities in the United States have experienced some kind of flooding. FEMA

encourages the use of wetlands for stormwater detention in lieu of, or in conjunction with, traditional structural flood control measures. (Source: FEMA)

How Do Wetlands Help Reduce Flooding?

The effectiveness of wetlands for flood abatement may vary, depending on the size of the area, type and condition of vegetation, slope, location of the wetland in the flood path and the saturation of wetland soils before flooding. A one-acre wetland can typically store about three-acre feet of water, or one million gallons. An acrefoot is one acre of land, about three-quarters the size of a football field, covered one foot deep in water. Three acre-feet describes the same area of land covered by three feet of water. Trees and other wetland vegetation help slow the speed of flood waters. This action, combined with water storage, can actually lower flood heights and reduce the water's destructive potential.

Clearly, both the EPA and FEMA have determined that natural wetlands already provide the best flood protection money can buy. When those wetlands are paved over, their effect is just the opposite. Water is not retained and must be shunted to other places through the built environment which is already at its limit in dealing with flood waters.

We recommend the SFWMD cease the permitting of all natural wetlands within the District to accommodate the new climate conditions that are now upon us. No matter how much flood control infrastructure is constructed, the paving over of South Florida's wetlands will only exacerbate an already bad situation and contribute to a deterioration of the South Florida environment.

Another important point raised in the SFWA letter is the minimization of the value of wetlands impacted by invasive plant species by the SFWMD. In many cases, the fact that wetlands contain invasive plant species such as melaleuca is due to the property owner not restoring them with native wetland plants. When it comes time to mitigate the loss of those wetlands, they are viewed as degraded or "crappy" wetlands (quote from a SFWMD reviewer regarding wetlands in Wellington South).

But, regarding their function in flood control and resiliency, that is simply not the case. As stated in a literature review by Audubon (Melaleuca and Evaluations of Wetland Functions: Melaleuca presence does not justify losing wetlands) the following is true.

See:

https://corkscrew.audubon.org/sites/default/files/static_pages/attachments/melaleuca_aof_fact_sheet_4-10.pdf

"While long assumed to drain wetlands, melaleuca has not been definitively shown to lower groundwater levels through evapotranspiration at any greater rate than native species. Consequently, melaleuca-invaded wetlands retain most of their natural capacities to store and attenuate flood waters, recharge aquifers, cleanse pollutants, and regulate base flows in watersheds."

SFWMD should immediately recognize this critical function of wetlands even when they are covered with invasive plants and cease their description of them as "degraded." Instead, they should be treated the same as other wetlands and add a requirement that landowners restore native vegetation to enhance their ability to provide wildlife habitat and other services. Along with not allowing them to be dredged, drained, filled, and paved over, South Florida's natural wetlands can continue to provide a massive contribution to flood control during future, difficult times.

Thank you for considering these comments. Feel free to contact us with any questions.

Regards,

Matthew Schwartz
Executive Director
South Florida Wildlands Association
954-993-5351

South Florida Wildlands Association
1314 E Las Olas Blvd #2297
Fort Lauderdale, FL 33301

November 10, 2023

Village of Wellington Council
Village Hall
12300 Forest Hill Boulevard
Wellington, FL 33414

Re: SFWA revised comments on Wellington North and South land use and zoning changes

Dear Councilmembers:

South Florida Wildlands Association (SFWA) appreciates the opportunity to provide these supplemental comments on the proposed Wellington North and South developments for your consideration.

SFWA was founded in March of 2010 to protect wildlife and habitat in the Greater Everglades. During more than 13 years of environmental work, we have engaged in a wide variety of projects and campaigns. Those include working with the National Park Service and the U.S. Fish and Wildlife Service in the preparation of management plans for Everglades and Biscayne National Parks, the Big Cypress National Preserve, and various National Wildlife Refuges including the Loxahatchee National Wildlife Refuge on the border of Wellington. Regarding state Wildlife Management Areas in our region, we have served on numerous Management Advisory Groups at the invitation of the Florida Fish and Wildlife Conservation Commission (FWC). In all cases involving public lands, we encouraged the federal or state managing agency to put protection of wildlife and habitats above recreational considerations in their crafting of management plans. We have also worked as environmental advocates on many development projects throughout South Florida where it appeared valuable natural resources were at stake. Those included projects large and small – from the now-canceled M-CORES highway project which would have run new toll roads from Collier County to the Florida-Georgia border, slicing through and fragmenting natural and rural lands across an enormous statewide corridor, to small parcels of endangered pine

rocklands in Miami-Dade County and small wetlands inside the Mall at Wellington Green. Currently, our main priority is trying to protect tens of thousands of acres of primary and secondary habitat for the endangered Florida panther. About 30 thousand acres have been proposed for new development or are currently under construction in the panther's core habitats in Southwest Florida. We have also worked on four proposals to explore or drill for oil in the Greater Everglades and on Florida's state policy dealing with offshore oil and gas drilling in state waters. On all the above projects, we have shared information and opinions with federal and state agencies, local governments, the public, and the press in the hope that our outreach would elevate concerns for wildlife and the environment in a rapidly growing area like South Florida where so much of the natural world has already been lost or degraded.

We first learned of this project from Wellington residents who were concerned about environmental impacts from proposed development on a large tract of open lands and wetlands in their community. We agreed to look at the project and conduct research on possible environmental impacts.

This letter consists primarily of information gathered directly from various local, state, and federal government agencies – including the Village of Wellington itself – that SFWA believes was not covered in earlier hearings and that could be helpful to the Village Council in deciding whether to grant the zoning and future land use modifications the applicant has requested. The letter presents information we have gathered from reliable sources regarding the current conditions of the property and comments and observations about how the proposed development and land use changes could impact that environmental baseline. We are asking the council to consider the material presented in this letter before a decision is reached.

The project known as Wellington South is currently summarized on the village's website as follows (https://www.wellingtonfl.gov/2063/The-Wellington-North-and-South):

The Wellington South is located at the northwest corner of South Shore Boulevard and Lake Worth Road, east of Gene Mische Way and consists of approximately 290 acres. The applicant seeks approval to change the land use and master plan for the area south of the Wellington International showgrounds (114.64 acres) for a new showground site and develop up to 114 single-family residential units on the eastern 173.46 acres.

The Wellington North proposal is described this way:

The Wellington North is located on the northeast corner of South Shore Boulevard and Pierson Road. The project area consists of 101.87 acres. The applicant seeks approval to remove approximately 96 acres from the Equestrian Preserve Area and the Equestrian Overlay Zoning District, change the land use to residential, and develop a 96-unit residential project.

That change from residential to commercial land use in Wellington South is necessary to move the existing equestrian showgrounds from Wellington North to Wellington South, clearing Wellington North of its existing equestrian use and allowing this same applicant a major

expansion of residential development on the north site. However, Wellington North's envisioned level of development requires the Village to eliminate the Equestrian Overlay Zoning District (EOZD) from that site – something we believe should not take place if this unique part of South Florida is to be protected in the way it has been to this point. We also believe it sets a precedent for one of the most unique and successful zoning districts in Florida. Any developer eyeing other parts of this same Equestrian Protection Area (EPA) will inevitably request the same consideration and ask, "If they can do it, why can't I?" Dense development always seems to beget more dense development – that has been the case throughout Florida's modern history.

Based on the environmental impacts outlined below, we believe both requests – the dropping of the EOZD zoning on Wellington North and the land use changes for Wellington South - should be denied. To better understand the issues raised in this letter, we provide a high-resolution photo of the site and its surroundings from the South Florida Water Management District. The bright green area in the southwest corner of the property is the 18-acre conservation easement offered as mitigation for wetland impacts on the site.

Figure 1. The basic boundaries of Wellington South outlined in red by the South Florida Water Management District for the previous CountryPlace project proposed for the site.

The map below labels the different sections of Wellington South – Pod F, Parcel B, and Pod E. Those labels will be helpful for many of the discussions which follow – especially those that deal with wetland permitting questions as those were the names used by the Army Corps of Engineers, the South Florida Water Management District, and the Florida Department of Environment Protection 404 Program. The graphic will also be useful for the upcoming Village Council meeting on November 14th – 16th.

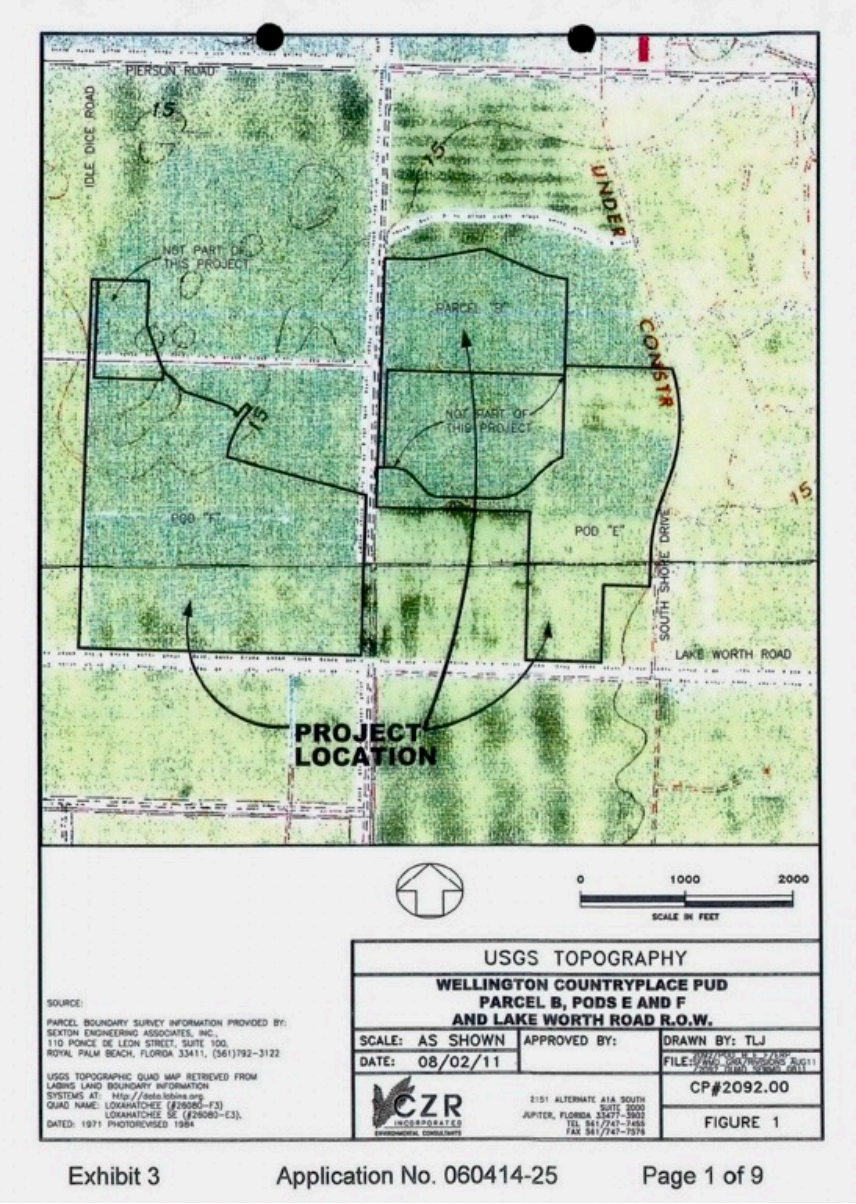


Figure 2. Wellington South parcels labeled.

Figure 3. The most recent Google Map Pro aerial view of the property (dated February 2023) shows a significant amount of land clearing has already taken place on Pod F. Residents of the area have recently reported a large amount of earth moving and excavation taking place now on the same part of the property (Pod F) that had been previously cleared. That includes the east side of Pod F south of the preserve area which was not cleared at the time this photo was taken.

Impacts to wetlands and open space in the Equestrian Protection Area (EPA)

The site where the residential and equestrian development is proposed is likely the largest segment of undeveloped land remaining inside the village boundaries that is not a publicly owned conservation area. The site is due north of the Loxahatchee National Wildlife Refuge (145,000 acres), the last major segment of the Northern Everglades which remains, and is equally close to the Wellington Environmental Preserve at the Marjory Stoneman Douglas Everglades Habitat (410 acres), and the South Florida Water Management District's Stormwater Treatment Area 1 East (6,562 acres). All these important public lands are only about 1.5 miles from the property in question. Wellington South itself appears to be a remnant of that same wetland ecosystem that these important federal, state, and local public lands were created to conserve and protect. As open space and undeveloped wetlands, the site buffers and protects these public lands and wildlife habitats, adds an important natural element to the Equestrian Preserve Area (EPA), cleans and retains stormwater, and contributes to the rural quality of life for homeowners and visitors alike. As we discuss in detail below, the parcel also contributes important ecological services to the greater community.

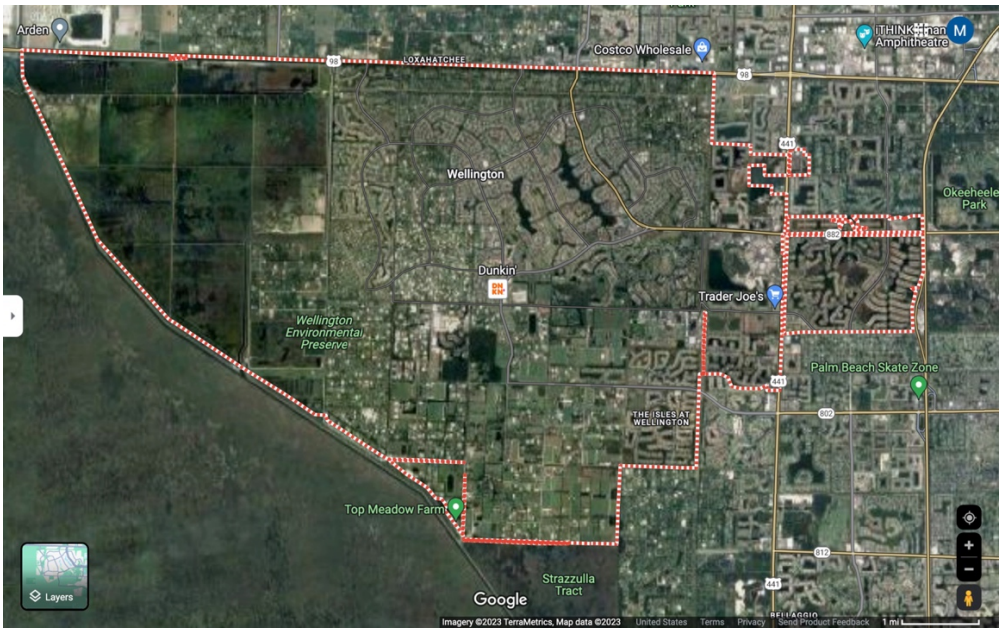


Figure 4. This aerial photo shows the proposed Wellington South development in the heart of the Village of Wellington (outlined in red) and near publicly owned lands (Wellington Environmental Preserve, Stormwater Treatment Area 1 East, the Loxahatchee National Wildlife Refuge) to the west and south. The Village has no other remaining comparable undeveloped land of this size and character. We believe the parcel's rarity, combined with its varied ecological functions (see below) renders it highly valuable in its current condition in and of itself and to the community it is a part of.

Figure 5. Google Streetview Map shows the view looking west on lightly traveled South 40th Street (Gracida) at the entrance to 39th Court South with Jan Pamela Farm to the south and Mida Farms to the north. The rural and equestrian character of these lands in their current state is obvious. Under the development plan proposed, this two-lane country road would become the major

corridor for entry to the large equestrian show site and would likely require a major widening to accommodate the expected increase in traffic.

The next graphic (Figure 6 below) shows the Wellington South property as it appears today on the National Wetlands Inventory (NWI) "Wetlands Mapper." The NWI is a digitized map developed by the U.S. Fish and Wildlife Service (USFWS) providing information to the public as well as federal, state, and local agencies on the location, size, and type of wetlands across the U.S. The parcels shown on the map in bright green depict wetlands as currently identified by the Service. According to the Service:

> "Recognizing the importance of wetlands to the safety and well-being of all Americans, as well as the conservation of fish, wildlife, and plants, Congress enacted the Emergency Wetlands Resources Act of 1986 … This legislation directs the … Service to map America's wetlands, as well as conduct decadal national wetlands status and trends studies and report the findings to Congress. The Service created the National Wetlands Inventory (NWI) to carry out these responsibilities."

The Service further explains that it is using a "biological definition" of wetlands and that other federal, state, and local agencies will further refine the boundaries the NWI has presented. These agencies might also engage in regulatory decisions regarding "modifications within or adjacent to wetland areas." It advises that "persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities."

See: https://www.fws.gov/program/national-wetlands-inventory

The wetlands identified by the Service on Wellington South are divided into the following wetland classifications:

West side of property (Pod F) – from North to South. Three wetland parcels.

1. This **8.92**-acre **Freshwater Forested/Shrub Wetland** habitat is classified as a **PFO1C**.
2. This **6.30**-acre **Freshwater Forested/Shrub Wetland** habitat is classified as a **PSS1/3Cd**.
3. This **16.04**-acre **Freshwater Forested/Shrub Wetland** habitat is classified as a **PFO1Cd**.

East side of the property (Parcel B and Pod E) – from North to South. Four wetland parcels.

1. This **34.56**-acre **Freshwater Forested/Shrub Wetland** habitat is classified as a **PFO1/4C**.
2. This **54.33**-acre **Freshwater Forested/Shrub Wetland** habitat is classified as a **PFO1/SS1C**.
3. This **2.23**-acre **Freshwater Forested/Shrub Wetland** habitat is classified as a **PFO1/SS1B**.
4. This **16.84**-acre **Freshwater Forested/Shrub Wetland** habitat is classified as a **PFO1Cd**.

The total amount of wetlands identified by the Service and indicated on the site map is 139.22 acres.

The full wetlands map below and a detailed description of each wetland classification depicted can found at the following federal website:

https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/

F.

Figure 6. This shaded aerial photo is taken from the National Wetlands Inventory and shows much of the Wellington South property as wetlands and potentially jurisdictional wetlands on the state and federal level.

In addition to the Service's findings, both the South Florida Water Management District (SFWMD) and the U.S. Army Corps of Engineers (ACOE) have also examined all or parts of the site for wetlands – clarifying what the Service found in its inventory. As we have learned since our first letter to the Village Council was submitted on October 6th, there appear to be important differences as to what the two agencies found and how they conducted their review.

The ACOE issued a permit for work on Pod F in February of 2018. As the map below taken from the permit indicates, the ACOE found a significant amount of federally jurisdictional wetlands on the site. Specifically, the ACOE identified 50.01 acres inside "USACE wetland jurisdictional limits." The agency found an additional 5.57 acres that it classified as "Waters of the U.S." As explained below, those wetland determinations by the ACOE were only made for Pod F.

According to Patricia Clune, a Project Manager at the Palm Beach Gardens office of the ACOE, the permit for work on federal wetlands on the site expired in February of 2023 and no extension was requested. The map showing the federally jurisdictional wetlands the ACOE found on Pod F, along

with a link to the full permit, follow below. Irregular shapes within the wetlands show various vegetation types and their acreage.

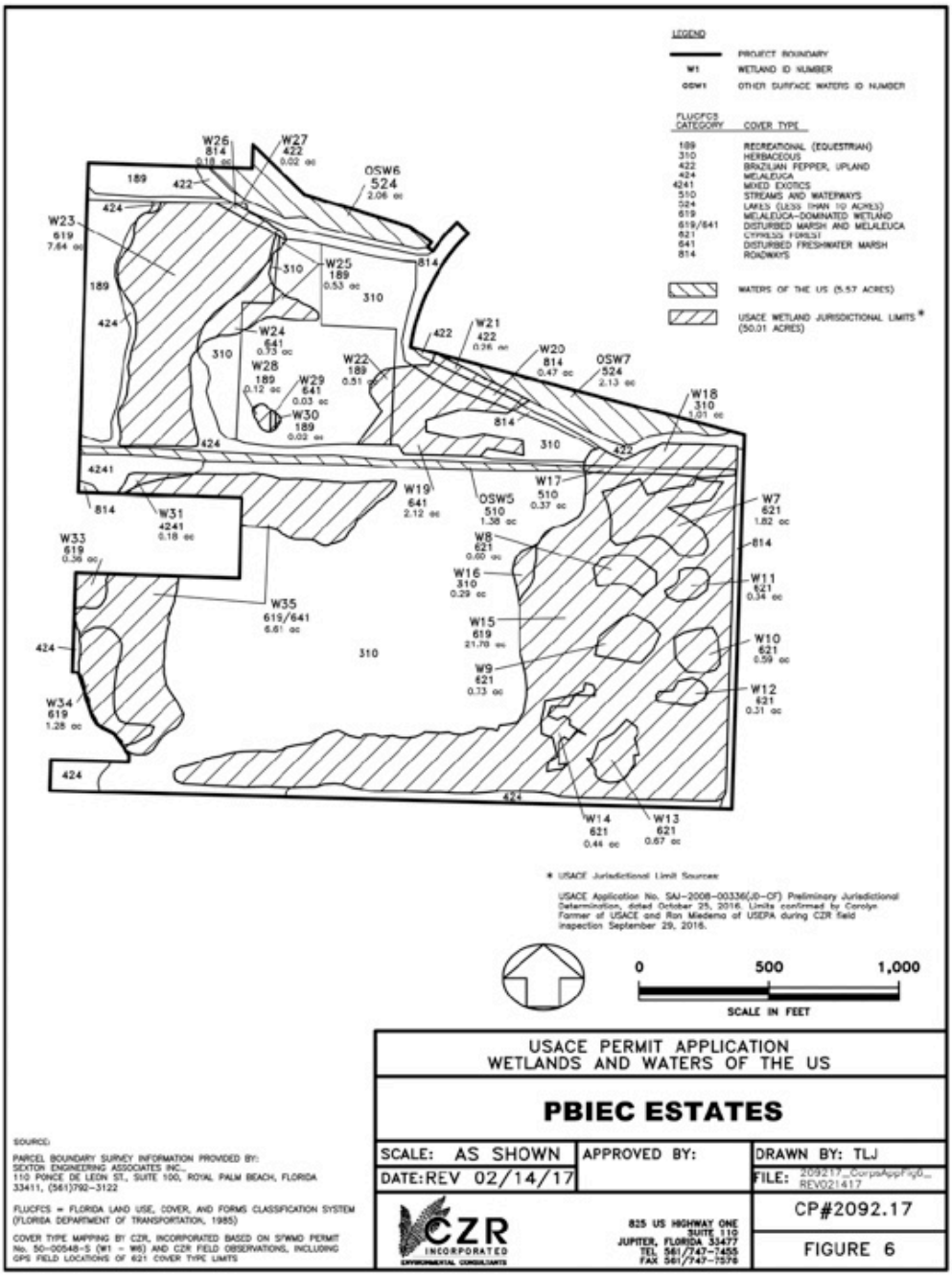


Figure 7 – map showing areas of Pod F within "USACE Wetland Jurisdictional Limits." Shapes within the jurisdictional limits indicate different types of wetland vegetation such as cypress forest or melaleuca.

The full permit can be found at the following link:

https://drive.google.com/file/d/1a6hvs5xw8kBsSWqAL3OTjSuMvS-mnWNj/view?usp=sharing

According to Ms. Clune of the ACOE, the agency never did an examination of Parcel B or Pod E on the eastern side of the property for federal wetland jurisdiction. Ms. Clune explained this was apparently due to an enforcement action that occurred on Parcel B where fill material was placed in the southern section of the parcel known as Peacock Pond without a permit. According to Ms. Clune, the ACOE was unable to conduct a review while the enforcement action was active. Therefore, a Section 404 permit application (referring to Section 404 of the Clean Water Act involving "the discharge of dredged or fill material into waters of the United States, including wetlands") for Pod E and Parcel B did not proceed. Thus, we do not know how many additional acres of federally jurisdictional wetlands might have been identified by the ACOE for Parcel B and Pod E had that review taken place. The lack of a federal review for the whole east side of the property was also cited by Amelia Meckelborg, an Environmental Specialist at the West Palm Beach office of the Florida Department of Environmental Protection's 404 Program, who is currently reviewing the project for her agency.

It should be noted that wetlands permitting in Florida has changed enormously in recent years. In December of 2020, the U.S. Environmental Protection Agency (EPA) agreed to Florida's request to transfer authority for federal wetlands permitting from the ACOE (a federal agency) to the FDEP (a state agency) as a way of streamlining the process in terms of time, work, and costs. One of the immediate changes from that transfer is that federal laws that used to be triggered by the issuance of a federal wetlands permit – e.g., the National Environmental Protection Act (NEPA), the Administrative Procedures Act (APA), the National Historic Preservation Act (NHPA), and the Endangered Species Act (ESA) - no longer come into play in the same way during wetlands permitting, if they come into play at all. Wetlands in Florida are now considered "retained" if they are still under the authority of the Army Corps of Engineers or "assumed" if they are now administered by the Florida DEP. Navigable waters such as the Intracoastal Waterway are generally retained – as are the canals that flow into them that are impacted by tides. As an example, at least sections of the C-51 canal in Wellington has been retained by the Army Corps in terms of wetlands authority and that federal agency would conduct the review for any modifications such as widening or bridging (telephone communication, Patricia Clune, ACOE).

Another major change occurred in May of 2023 when the Supreme Court ruled under Sackett vs. EPA that jurisdictional wetlands needed to have a direct and visible connection to navigable waters to be considered jurisdictional under federal law. Although implementation of the Clean Water Act has changed several times, in prior years (including the period immediately preceding the Sackett decision), the requirement was that wetlands needed to have a "significant nexus" to navigable waters. That is seen in many parts of our unusually wet region of South Florida where a considerable amount of water flow is not necessarily visible on the surface but instead travels through the porous limestone platform that South Florida is built on. That ruling can be relevant in this case as the applicant has submitted applications to the DEP for a "No Permit Required" (NPR) designation for all the wetlands on the property that would previously have been subject to permitting by the Army Corps of Engineers and are now permitted by the DEP. During our last conversation, Amelia Meckelborg from the DEP informed us that her agency had not yet decided

the applicant's request for a No Permit Required designation. However, she did make clear that a decision on whether a wetland is now considered jurisdictional or not based on a legal interpretation of the Clean Water Act provided in the recent Supreme Court case does not change the identification of certain lands as wetlands based on biological characteristics (e.g., hydrology, the presence of indicative wetlands plants, and soils with wetland characteristics). We would add to that, nor does the new ruling change the many functions wetlands perform.

Regarding the Supreme Court's 5 to 4 ruling in Sackett vs. EPA, it is worth sharing Judge Brett Kavanaugh's dissenting opinion as it has it has been widely quoted since the decision was made. It does a good job explaining why environmentalists across the country, and especially in Florida with its many interior wetlands, were deeply dismayed by the "Sackett vs. EPA" decision:

> "Because of the movement of water between adjacent wetlands and other waters, pollutants in wetlands often end up in adjacent rivers, lakes, and other waters. Natural barriers such as berms and dunes do not block all water flow and are in fact evidence of a regular connection between a water and a wetland. Similarly, artificial barriers such as dikes and levees typically do not block all water flow, and those artificial structures were often built to control the surface water connection between the wetland and the water. **The scientific evidence overwhelmingly demonstrates that wetlands separated from covered waters by those kinds of berms or barriers, for example, still play an important role in protecting neighboring and downstream waters, including by filtering pollutants, storing water, and providing flood control.** In short, those adjacent wetlands may affect downstream water quality and flood control in many of the same ways that adjoining wetlands can."

All this is to say that, because of shrinking federal wetland permitting jurisdiction, the Village cannot rely on the federal government to protect its wetlands, and must strictly enforce its own wetland protections. The Village Council is deciding whether to grant land use and zoning changes for a project that would be far different than anything that has been built in this area since the Equestrian Preserve Area (EPA) and the Equestrian Overlay Zoning District (EOZD) were established in 2003. Those changes could have far-reaching environmental and other impacts on this community.

Justice Kavanaugh's statement does an excellent job explaining why even wetlands that may appear to be isolated are in fact connected to the larger bodies of water the Supreme Court wants to protect. The C-51 canal - an extremely important drainage feature for the village and a federally jurisdictional water - is one such waterbody that the property in question is connected to. Ms. Meckelborg of the DEP has informed us that the agency is certainly considering "connectivity" in their decision on the applicant's "No Permit Required" application for the parcels which comprise Wellington South - in addition to looking at the hydrology of the site, the presence of vegetation indicative of wetlands, and the presence of wetland soils. In a telephone conversation with Ms. Meckelborg in September, she informed us that during a site visit in August, she and her team found standing water as well as vegetation indicative of wetlands (a major component of a 404

wetland classification). Walking into the site from the exterior, she encountered an alligator and decided to retreat at that point.

In July of 2012, the SFWMD did its own wetland and review for the site that at the time was being permitted for the CountryPlace PUD. The SFWMD found 38.05 acres of state jurisdictional wetlands on the northern part of Parcel B – with 34.31 acres to be directly impacted by construction of CountryPlace. It is not clear what type of review SFWMD conducted on the southern part of Parcel B, as it is indicated as "not a part of the project" on permitting maps and only a few acres of "secondary impacts" are noted. However, according to conceptual maps of the current Wellington South project, the southern part of Parcel B will be a part of that project and will be directly impacted by construction. When viewing the area that contains the southern portion of Parcel B in the National Wetlands Inventory Map, the Service indicates a freshwater wetland of 54.33 acres in and around the southern part of Parcel B – by far the largest block identified on the NWI map. Thus, the total amount of jurisdictional wetlands eventually designated on the site and direct impacts to those wetlands could significantly increase.

In looking at the reason for the small number of wetlands identified on the entire Wellington South site by the SFWMD – when compared to what the U.S. Fish and Wildlife Service found and uploaded to the National Wetlands Inventory - this paragraph in its entirety, copied and pasted from the scanned SFWMD Environmental Resource Permit Modification No. 50-00548-S-204 of July 30, 2012, appears to provide the explanation. Simply put, the regulations for the identification and permitting of jurisdictional wetlands that were being used by the District were different than what they became later. Though the District does acknowledge that the ACOE will do its own review of the entire site using more up-to-date criteria, we now know that the ACOE's review was limited only to Pod F on the west side of the property due to the previously mentioned enforcement action taking place.

It should be noted that, although the exhibits for this permit indicate the presence of additional on-site wetlands areas beyond that described above, the District's wetlands evaluation only included areas that are considered to be state jurisdictional wetlands pursuant to Rule 62-340 F.A.C. Specifically, based upon wetlands jurisdiction regulations in effect at the time the original Acme Improvement District's Surface Water Management Permit (Permit No. 50-000548-S) was issued in 1978, all areas on Pod E and many areas on Pod F (other than the 3.74 ac) that would be would be designated as jurisdictional wetlands under current regulations, were not designated as jurisdictional wetlands at that time for that permit. Therefore, pursuant to subsection 373.414(12), F.S. and because this project is consistent with the land use designations in that original permit, these other areas cannot be considered state jurisdictional wetlands. However, these other areas have been designated as federal jurisdictional wetlands by the U.S. Army Corps of Engineers, and are being evaluated for impacts and mitigation by that agency.

Wetlands permitting on this site goes back to the late 1970s with many applications and modifications of applications. However, by way of summary of what has been determined by the two agencies (ACOE and SFWMD) so far, and according to the permits already issued, we can say that the Army Corps found 50.01 acres of federally jurisdictional wetlands on Pod F. The South SFWMD found an additional 38.05 acres of Florida state jurisdictional wetlands in the northern part of Parcel B (never reviewed by the ACOE) for a total of 88.06 acres of federal and state jurisdictional wetlands identified on Wellington South. If the DEP decides that the wetlands on Wellington South are jurisdictional, further review of the actual wetlands will likely take place from that agency as there is currently no 404 permit for the site. The previous applications submitted were for the CountryPlace PUD that anticipated a different type of development on the site than the projects now being proposed. If the Village approves the zoning and land use changes, we expect the applicant would submit the actual site plans, when finalized, to the permitting agencies for review. Those would show, in addition to roads and retention ponds, the actual locations of structures such as houses, stadiums, parking lots, etc. and direct and secondary impacts to jurisdictional wetlands.

Figure 8. Wetlands map from the SFWMD permit modification of July 2012 for the CountryPlace PUD. This is an excerpt from the document that SFWMD staff (Dezarae Fagan, Environmental Analyst II) directed us to in the permit history for a more comprehensive understanding of the complex wetland permitting history on the property. The full document is the SFWMD

Environmental Resource Permit Modification No. 50-00548-S-204, July 30, 2012. It can be downloaded and viewed at:

https://drive.google.com/file/d/1D_rV7pUwJqyj2N1TUxY-nXvGxEF9Y6kT/view?usp=drive_link

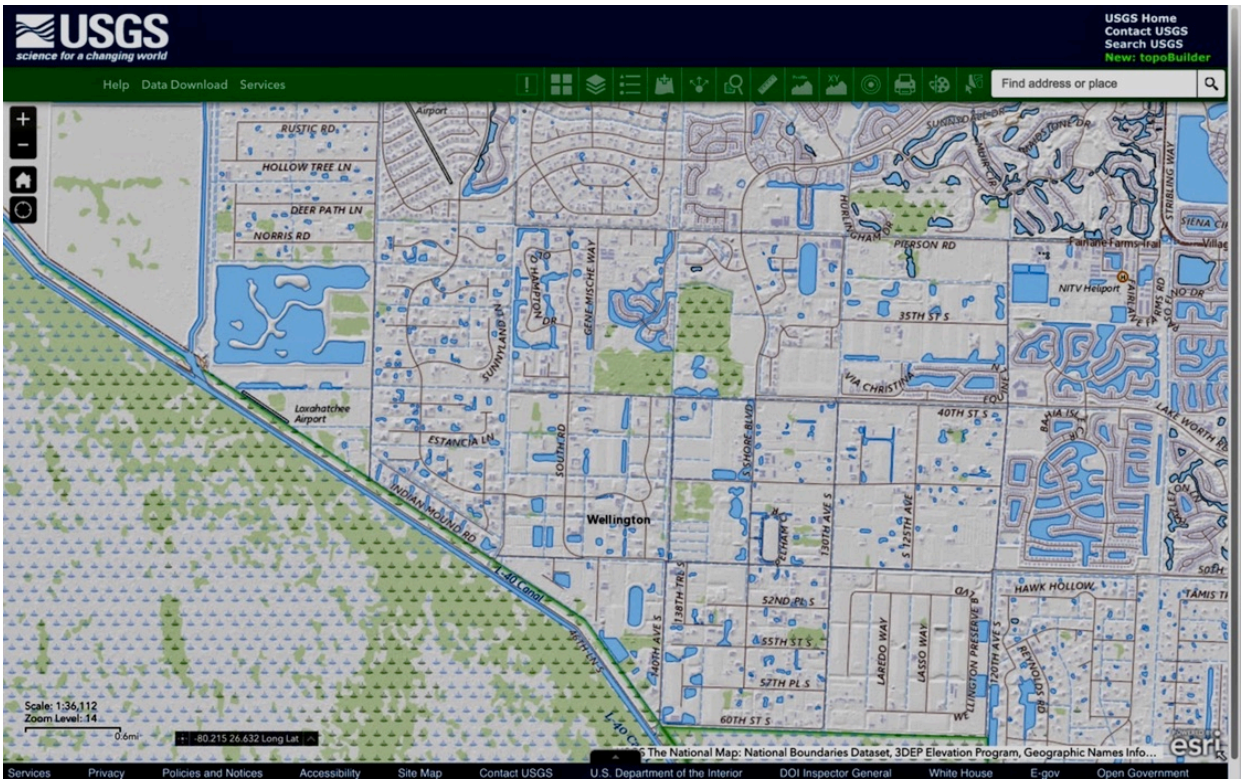


*Figure 9. Map from the "The National Map" produced by the U.S. Geological Survey (USGS) – a digital topographical map in the style of traditional USGS topo maps for the entire United States. The USGS has utilized the same map symbols it used to describe inundated sections of the Loxahatchee National Wildlife Refuge to depict the area referred to as Wellington Sout*h. As shown below, the USGS considers Wellington South to be an inundated wetland.

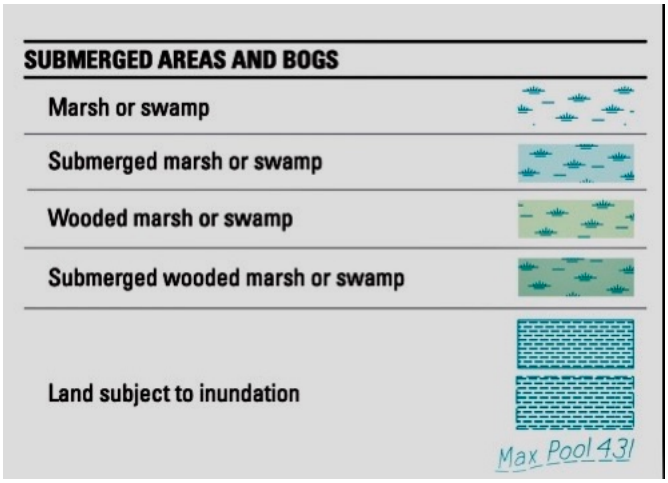


Figure 10. From USGS – "Topographic Map Symbols." All wetlands depicted in the topo map for the area called Wellington South are shaded green with vegetation symbols – indicating a "Submerged wooded marsh or swamp."

The graphics below illustrate the low-lying topography of Wellington South.

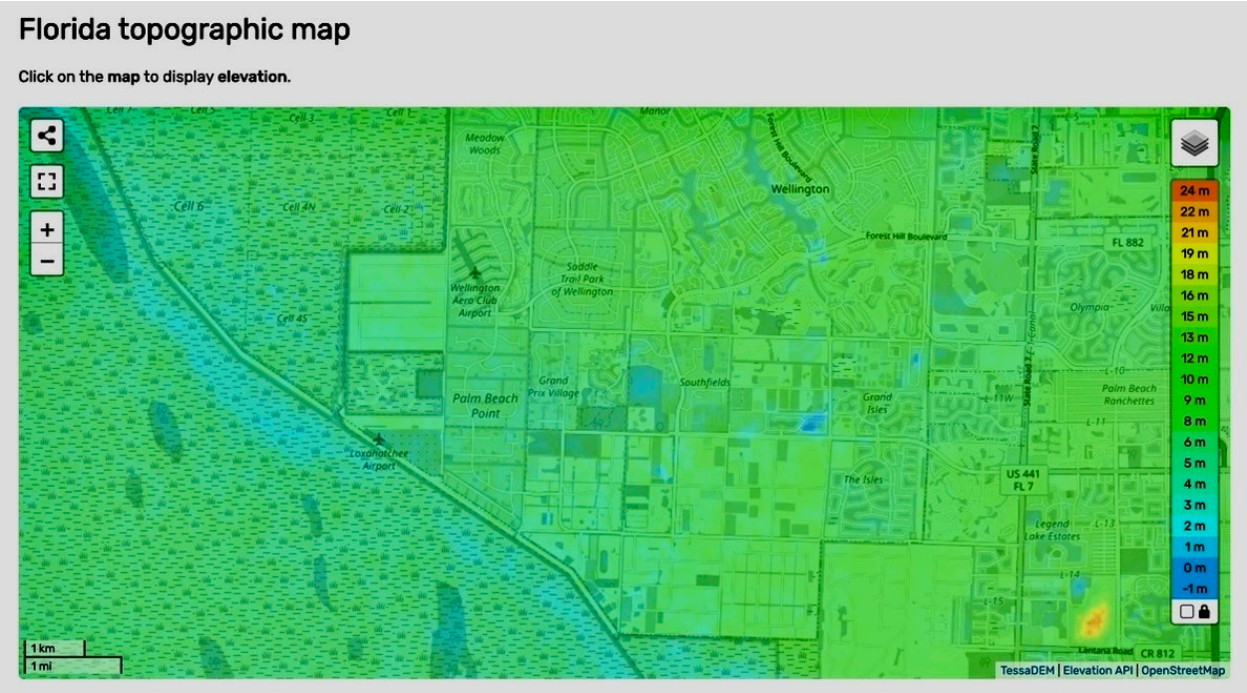


Figure 11. Topographic map shows the northern part of Wellington South (Parcel B) with one of the lowest elevations in the Village of Wellington.

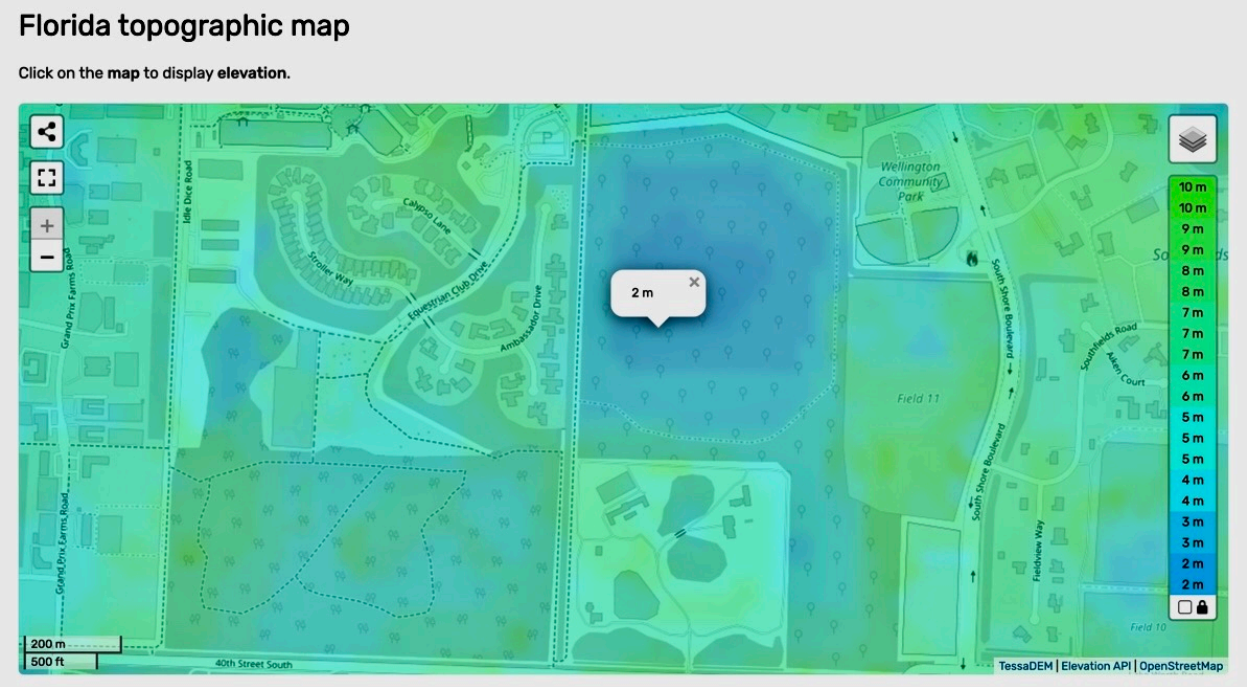


Figure 12. Zoomed version of the topographic elevation map shows the elevation of Wellington South (Parcel B) is as low as two meters (about 6.5 feet) above sea level. The elevations seen in the numerous developments immediately to the north, northwest, and west of Wellington South generally show up on the elevation map set as 6 to 8 meters (19-26 feet). In its current undeveloped state (without the fill that would be necessary to develop this site), Wellington South is very likely providing significant drainage and natural flood management to the residential areas as well as the horse farms that surround it.

Map source that can also be utilized to view elevations in other parts of the surrounding area: https://en-gb.topographic-map.com/map-5w818/Florida/

Explanation of the data source here: https://tessadem.com/

Photo 13. This graphic shows flood zones in the project area from the Village of Wellington's own "Current Flood Zone" maps. It dramatically depicts the comparative flood risks between the important developments adjacent to Wellington South (north of the proposed development) and the current conditions on the site. The wetlands and undeveloped land on Wellington South function as a natural stormwater drainage area. Areas likely to flood on this map are shaded blue. Those areas include all of Pod F, Pod E and Parcel B in Wellington South. Residential areas immediately to the north are not in the flood zone.

Source: https://www.wellingtonfl.gov/499/Current-Flood-Maps

As to the amount of water the site may hold, a recent discussion on the catastrophic record rains that hit NYC at the end of September prompted a look at the U.S. Geological Survey (USGS) website and some surprising numbers. According to the agency, just "one inch of rain falling on 1 acre of ground is equal to about 27,154 gallons and weighs about 113 tons." The character of that 1 acre of ground - rural land, farmland, or ranches – as compared to built-up suburban areas with many impermeable surfaces - makes a big difference as to where rainwater ends up.

https://www.usgs.gov/special-topics/water-science-school/science/rain-and-precipitation

In 2012, an outer band from Hurricane Isaac traveling through the Florida Straits and Gulf of Mexico dropped approximately 16 inches over Wellington in a short amount of time and completely inundated this low-lying area and its canal drainage system. Aerial footage of Wellington and its Equestrian Preserve Area from the band that passed through in 2012 can be seen in the news broadcast below.

https://www.youtube.com/watch?v=IV3n03xShiA

As a former part of the Everglades, this level of periodic flooding was once an integral part of the ecosystem. Water flowed south from the southern end of Lake Okeechobee to Florida Bay at the southern end of the peninsula in a shallow, 60-mile wide "River of Grass" during the wet season. There were no roads, canals, levees, nor drainage basins and the slow movement of water across the "Glades" to the south was described as unbroken "sheetflow." Other smaller water bodies transported water from the Everglades through the Atlantic Coastal Ridge east to what is now the Intracoastal Waterway. These were known as "transverse glades." There was no limit to the amount of fresh water that could pass through the system on the way to saltwater and the Everglades wetland ecosystem thrived as a result. But now, as a community of over 60,000 residents, high water levels (not referred to as "flooding" in the pre-drainage and pre-development landscape) in this former part of the Everglades is obviously a very different situation. A great deal of engineering has been carried out by the Army Corps of Engineers and Acme Improvement District to change (or "tame") the natural floodplain and major changes to the hydrology of this area can now carry immense consequences.

The relationship between different types of land use and the effect on surface water runoff (how much, where it goes, and how long it persists) is carefully explained by the SFWMD in this excerpt:

> "Land use has a large impact on the amount of surface runoff entering local streams and canals. For example, much of the surface area in an urban area (e.g., roofs, roads, and parking lots) is impervious to water. Almost all the rain impacting impervious areas becomes surface runoff. Some water may be detained and will evaporate, but the percentage of rainfall that enters local canals or streams by surface flow in an urban area can be quite high. As a result, urban areas may be subject to high stream flows (flooding) during rain events.
>
> "A vegetated area can intercept and retain a large part of the rainfall, and subsequent surface runoff from a rain event. This intercepted water has an additional opportunity to evaporate or seep into the ground. In general, a smaller percentage of the rain falling on a vegetated area will enter local streams and canals as surface runoff than a comparable urban area. As a result, stream flows in vegetated areas are moderated compared to urban areas."

From "Canals in South Florida: A Technical Support Document; Appendix A - Basic Concepts, Glossary of Terms and Abbreviations".
See: https://www.sfwmd.gov/sites/default/files/documents/canalssfl_appendixa-c.pdf

When we review the drainage system that the Acme Improvement District has constructed to allow development (and modern life) to exist in Wellington, the implications of the above statement from the SFWMD become clearer.

The district has created a short video to explain what Acme's drainage system is and how it functions. Towards the beginning of the video, the district states, "Our great hometown was once nothing more than swampland." See:

https://www.youtube.com/watch?v=RXgxUj2Sfv8&t=207s

Figure 14. Pre-drainage Wellington – from "Acme Improvement District Overview" video.

In this transcript from a portion of the video, the analogy of a sink and a drain is used explain the operations of the drainage district:

> "[…] Acme's surface water management system is essentially a large retention basin. When it rains, the system begins to collect water within lakes and canals. If it rains more than we are allowed to discharge, which is just over 1 inch per day, then we are required to retain the additional water within the Acme stormwater system. A good analogy for this is the bathtub or sink effect. If you slowly open the faucet, the drain is able to handle the flow. But when the faucet is open and the flow is increased, the bathtub or sink will begin to fill as the drain cannot handle the amount of water flowing to it."

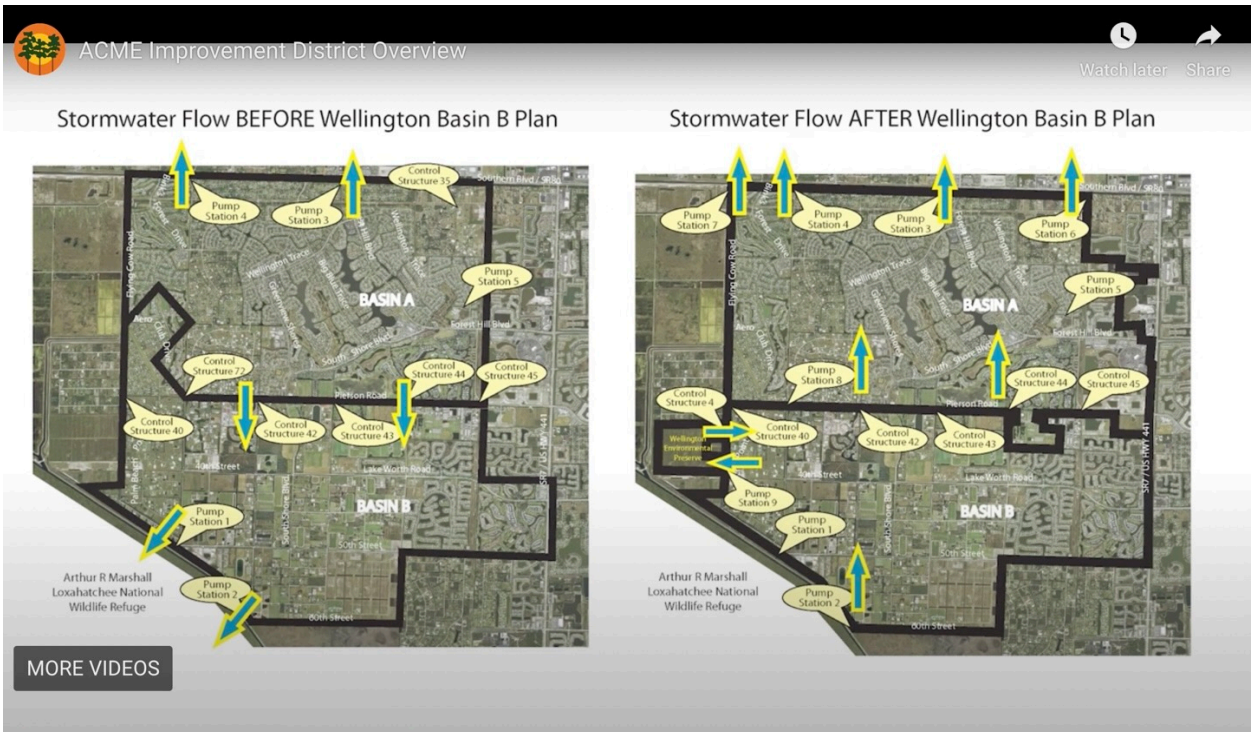


Figure 15. This screenshot from the above video summarizes how water flow in Wellington was rechanneled by Acme through canals, culverts, pumpstations, and other infrastructure to flow north to the C-51 Canal and then west into Stormwater Treatment Area 1 East instead of south into the Loxahatchee National Wildlife Refuge as it did previously. As currently configured, water from the Equestrian Preserve Area (including Wellington South) in Basin B is routed through canals, culverts, and other infrastructure and then pumped from Basin B to Basin A before discharge to the C-51 Canal. The major changes were completed in 2006 but work is constantly being done to allow Wellington's drainage system to meet current and future demands.

Figure 16. This graphic from the Acme video shows the dense network of canals that have been created to allow development in this former wetland known as Wellington to take place. The yellow markers indicate many culvert upgrades that have already gone into the upgraded system. The video also notes other upgrades that will be applied to the drainage system, such as the "Pumpstation 2 Rehabilitation Project," which is currently in the planning stage. That project would rehabilitate an older, currently unused pumpstation on the border of the Loxahatchee National Wildlife Refuge to once again pump water south into the refuge in anticipation of major flooding that could overwhelm Wellington's canal system and other infrastructure.

As we have noted, flooding has been a part of Wellington's history from its beginning. See Acme's full overview page here: https://acme.wellingtonfl.gov/acme-improvement-district-overview

When Charles Oliver Wellington purchased 18,000 acres of land in 1951 (what became the Village of Wellington in 1995), it was all wetlands and all Everglades. Neither ranching nor agriculture (including what was considered the world's largest strawberry field) nor the residential development that followed would have been possible without the massive drainage infrastructure (dikes, canals, locks, gates, and pump stations) built and maintained by the U.S. Army Corps of Engineers and the Acme Improvement District. That infrastructure continues to work hard to keep this flat, low-lying area with abundant rainfall dry. That is, except during and after "big rain events" when the drainage infrastructure is simply overmatched by the sheer volume of rainfall.

In terms of average rainfall, various sources put Wellington's rainfall at approximately 62 inches per year compared to an average U.S. rainfall of 38 inches. Wellington receives nearly 48 percent

more rainfall than the national average and that is reflected in the massive amount of work the agencies have undertaken to deal with that large amount of water.

A summary of Acme's massive infrastructure built to deal with a quantity of surface water that few other areas of the United States neither have nor require, can be found on the Acme Improvement District's "Surface Water Management" page below this summary statement:

> "The Acme surface water management facilities (a/k/a storm water or drainage facilities) include over 2,000 catch basins or inlets, approximately 187,000 linear feet of collection and conveyance pipe, 91 miles of conveyance/treatment canals, 270 acres of detention lake area, seven (7) flow control structures, and nine (9) storm water pump stations."

See: https://acme.wellingtonfl.gov/surface-water-management-ab9595d

A more detailed analysis of the relatively recent and complex changes that were made to the Acme drainage system can be found in this SFWMD document available here:

https://www.sfwmd.gov/sites/default/files/documents/tpiccone%20acme%20ltp%20part%203%20-%20revision%20-%20july_12_2007_0_0.pdf

Both the U.S. EPA and FEMA have emphasized the critical role natural wetlands play in reducing flood risk and how they can work in tandem with artificial drainage infrastructure to protect water bodies, wetlands, and communities.

See: Wetlands: Protecting Life and Property from Flooding, U.S. EPA, EPA843-F-06-001, Office of Water, May 2006 (https://www.epa.gov/sites/default/files/2016-02/documents/flooding.pdf).

Excerpts below:

> *The Federal Emergency Management Agency (FEMA) states that floods are the most common and widespread of all natural disasters—except fire. Most communities in the United States have experienced some kind of flooding.* ***FEMA encourages the use of wetlands for stormwater detention in lieu of, or in conjunction with, traditional structural flood control measures.*** *(Source: FEMA)*
>
> *How Do Wetlands Help Reduce Flooding?*
>
> *The effectiveness of wetlands for flood abatement may vary, depending on the size of the area, type and condition of vegetation, slope, location of the wetland in the flood path and the saturation of wetland soils before flooding. A one-acre wetland can typically store about three-acre feet of water, or one million gallons. An acre-foot is one acre of land, about three-quarters the size of a football field, covered one foot deep in water. Three acre-feet describes the same area of land covered by*

three feet of water. Trees and other wetland vegetation help slow the speed of flood waters. This action, combined with water storage, can actually lower flood heights and reduce the water's destructive potential.

Given this finding, the approximately 140 acres of wetlands on the Wellington South property can likely hold at least 420 acre-feet or 140 million gallons of water in their current undeveloped condition. During periods of heavy rainfall, the quantities of water retained on the site could be even larger. Given the large differential between the low surface elevation of at least parts of Wellington South and the higher elevation of adjacent communities, plus the open vegetated lands not classified as wetlands on the site, we would guess the property's overall potential to retain floodwaters could be even greater than the quantity of water quoted above.

Losing this amount of water retention in an area adjacent to dense developments could prove challenging for neighboring homes and developments. If floodwaters which normally empty into the wetlands of Wellington South (essentially functioning as a natural stormwater drainage basin) can no longer do so due to raised and impervious surface areas, the impacts will be felt in the adjacent communities and/or in the connecting flood drainage infrastructure we have discussed previously. That is where that formerly retained water will be released. And with impacts of climate change now settling in, the risk of flooding from big rain events has only grown larger. A warmer planet produces higher rates of evaporation which produces more water vapor (itself a greenhouse gas – though unlike CO2 and methane it does condense out of the atmosphere as rain). And a warmer atmosphere can hold more water vapor than a cooler one. All these factors contribute to the types of extreme precipitation events that are associated with flooding as water accumulating rapidly on the ground cannot discharge quickly enough through the existing infrastructure (e.g., canals and pump stations) to prevent inundation of communities. We are seeing big rain events like the five to eight inches of rain which fell on New York City on September 29th, 2023, more and more. Climate scientists refer to these events as "the new normal."

This issue of future flooding in a warmer world with heavier rainfall can be mitigated to at least some extent by all undeveloped, lightly developed, and open spaces in Wellington. The existing zoning of one dwelling unit per 2-acre parcel in the EOZD provides lots of open ground that can absorb and retain massive amounts of rainfall without it ending up in overworked canals and pumpstations where it can potentially overflow into developed areas. The EPA has predicted an increase of 45 percent in the extent of what is referred to as the 100-year floodplain. That means more land impacted and at greater depths. Deeply concerned about excessive water flows into Lake Okeechobee (and the polluted discharges that occur when that happens due to build-ups of phosphorous, nitrogen, and algae in the lake), the SFWMD has even created an innovative program involving "water farming" where agricultural landowners are paid by the district to retain water on their properties. They refer to it as "dispersed water management." Wellington already has a similar system in place that carries out this same function – the retention of floodwaters. It is the natural areas and preserves and the many small farms and two-acre (minimum) homesites of the EOZD.

As stated in EPA, "Climate Change Indicators: Heavy Precipitation," April 2021 (https://www.epa.gov/climate-indicators/climate-change-indicators-heavy-precipitation):

> *"In recent years, a larger percentage of precipitation has come in the form of intense single-day events. Nine of the top 10 years for extreme one-day precipitation events have occurred since 1996."*

Also, this EPA reference to what's coming:

> *Heavy downpours have increased in frequency and intensity worldwide in the last 50 years. They are expected to become more frequent and intense as global temperatures continue to rise. As a result, the risk of flooding is likely to increase dramatically across the United States. The average 100-year floodplain is projected to increase 45 percent by the year 2100."*

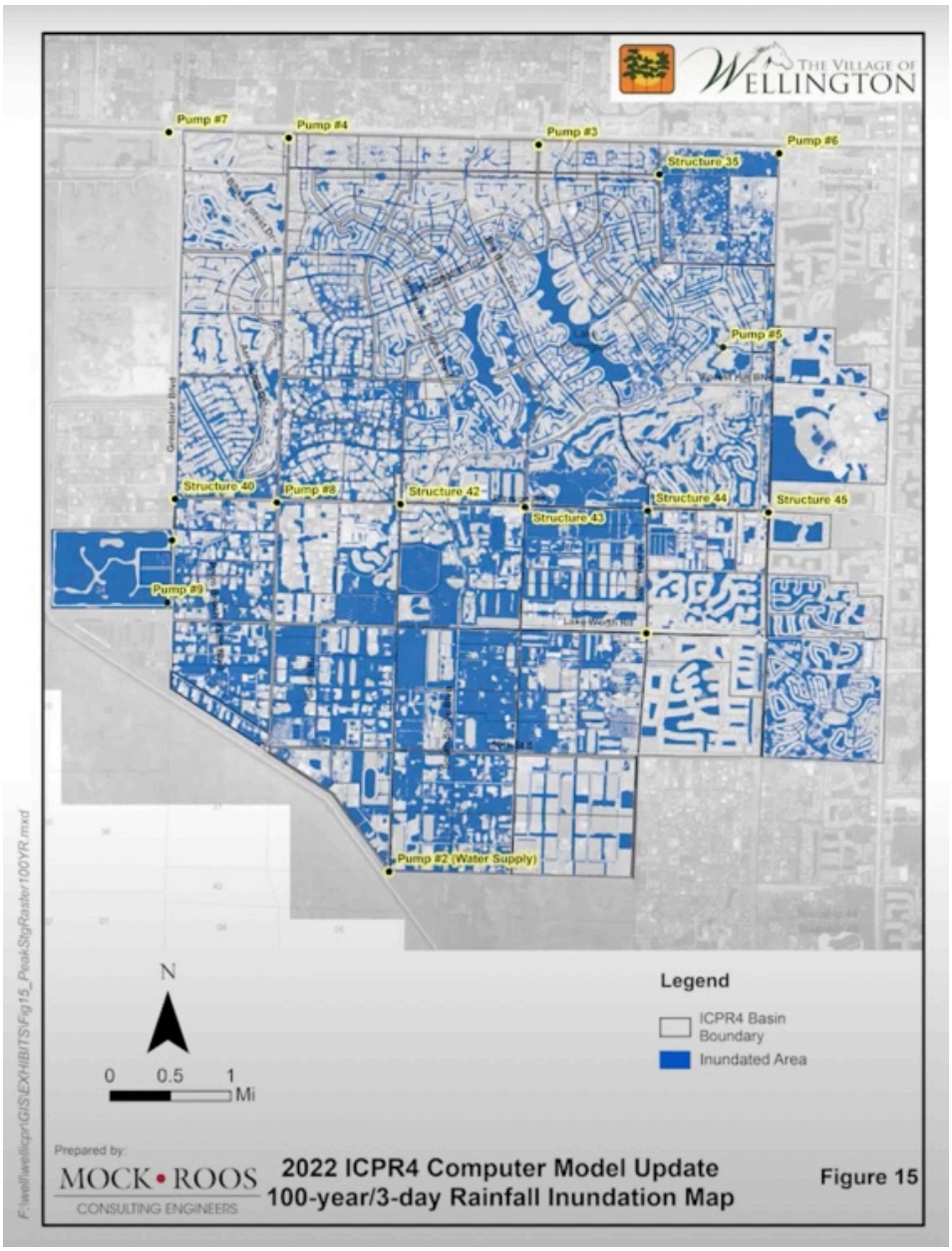


Figure 17. This important graphic is also taken from the Acme Improvement District's Overview Video and shows the ICPR4 (Interconnected Channel and Pond Routing) modeling for the Acme Drainage Basin regarding inundation caused by three days of heavy rainfall. The areas we would expect to be inundated are inundated (indicated in blue) – including the entirety of Wellington South.

Given the massive natural water retention of the site in question – shown in the above map and others that we have presented - it would seem to be in the best interest of the greater community to allow these lands to continue to function for water retention and flood control among other possible future uses. As we have noted, that can most easily be accomplished through continuation of the type of light-density zoning found throughout the Equestrian Preserve Area and EOZD. The site sits only a short distance south of Pierson Road – the boundary between Basin

B and Basin A. Pumping water that is currently being retained on the open lands and wetlands of Wellington South north into the much more heavily populated areas of Basin A (as well as the C-51 Canal which already serves as drainage for many communities in Palm Beach County) is going to put added pressure on a flood control system that will need all the help it can get as temperatures continue to rise and large precipitation events become more frequent and intense. A constructed flood control system, even one as well-engineered as the one constructed for Wellington, can only handle a finite amount of water. If intensely developed, the "sink or bathtub" (to use Acme's analogy) that is Wellington South will no longer hold the same quantity of water as it does now and that displaced water will have to move somewhere. Intense development in other parts of the EPA will only make the situation worse. The constructed system can only convey so much.

A review of media reports of flooding in Wellington provides additional evidence of how important the horse farms and open areas of the EPA are to flood control and flood water retention – long after the reconfiguration of Basin B and Basin A took place. A good example can be seen in the photo and article below from the Palm Beach Post ("Days of persistent rain leave Wellington soggy," Kristina Webb, Palm Beach Post, October 23, 2020). The caption to this photo read:

> "Officials are monitoring water levels in canals, drainage ditches and lakes throughout Wellington after several days of persistent rainfall. This swale runs along the east side of South Shore Boulevard, looking south from 52nd Avenue in Wellington's Equestrian Preserve Area, where many paddocks are holding water."

The article includes details on where rainfall in the EPA went during this 3-day heavy rain event:

> "The rain has been persistent since last weekend as first a tropical wave and then another system bombarded South Florida with precipitation.
>
> "'The ground is saturated,' Barnes (Assistant Village Manager Jim Barnes) said.
>
> "Water pooled in swales and driveway aprons Friday morning, and canal levels rose throughout Wellington. **Some paddocks and arenas in the Equestrian Preserve Area on Wellington's south side had several inches of water even into Friday afternoon**, when the clouds finally seemed to break after several hours of rain from Thursday night through Friday morning."

Full article is below:

https://www.palmbeachpost.com/story/news/local/wellington/2020/10/23/days-persistent-rain-leave-wellington-soggy/6009563002/

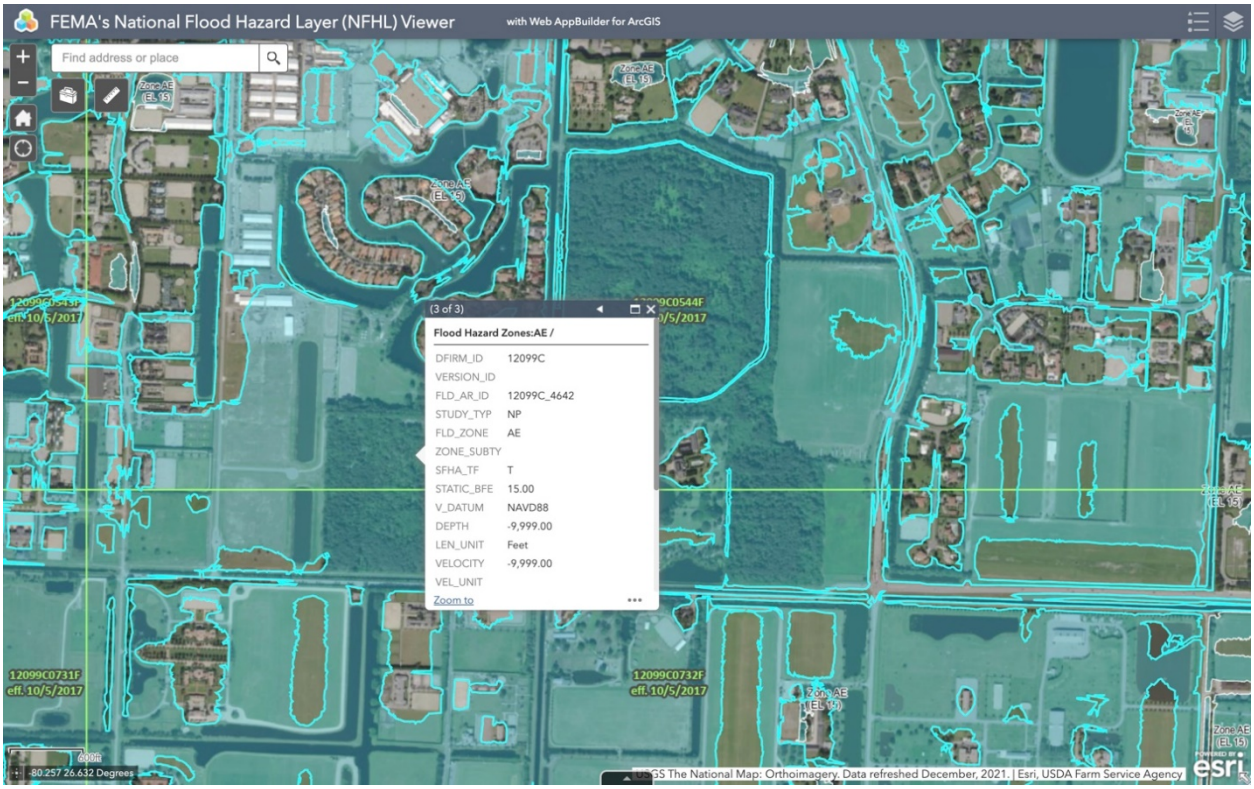
It should thus be expected that similar, future rain events in this flood-prone area without the water retention provided by the large open, vegetated horse farms would create considerably

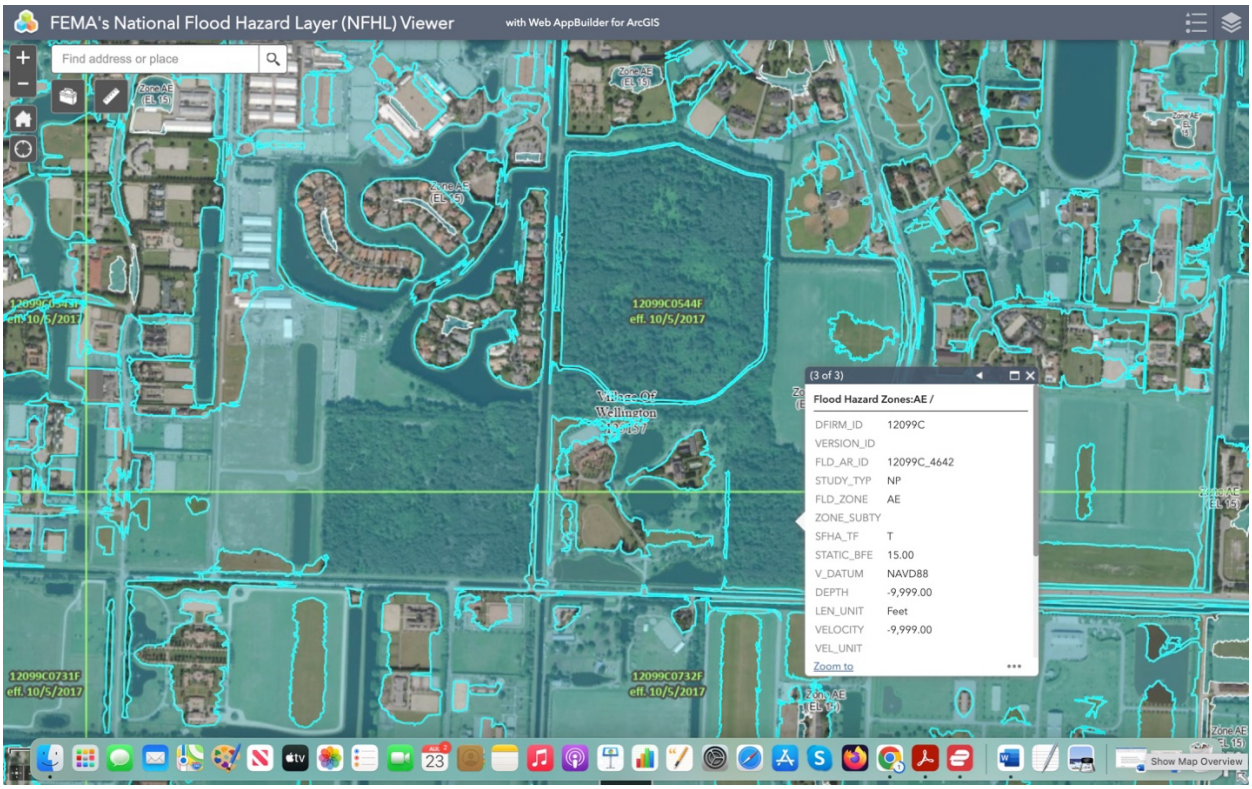
more flooding. The loss of a major wetland and open land in this area would also contribute to the amount of water that would have to be moved from Basin B (basically, the Equestrian Preserve Area) into more heavily developed Basin A. The importance of Wellington South's ability to hold large amounts of stormwater in a period that promises to be even wetter should not be underestimated and should be carefully considered before the area is allowed to lose its natural ability to hold water. We understand that during the time that the enforcement action was ongoing in Peacock Pond, the Village of Wellington attempted to acquire that part of Parcel B through eminent domain for the purpose of stormwater retention, water filtration, and groundwater recharge. Apparently, the price offered by the Village was ruled too low by a court and no acquisition took place.

Figure 18 – an inundated swale from the Palm Beach Post article cited above. Photo by Kristina Webb.

As the three maps below indicate, all sections of Wellington South – Pod F, Parcel B, and Pod E – are in areas designated by the Federal Emergency Management Administration (FEMA) as Special Flood Hazard Areas (Zone AE) and are indicated as such in the graphics taken from FEMA's National Flood Hazard Layer (NHFL) Viewer presented below.

Source: https://www.fema.gov/flood-maps/national-flood-hazard-layer


FEMA's National Flood Hazard Layer (NFHL) Viewer
with Web AppBuilder for ArcGIS
Find address or place
(3 of 3)
Flood Hazard Zones:AE /
DFIRM_ID 12099C
VERSION_ID
FLD_AR_ID 12099C_4642
STUDY_TYP NP
FLD_ZONE AE
ZONE_SUBTY
SFHA_TF T
STATIC_BFE 15.00
V_DATUM NAVD88
DEPTH -9,999.00
LEN_UNIT Feet
VELOCITY -9,999.00
VEL_UNIT
Zoom to
12099C0731F
eff. 10/5/2017
12099C0732F
eff. 10/5/2017
-80.257 26.632 Degrees
USGS The National Map: Orthoimagery. Data refreshed December, 2021. | Esri, USDA Farm Service Agency
esri


FEMA's National Flood Hazard Layer (NFHL) Viewer
with Web AppBuilder for ArcGIS
Find address or place
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eff. 10/5/2017
(3 of 3)
Flood Hazard Zones:AE /
DFIRM_ID 12099C
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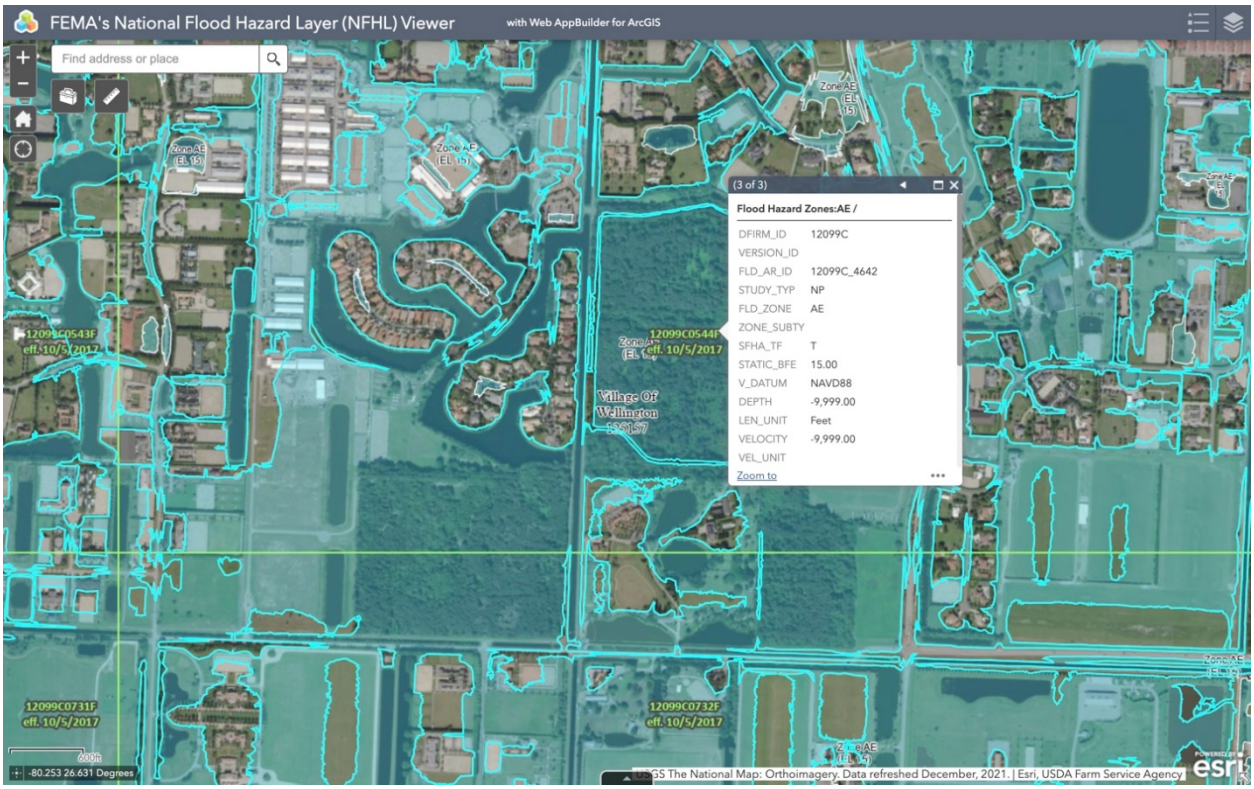
STUDY_TYP NP
FLD_ZONE AE
ZONE_SUBTY
SFHA_TF T
STATIC_BFE 15.00
V_DATUM NAVD88
DEPTH -9,999.00
LEN_UNIT Feet
VELOCITY -9,999.00
VEL_UNIT
Zoom to
12099C0731F
eff. 10/5/2017
12099C0732F
eff. 10/5/2017
Show Map Overview



Figures 19, 20, and 21. These graphics are taken directly from FEMA's National Flood Hazard Layer and show the entirety of Wellington South In Special Flood Hazard Area AE.

According to FEMA, *"Special Flood Hazard Areas (SFHAs) are high-risk areas shown on the flood map as shaded zones beginning with the letters A or V…Zone AE is a high-risk area. Mandatory flood insurance purchase requirements and floodplain management standards apply."*

From FEMA – How to Read a Flood Map, January 2022 (https://www.fema.gov/sites/default/files/documents/how-to-read-flood-insurance-rate-map-tutorial.pdf)

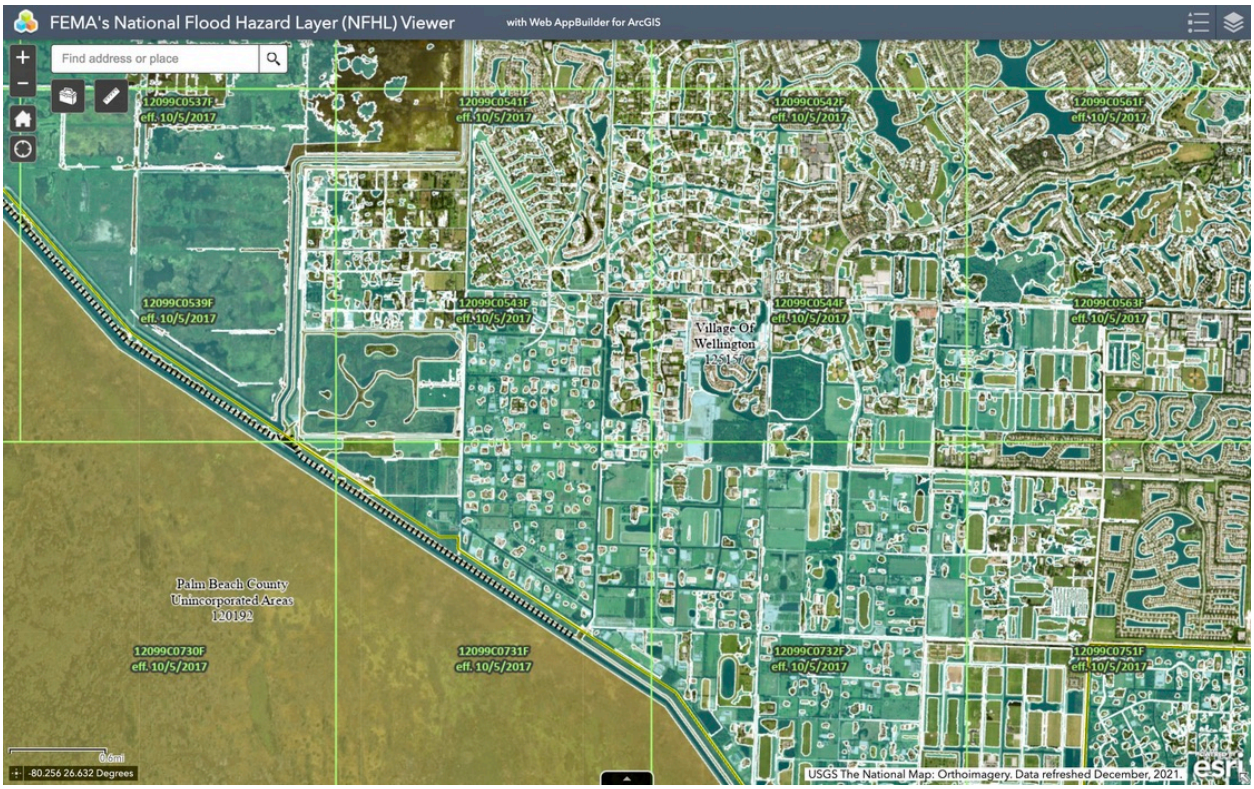


Figure 20. This graphic shows a zoomed-out version of FEMA's National Flood Hazard Layer (NFHL) Viewer. This map shows the difference between flood hazard zones in the northern part of Wellington contrasted to the southern parts of Wellington in the Equestrian Preserve Area. The dark blue areas of Wellington South and its role in flood management through retention of flood waters leaps out of the graphic at the northern border of Wellington's high-risk flood zones. Their role in water retention and floodwater mitigation is clear.

The Village of Wellington's own website contains the following discussion of the environmental benefits of a natural floodplain:

> *Natural & Beneficial Functions of the Floodplain*
>
> *Wetland areas and buffer areas adjacent to open spaces help reduce flood damage because floodwaters in a natural floodplain are permitted to spread over a large area and open spaces provide flood water storage. It is our job to help preserve natural areas. These natural areas also filter nutrients and impurities from stormwater runoff and promote infiltration and aquifer recharge. By preserving natural areas, fish and wildlife habitats are protected to provide breeding and feeding grounds. The Village of Wellington is proud to have approximately 6,000 acres of open space in the Special Flood Hazard Area.*

See "Natural Floodplain Functions" (https://www.wellingtonfl.gov/545/Natural-Floodplain-Functions)

In other words, beyond the key role of flood control in a flood-prone section of the Village discussed above, these wetlands also filter pollution. They are a place where rainwater can enter and recharge Wellington's surficial aquifer – the sole source of drinking water for all of Wellington – with clean fresh water without that water being shunted to canals for eventual discharge to the C-51 canal and/or other waterbodies. Wetlands also clean water that feeds natural areas. They help maintain high-quality habitats for fish and wildlife in the important public lands adjacent to the village that are so highly valued by residents and visitors and in open, private lands of the village as well.

Droughts are also a normal part of South Florida's tropical and sub-tropical climate. Though quickly forgotten after they pass, they cause tremendous distress when they occur. And for good reason - Wellington has no water supply other than its underground surficial aquifer. According to the village, "Wellington gets its ground water source from the surficial aquifer exclusively. There are three (3) separate well fields (18 wells total) located in different geographical areas within and adjacent to the Village."

Natural wetlands and open vegetated spaces smooth out and buffer the natural wet and dry seasons in South Florida as well as extreme variations in weather and climate. They retain storm water, thereby reducing flooding from heavy rain events and can hold substantial water when needed by the community during times when rainfall is low. They also allow rainwater to easily enter underground aquifers instead of shunting that water into canals as quickly as it lands to allow for dry roads, shopping areas, and houses.

See "Water Quality Report - Where does our water come from?"
(https://www.wellingtonfl.gov/781/Water-Quality-Report)

There is no longer any doubt that climate change caused by the buildup of carbon in the form of CO2 in our atmosphere and the impacts of that buildup are now upon us. Wellington should value and protect the wetlands it has maintained, as climate scientists have discovered that wetlands – and especially inundated wetlands where decomposition and oxidation of organic material is slow due to anaerobic soil conditions – are one of the best natural methods available for what is referred to as carbon sequestration (holding carbon so it doesn't enter the atmosphere as CO2 where it acts as a potent greenhouse gas). Instead of breaking down, organic, carbon-rich material can accumulate in wetlands, sometimes for thousands of years. That was one of the initial motivations in draining the Everglades by dredging canals over 100 years ago – to be able to take advantage of the nutrient-rich muck soils that were present for farming.

The excerpt below from a scientific literature search on the topic explains the role of natural wetlands in mitigating climate change, and the threat wetlands face from human disturbance and development.

> *Wetlands are among the most important ecosystems in the response strategy to climate change, through carbon sequestration (CS). Nevertheless, their current CS potential is declining due to human disturbance, with further decrease expected*

> *under global population growth and climate change scenarios. Literature has documented various measures that seek to enhance CS by wetlands and therefore enable these ecosystems remain vital in global carbon (C) balance and climate change mitigation.*

From: Were, D., Kansiime, F., Fetahi, T. et al. Carbon Sequestration by Wetlands: A Critical Review of Enhancement Measures for Climate Change Mitigation. Earth Syst Environ 3, 327–340 (2019). https://doi.org/10.1007/s41748-019-00094-0

Previous public meetings on the future of Wellington South have focused on potential impacts to the human environment where traffic congestion, sprawl, intense lighting, commercial activity, and changes in the rural character of the EPA took center stage. References were made to the combined impacts of Wellington North and South plus other projects in the works for this same general area. Those include "Wellington Central," noted by the representative from Tavistock at the first meeting of the Planning and Zoning Board, which would locate a large office and retail venue between Wellington North and South. Another project already slated for construction is the Wellington Sports Academy off South Shore Blvd. and north of Lake Worth Road. Combined with Wellington North and South as proposed, all these projects are consistent with a suburban community that is growing in density, population, traffic, and intensity of land usage.

Regarding Wellington South in its existing condition (the "environmental baseline"), attention should also be given to the onsite wetlands as habitat for numerous wading birds and other wildlife. The SFWMD staff report that accompanied the Environmental Resource Permit for the former Countryplace PUD made the following observation:

> *The project site contains habitat for wetland-dependent endangered or threatened wildlife species or species of special concern, including wading birds such as ibis, egrets, and herons. As described in the Mitigation Section of this staff report, to compensate for the proposed direct and secondary impacts to wetlands, the applicant proposes the preservation, enhancement and creation of wetlands and uplands on site within an 18.63-acre conservation easement. The plan is expected to improve habitats for wading birds within the conservation areas.*

Wellington Countryplace PUD - Parcel B, Pods E and F, Application No. 060414-25 (S. Fla. Water Mgt. Dist., Oct. 11, 2011) (Individual Environmental Resource Permit Staff Report), at 11.

In addition to the 18.63-acre conservation easement noted above, the mitigation for direct and indirect impacts to wetlands and wildlife on Wellington South also included the purchase of mitigation credits at the Loxahatchee Mitigation Bank - south of Atlantic Blvd. and west of US 441 at the southern end of Palm Beach County. The bank is some 15 miles south of Wellington South. That purchase far offsite will not benefit the wetlands or wildlife currently on Wellington South.

The decision by the South Florida Water Management District to consider the site "fully mitigated" by curtailing development on an isolated 18-acre patch of wetlands and adding credits

to an off-site mitigation bank near Boca Raton is a decision by that agency under its governing rules, which limit the agency's discretion to reject offsite wetland mitigation. Whether the Village Council believes the intense development of this site for luxury housing and an equestrian showcase is in the best interests of this community is a decision entirely different than the mitigation credit system the SFWMD utilizes.

Regarding potential impacts to wildlife, we also reviewed a Standard Data Report from the Florida Natural Areas Inventory (FNAI) for the site. FNAI is a state heritage program under the auspices of Florida State University in Tallahassee. Though FNAI does not enter private lands, it has recorded nearby "element occurrences" of several rare and/or state or federally-listed species. Those include the American bald eagle (a nest), Florida burrowing owl, and snail kite. Species that are considered "likely" to be present on Wellington South are based on occurrences plus the correct habitat for the species. FNAI informed us that their most recent habitat modeling for this area was completed in 2022 and is considered accurate. FNAI has a "high rate of confidence" that the species designated as "likely" are present on the site. Species in this category include the Florida sandhill crane and the wood stork. The list of "potential" species is broader and includes various rare and endangered Florida native plants and animals. A complete copy of the FNAI report, listing all species can be found here:

https://drive.google.com/file/d/1OFMvPGmU1Au3f9LHipWW2RSZWIvii7j3/view?usp=sharing

These findings are backed by earlier observations from the SFWMD. In researching the history of SFWMD permitting for the site, we were directed by district staff to a scanned version of an Environmental Permit Modification for this site from July of 2012. Item #31 of the "special conditions" associated with Permit # 50-00548-S-20 stated the following:

> 31. Endangered species, threatened species and/or species of special concern have been observed onsite and/or the project contains suitable habitat for these species. It shall be the permittees' responsibility to coordinate with the Florida Fish and Wildlife Conservation Commission and/or the U.S. Fish and Wildlife Service for appropriate guidance, recommendations and/or necessary permits to avoid impacts to listed species.

In addition to their Standard Data Report, FNAI also directed us to the database for ebird.org – a part of the Cornell Lab of Ornithology. The organization has provided a map of birding hotspots in the U.S. where birdwatchers can report sightings. The Wellington Environmental Preserve at the Marjory Stoneman Douglas Everglades Habitat is one such hotspot (see https://ebird.org/hotspot/L1023544 - free login may be required). It is only 1.5 miles due west of the Wellington South property and provides year-round public access. Users have identified and logged 195 different species on the ebird.org map for the preserve.

This local preserve was expanded in 2021 by an additional 45 acres. The total cost of the expansion was $4.5 million with the Village of Wellington providing $1.1 million in funding. We thank the Village Council for participating in this important acquisition and for their commitment to wildlife habitat and outdoor recreation in the village. The wetlands on the Wellington South site would likely be utilized by many of the same species seen in the nearby preserve. Another

important feature of this site is that, in the condition it was purchased, it was similar to the wetlands of Wellington South in terms of the presence of invasive plant species. An article on the purchase explains:

> *The biggest challenge Wellington faces in transforming the property is the abundance of invasive plants, he said. From the perimeter, the 45 acres appear to be nearly full of Brazilian pepper trees, a non-native shrub that can grow aggressively when left untamed.*
>
> *"Over the last 10 years, the exotics have really taken over," Reinsvold (Village Engineer Jonathan Reinsvold) said.*

Source: https://wellingtonmom.com/2023/02/08/this-wellington-preserve-is-getting-bigger-why-thats-good-news-for-coming-storm-seasons/

The land is currently being cleared of invasive species and replanted with Florida native vegetation as part of a natural restoration. The exotics that had been allowed to take over the site did not detract from the property's desirability as an important, functional wetland that could be restored. The same treatment could have been applied to the wetlands of Wellington South at any time. It was also recently announced that the now-expanded preserve has won the prestigious 10th annual Great Places in Florida People's Choice Award from the Florida Chapter of the American Planning Association. Congratulations to the Village Council for that honor as well. The photo in the article below on the award shows the 45-acre expansion area in the process of restoration.

https://wellingtonmom.com/2023/10/04/wellington-wins-environmental-preserve-namedwinner-of-great-places-in-florida-peoples-choice-award/

A useful video discussing the importance of the preserve and its role in stormwater management and improvement of water quality can be seen on this Acme Improvement District website:

https://acme.wellingtonfl.gov/wellington-environmental-preserve-expansion

As stated in the video, "this whole environment is essentially an extension of the Everglades." The 45-acre addition (the "Moncada Property") is discussed as adding to the preserve's ability to retain and clean stormwater. The video shows an aerial of this property in the state it was in when purchased – with invasive plant species dominating.

The much larger Stormwater Treatment Area 1 East adjacent to the preserve is also located near Wellington South – bordering the preserve to the north and west. Owned and managed by the SFWMD to promote water quality in the Everglades and to take in runoff from the C-51 Canal, it is also listed on ebird.org's hotspot map. The stormwater treatment area has logged 177 different species by visiting birders.

Though the 18.63-acre easement on the southwest corner of Wellington South mentioned above is not being proposed for removal for the Wellington South development at this time, major portions of Pod F, Pod E, and Parcel B on the property will be developed leading to both destruction and degradation of this important natural area and wildlife habitat. Some impacts will be direct, as when construction takes place directly in the former wetland and muck soils are removed to be replaced with fill material. But impacts will also be indirect as the constructed environment interferes with water flow into, out of, and across the wetland. The infiltration of fresh water into the surficial aquifer will also be more difficult due to impervious surfaces built on top of it. Runoff from buildings, lawns, and especially vehicles and roadways is not a part of the site in its current undeveloped state and will have to be dealt with. Finally, buildings, noise, lighting, vehicles, and a heavy human presence will dramatically lower the value of these wetlands as habitat for wildlife.

As noted above, the fact that the applicant has allowed invasive plant species such as melaleuca to proliferate on the property, does not change many of its wetland and habitat functions. It would have been better for the environment if the invasive plants had been cleared and native Florida vegetation had been restored. That can still occur if the applicant chooses to do that. But flood control, aquifer recharge, providing habitat for wildlife, and carbon sequestration are all functions that take place on this land in its current state. We believe village staff painted an incorrect picture during their presentation when they emphasized the presence of invasive plants on these wetlands and failed to mention the ecosystem services the land – even with the presence of invasives - currently provides. The PDF at the link below by Audubon of Florida challenges the idea that wetlands with a strong presence of invasive plants lose much of their value as wetlands. Audubon's paper focuses mainly on melaleuca which is a species noted on the site in several locations according the ACOE permit. Audubon concludes that:

> "While long assumed to drain wetlands, melaleuca has not been definitively shown to lower groundwater levels through evapotranspiration at any greater rate than native species. Consequently, melaleuca-invaded wetlands retain most of their natural capacities to store and attenuate flood waters, recharge aquifers, cleanse pollutants, and regulate base flows in watersheds. Recent research has clearly established the increasing biological functionality of melaleuca-invaded wetlands as a result of successful introduction of biological control agents, starting in 1997, throughout south and southwest Florida."

See link below for Audubon's complete summary of the issue:

https://corkscrew.audubon.org/sites/default/files/static_pages/attachments/melaleuca_aof_fact_sheet_4-10.pdf

The Village of Wellington's Comprehensive Plan and the Conservation, Sustainability, & Resiliency Element

The Village of Wellington's Comprehensive Plan' "Conservation, Sustainability, & Resiliency Element" explains that:

> *"The Conservation Element is required per Section 163.3177(6)(d), Florida Statutes, to provide for the conservation, use, and protection of natural resources, including but not limited to air, water, water recharge areas, wetlands, estuarine marshes, soils, flood plains, lakes, harbors, forests, fisheries and wildlife, minerals, and other natural and environmental resources, including factors that affect energy conservation. The … Element is designed to incorporate principles to ensure a comprehensive approach to address the mitigation and management of the natural and built environment for long term protection, preservation, and conservation of the identified resources. It is important to note this element supplements the principles provided throughout the comprehensive plan that contribute to Wellington's efforts for the conservation, use, and protection of natural resources."*

The "CSR" Element is divided into goals, each of which is subdivided into objectives, which are further subdivided into policies. Given that there is no other private property inside village boundaries that remotely resembles the undeveloped wetlands that has been given the current name of "Wellington South," this is likely to be the last time this part of the Comprehensive Plan is applied to a decision of this magnitude.

We do not believe the current proposal to develop Wellington South is consistent with the goals, objectives, and policies of the conservation element found in the Village's Comprehensive Plan. The projects envisioned for both the east and west sides of the property are not protective of these rare wetlands and wildlife habitats and will in fact destroy or degrade much of it along with removing the important ecological services these lands perform in their current condition for the surrounding community and beyond - flood control, water filtration, aquifer recharge, carbon sequestration, protection of onsite wildlife habitat and nearby public lands, and contributing to the rural character of the EOZD. Conversely, the construction of the equestrian showplace plus the dense residential communities on this parcel will likely lead to negative impacts – increased risk of flooding, decreased aquifer recharge, degraded water quality, loss of wildlife, and a dramatic uptick in traffic congestion and urbanization in the surrounding community.

We provide verbatim excerpts from the CSR Element below. Virtually all apply to the development of the wetlands and open lands on Wellington South.

Goal CSR 2, entitled "Soil, Mineral, Land, & Habitat Protection", is "Protect, conserve, and manage soil and mineral resources, including Wellington's wetlands, natural reservation, and sensitive lands, to protect habitat, endangered/threatened wildlife species, and native vegetation."

Objective CSR 2.2, entitled "Wetland & Environmentally Sensitive Land Protection", is "Ensure that all ecological systems, wetland, environmentally sensitive land (as determined by Wellington), wildlife, habitat, and especially endangered and rare species, are identified, managed, and protected."

Here are all the policies under Objective 2.2
Policy CSR 2.2.1
Wetlands Protection
Continue to require the principle of “no net loss of wetlands” and preserve the natural functions of wetlands by directing or significantly buffering incompatible land uses such as those with a negative impact on wetlands away from wetlands and require the monitoring and preservation of the functions and values of wetlands/conservation areas, and pursue the designation of wetland/conservation areas as “Conservation” on the Future Land Use Map.

Policy CSR 2.2.2
Loxahatchee National Wildlife Refuge
Require specific impact analyses for lands that abut or could potentially impact the Loxahatchee National Wildlife Refuge to support the Florida Department of Environmental Protection’s (FDEP) Ecosystem Management initiative.

Policy CSR 2.2.3
Innovative & Cluster Development
Encourage innovative planning tools, such as conservation easements and cluster development, to minimize the impacts of development upon environmentally sensitive land.

Policy CSR 2.2.4
Conservation Land Use Designation
Identify and designate publicly and privately-owned wetlands, wildlife habitats, major water recharge areas, and environmentally sensitive lands as Conservation on the Future Land Use Map for protection of natural resources and also dedicate and maintain in perpetuity, by a legally binding, recorded instrument by a plat or separate agreement.

Policy CSR 2.2.5
Natural Resource Preservation
Design development and redevelopment projects to protect, preserve, and manage existing natural resources and environmentally sensitive land on-site, unless preservation on-site is not feasible, then off-site mitigation and/or payment in lieu of preservation may be permitted. Manage and prohibit hazardous waste use, storage, transfer, or generating facilities in known zones of influence to protect natural resources.

Policy CSR 2.2.6
Preserve/Conservation Area Designation Criteria
Designate wetlands and/or environmentally sensitive land, as determined by Wellington, based

upon minimum criteria, including but not limited to:
1. The quality of habitats, presence of listed species, and proximity to other natural areas.
2. Endangered and threatened plants, animals and habitats of critical value to regional populations of endangered and threatened species.
3. Capability of functioning independently or in conjunction with manmade features.

Policy CSR 2.2.7
Sensitive Land Improvement
Limit improvement of preserve areas, wetlands and/or environmentally sensitive land to stormwater systems, nature observation, hiking, horseback riding, pedestrian and bike trails, boardwalks, pervious walkways, and other passive recreational or educational facilities and design the improvements to be consistent with the preservation of significant wildlife habitat, biologically functioning and natural resources.

Policy CSR 2.2.8
Conservation Area Management Plans
Require management plans for all preservation and/or conservation lands that provide for the long-term protection of the preserve/conservation area, continued removal of and protection from litter and debris, avoidance of activities or land alteration which may disturb the preserve area, eradication and continued monitoring and removal of invasive nonnative plant species, control of off-road vehicles, and maintenance of hydrological requirements.

Zoning of Wellington South and the EOZD

During their presentation at the first Planning and Zoning meeting, village staff noted that the Equestrian Overlay Zoning District (EOZD) was adopted by the Village Council in 2003 (https://www.wellingtonfl.gov/Faq.aspx?QID=142), but made no further reference to the overlay in their discussion of the property as a future PUD. At least one of the attorneys who spoke in opposition to the Wellington South project noted that the EOZD cannot simply be written off and remains relevant to the project at hand despite the property's earlier approval for a PUD. She also pointed out that where conflicts develop between the requirements of the EOZD and previous zoning, the requirements of the overlay are supposed to control according to Wellington's Land Development Regulations (LDR). That would seem to be the case in the section below where only development orders approved before the date of the current LDR would be valid for a zoning that is different than the EOZD. We are offering this as an observation and a question that is worth consideration by the Village Council since it would have a very big impact on what type of development could proceed on Parcel B and Pod E. We are also unsure if any development orders for this property have in fact been issued.

Sec. 6.8.2. - Conflicts. Sec. 6.8.3. - The EOZD subareas

In the event of conflicts between this section and other requirements of the LDR, this section shall govern. Any lawfully and valid development order(s) approved for property in the EPA prior to the effective date of the LDR is subject to the time limitations of development orders under

the LDR that was in effect at the time of approval. Any amendments to a development order submitted after of the effective date of this LDR shall follow the regulations and procedures within.

(Ord. No. 2021-12, § 1(Exh. A), 9-13-2021)

Section 6.8.2, Village of Wellington Unified Land Development Code (https://library.municode.com/fl/wellington/codes/unified_land_development_code?nodeId=ART6ZODI_CH8EQOVZODIEO_S6.8.2CO)

When staff discussed the "consistency" of what is being planned for Wellington South in relation to the densities that are there now, comparisons were made to the mosaic of dense developments already built near Wellington South. The PowerPoint slide presented showed the following developments and densities. We have added the dates that each project was approved. All were approved long before the EOZD went into effect in 2003.

Grand Prix South – 0.23 DU/acre - 1990 approval
Grand Prix Village – 0.24 DU/Acre – 1990 approval
Southfields – 0.21 DU/Acre— 1979-80 approval
Equestrian Club Estates – 1.43 DU/acre – 1987 approval
Mallet Hill – 0.46 DU/Acre – 1979 approval

Given the current density requirements of the EOZD, if these developments were proposed today, none could be approved at these densities without first lifting the EOZD. And to the best of our knowledge, no development has gone into the EOZD since its 2003 adoption that goes beyond the overlay's density limitations: minimum lot sizes of no less than two acres and no more than one dwelling unit per two-acre parcel.

The EOZD was created by the Village Council in 2003 for a reason – to "regulate development and activities within Wellington's Equestrian Preserve Area (EPA)…to protect the community's character." We believe the residential community being planned for Pod E and Parcel B as well as the massive equestrian recreational complex and showplace for Pod F, would be far outside what the councilmembers who approved the EOZD contemplated. We also believe the EOZD zoning to be environmentally protective of the wetlands and wildlife on the site and would also be consistent with the goals, objectives, and policies of the EOZD.

Wellington North

Although the focus of this letter is on Wellington South due to wetlands and other ecological impacts, the nearby proposed Wellington North project is being addressed by the Council at the same public meeting where Wellington South will be considered and the two projects will likely be voted on together as a single project. The removal of the Adequan Global Dressage Festival on the site to make room for the proposed residential development is directly tied to the massive equestrian show grounds that will be built on the western side of Wellington South (Pod F).

Wellington North is currently developed for equestrian show activities and other uses and does not carry the same wetland implications as Wellington South. However, it is in close proximity and the proposed new residences will add traffic, congestion, noise, artificial lighting, and runoff to this general area. Also, the removal of the Adequan Global Dressage Festival on the site to make room for the proposed residential development is directly tied to the expanded equestrian show grounds that will be built on the western side of Wellington South (Pod F).

In the case of Wellington North, the applicant has asked that, for the first time since it was established in 2003, the EOZD should be lifted from the site so that the dense residential development contemplated can take place. Many residents who spoke out at the Planning and Zoning meeting warned the Village Council that lifting the overlay for the purpose of a development project sets a dangerous precedent that completely undermines the purpose and function of the EOZD and its future as a protective overlay. As part of the complex land changes and swaps that will change the land use on the west side of Wellington South from residential to equestrian commercial (and pave the way for the massive equestrian showplace in the process) we are opposed to the proposal for Wellington North.

We appreciate the consideration given to these comments and again ask the Wellington Village Council to deny the applicant's request for these land use changes. As a final thought on the project, the photo below was taken by SFWA during a site visit in 2020 to a recently acquired 2,586-acre addition to the Loxahatchee National Wildlife Refuge. The Strazulla Tract adds a mix of cypress trees, sawgrass marsh, and spectacular wildlife to the northeast edge of the refuge bordering on Wellington. This photo was taken just after sunset looking north along the canal which separates one of the horse farms inside Equestrian Preserve Area from the Refuge. With intense development knocking on the door of protected public lands throughout Florida (and degrading their value as wildlife habitat in the process), the EPA in its current, lightly developed condition offers a good alternative.

Matthew Schwartz
Executive Director
South Florida Wildlands Association
matthew@southfloridawild.org
945-993-5351

South Florida Water Management DistrictSouth Florida Water Management District12.688 seguidores12.688 seguidores2 días • hace 2 días
Seguir
💧 Reminder: This is the last week to submit comments on the 2024 Draft Sea Level Rise and Flood Resiliency Plan.

The draft plan details regional resiliency projects and outlines the SFWMD's proactive approach to reducing the risks of flooding, sea level rise, and other climate impacts on water resources and increasing community and ecosystem resiliency in South Florida. The plan also includes an interactive map that makes it easy to find project locations.

Read the plan here: SFWMD.link/3z7deFz

The deadline to submit comments is this Friday, June 21, 2024. All comments must be emailed to resiliency@sfwmd.gov

Visit SFWMD.gov/Resiliency
for more information.
...ver más
Valora esta traducción
💧 Recordatorio: Esta es la última semana para presentar comentarios sobre el Borrador del Plan de Resiliencia al Aumento del Nivel del Mar y a las Inundaciones de 2024.

El borrador del plan detalla los proyectos regionales de resiliencia y describe el enfoque proactivo del SFWMD para reducir los riesgos de inundaciones, aumento del nivel del mar y otros impactos climáticos en los recursos hídricos y aumentar la resiliencia de la comunidad y el ecosistema en el sur de la Florida. El plan también incluye un mapa interactivo que facilita la búsqueda de ubicaciones de proyectos.

Lea el plan aquí: SFWMD.link/3z7deFz

La fecha límite para enviar comentarios es este viernes 21 de junio de 2024. Todos los comentarios deben enviarse por correo electrónico a resiliency@sfwmd.gov

Visite SFWMD.gov/Resiliency
para obtener más información.
Activar para ver una imagen más grande.

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2024 SEA LEVEL RISE AND FLOOD RESILIENCY PLAN

DRAFT MAY 29, 2024

Building Resilience and Mitigating Risks to South Florida's Water Resources

Sugerencias:

Para PhD. Carolina Maran.

De acuerdo al estudio realizado y modelado con FPLOS

El Distrito busca reducir el riesgo y maximizar la efectividad de los proyectos mediante el avance de modelos hidrológicos e hidráulicos integrados sólidos de toda la cuenca a través del Programa FPLOS, Planes de Abastecimiento de Agua, estudios de Restauración de Ecosistemas y evaluaciones adicionales de recursos hídricos. Esta estrategia permite al Distrito examinar los niveles máximos y mínimos, los excedentes de los bancos.

Los elementos estructurales, complementarios tales como los vertederos en los bordes libres del canal es una solución importante para mantener el tirante del canal o rio, a un nivel constante y las acumulaciones de aguas provenientes de las partes altas aguas arriba y las aportantes en las partes bajas por la propia precipitación pluvial, ameritan construcción de vertederos a ciertas distancias y estos a su vez se conduzcan a través de ductos abiertos y cerrados trasladando el excedente de las aguas hacia el humedal de forma rectangular.

Se debe contar con información determinada mediante programas computaciones, la cantidad estimada de agua que generará una precipitación en un periodo determinado, de acuerdo al incremento de la temperatura del agua de mar, se puede determinar la posible acumulación de agua en estado gaseoso y su condensación para generar precipitación, mediante estos programas se puede complementar la información hidrológica histórica, conocer es necesario para el trabajo preventivo y evita las inundaciones aguas abajo. Es decir, en el área urbana de dicho distrito.

Paralelo a ello se debe implementar el sistema de drenaje, almacenamiento, y evacuación hacia el humedal rectangular necesario en el humedal. (experiencia en la región Tumbes y Piura se viene desarrollando el sistema de drenaje pluvial para evacuar todas aguas provenientes de precipitación en cotas mas altas a la ciudad de Tumbes y Piura en el Perú.

El humedal como una “válvula de escape”, es en realidad una represa de agua de baja altura, el que se debe implementar con los excedentes de agua, evitar en lo posible la acumulación de aguas por inundación en el centro de la ciudad. El sistema de drenaje debe integrarse con los ductos de excedentes del rio, y acumular las aguas para trasladar hacia el humedal rectangular.

Como una experiencia exitosa, los costos de equipamiento en Sullana, Tumbes superan los 150 millones de dólares y que vienen ejecutando el gobierno inglés (Inglaterra), mediante el convenio gobierno a gobierno. Sin embargo, los costos pueden variar para más cuando las cotas dentro del sistema de drenaje son más bajas que el nivel del mar, permitiría evacuar las aguas acumuladas por el sistema de drenaje hacia el mar mediante un equipo de bombeo temporal hasta que dure los efectos la alta precipitación. Para el caso del proyecto SFWMD parcial se puede verificar el presupuesto de aproximadamente supera los 200 millones de dólares.

La alerta temprana, cuando ocurre una tormenta en las partes altas, es inmediata utilizar la automatización a fin de manejar el sistema de apertura de las válvulas, y se realiza la alerta de manera oportuna.

Adicional a ello los trabajos de recuperación y protección y conservación del ecosistema acuático es dinámico, es menester desarrollarlo, a fin de que el humedal sea un atractivo temporal y un atractivo permanente, el que más adelante se puede presentar los especies biológicamente.

PhD. Carolina Maran, lo felicito Doctora, por emprender un proyecto de gran importancia para la prevención de inundaciones. En The South Florida Water Management District (District or SFWMD), estoy a su servicio: movil wassap 999772696 Lima Perú.

Atentamente:

Dr. Yordan Baldoceda Ponce Lima-Perú.

From: John Dunn
To: Resiliency
Subject: input
Date: Thursday, June 27, 2024 3:32:32 PM

[Please remember, this is an external email]

I'm John M. Dunn, 222 SE 29th Terrace, Ocala, Fla. 34471.

I appreciate that SFWMD is developing a resiliency plan and soliciting comments.

The only thing I'd like to stress is that your report draw a line of connection between the burning of fossil fuels and sea level rise. The governor's office and its policy of climate change denialism is hardly a secret, but all the same citizens need to know the REASON why the district is taking these remediation steps. The seas are not mysteriously rising for some unknown reason. Responsible adults need to both understand and mitigate the cause of the problem and then contend with the problem. To remain silent about WHY this is happening and offering no carbon mitigation suggestions would be a failure of duty. Floridians need to do their share of carbon emission reduction, as the Southeast Florida Climate Compact urges everyone in the state to do. Charlie Crist understood this long ago and acted accordingly.

Governor De Santis's policy of deleting climate concern from the state energy policy is foolhardy, dangerous, and unforgivable.

He will be gone from office one day, but the legacy of denialism will haunt future generations throughout the state for hundreds of years.

John Dunn

June 21, 2024

RE: Public Comment 2024 Draft Sea Level Rise and Flood Resiliency Plan

Marsha Ellis
17850 Devore Lane
Fort Myers, FL 33913
marshaellis22@gmail.com

Dear SFWMD:

Please accept these comments drafted in response to the call for public comment. Generally, flooding in Lee County has reached crisis proportions as illustrated most dramatically during Hurricanes Irma and Ian. Those catastrophic events represent distinct scenarios in the "types" of flooding our region's resilience planning must address. Heavy rains before Irma in 2017 flooded the area for several months in the time period leading up to the hurricane and lasting well after. The surge from Ian in 2022 pushed into the interior Coastal Hazard Areas through rivers and minor tributaries catching many off-guard and proved devastating and deadly.

Just last week, as quantified by WINK News Meteorologist Matt Dewitt — Invest 91L dumped 4 trillion gallons of water on the region.

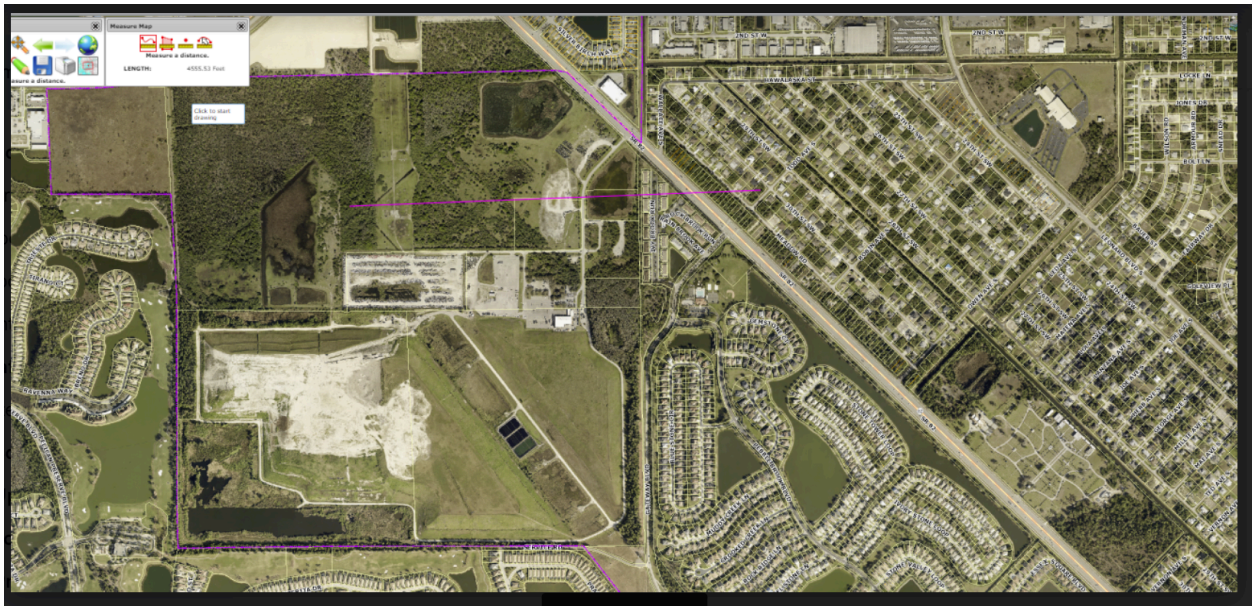
In that same news cycle was a report of a Sanitary Sewage Overflow in San Carlos Park, blowing the cover off the man-hole and sewage flowing down the street. The reporter wondered whether or not this was a “problem”. Residents in the neighborhood between the Construction Demolition Landfill on SR82 and the Reworld (formerly Covanta) Incinerator were unable to leave their homes due to flooding and many self-supply wells and septic fields were inundated spreading known contaminants. Those in coastal and flood-prone areas that were freshly rebuilt or recovering once again found themselves filing claims to replace vehicles, homes and businesses. Residents appeared caught off-guard, triggered and many questioned what if anything is being done to address or prioritize the community’s ability to withstand flooding going forward? How much **NEW** demolition debris will now require disposal —- release PFAS into the groundwater, emissions in the air through incineration or be illegally dumped knowing that enforcement is lax?

The samples were also laboratory analyzed for the presence of several PFAS analytes which do not yet have established standards. However, FDEP has introduced provisional CTLs for Perfluorooctanoic acid (PFOA), Perfluorooctane sulfonic acid (PFOS), and the combination of PFOA + PFOS. Provisional CTLs are allowable per FAC Chapter 62-777 and are enforceable under Florida Statutes (FS) Chapter 376.30701(2); 376.30701(2)(g) and FAC Chapter 62-780.150(7). Several provisional CTL exceedances were reported:

- MW-2
  - PFOA – 79 I ng/L (Provisional GCTL=70 ng/L)
  - PFOA+PFOS – 79 I ng/L (Provisional GCTL=70 ng/L)
- MW-3
  - PFOA – 190 ng/L (Provisional GCTL=70 ng/L)
  - PFOA+PFOS – 245 I ng/L (Provisional GCTL=70 ng/L)
- MW-4
  - PFOA – 150 ng/L (Provisional GCTL=70 ng/L)
  - PFOA+PFOS – 210 I ng/L (Provisional GCTL=70 ng/L)

The estimated exceedance extents for the provisional CTLs are illustrated in **Figure 4**. The groundwater laboratory results for PFAS are presented in **Table 8**. The site photographs, field notes, groundwater sampling logs and calibration documentation are presented in **Attachment A**. The groundwater laboratory analytical report and chain of custody is presented in **Attachment B**. All work was performed in general accordance with applicable FDEP SOPs.

Phase II Environmental Testing contiguous to Gulfcoast (C & D Landfill) & Leepa (DSS wells Lehigh)



Yet, Federal CDBG-DR (1.1 billion total) funds in the HUD Voluntary Acquisition Program administered by Lee County, originally allocating over 70 million, reduced to over 50 million for repetitive property buy-outs— was “undersubscribed” with few property owners participating. Outreach efforts and incentives mounted by Lee County proved not successful. The potential for open space flood-control Lee County diluted by making a provision for “redevelopment” were “moot” as participation in the buy-out program was poor to negligible.

Alas, the flooding cycles are repeating and accelerating with growing concern for pollution — including pollution arising from disposal of repetitive flood demolition debris, incineration resulting in dioxin/furan exceedances, PFAS contamination (C&D Landfill) and rampant Sanitary Sewage Overflows (SSO) eroding public health.

FLORIDA DEPARTMENT OF Environmental Protection

South District
PO Box 2549
Fort Myers FL 33902-2549
SouthDistrict@FloridaDEP.gov

September 15, 2023

Lee County Department of Solid Waste Management Resource Recovery Facility
Douglass Whitehead, Director
10500 Buckingham Rd.
Fort Myers, Florida 33905

SUBJECT: Department of Environmental Protection v. Lee County Solid Waste Division,
OGC File No.: 23-1386
Air Facility ID: 0710119
Lee County - Air

Mr. Whitehead:

The State of Florida Department of Environmental Protection ("Department") finds that Lee County Department of Solid Waste Management Resource Recovery Facility ("Respondent" or "you") exceeded the allowable emissions for the dioxin/furan during annual compliance tests conducted on January 26, 2023, and April 23, 2023, as required under condition B.16. of permit 0710119-016-AV for emission unit 006, in violation of Rule 62-212.400(10) (BACT), F.A.C.; 40 CFR 60.52b(c)(1); and Permit No. 0710119-014-AC (PSD-FL-151H). Before sending this letter, the Department requested that you undertake certain actions to resolve the violation(s). EU006 subsequently passed the test on June 19, 2023. However, due to the nature of the violation(s), you remain subject to civil penalties. You are also responsible for costs incurred by the Department during the investigation of this matter.

Recently, consideration of a "second" incinerator north of the Caloosahatchee has come to light, including pursuit of a Title V Stationary Source of Air Pollution permit — which I oppose. Concerns are for additional mercury, dioxin/furan and other emissions entering our air and water cycle further poisoning the environment, impacting human health and bioaccumulating in fish, wildlife and agricultural products (ie. eggs, meat, plant uptake).

Further, private DSS (Domestic Self-Supply) wells and older or not-properly elevated private-onsite septic systems in areas of increasing density pose increased known risk (ie. Cape Coral, Lehigh Acres) — as pollutant hazards, given increasing knowledge and regulation of "emerging contaminants" — demands intergovernmental coordination and action. Of note are the large number of Lee County's children who live in Lehigh Acres. Specifically, the susceptibility of developing fetuses and children to pollutants that collectively bioaccumulate and bond to proteins (dioxin, mercury, PFAS) and combined risks given

reasonable likelihood— due to proximity to the incinerator and C & D landfill, private well use combine with on-site septic —- elevates concern.

After participating in the FDEP Resilience webinar about a year ago, I learned FDEP was explicitly directing municipalities to make sure SSOs were being reported. FDEP did not have that reporting system open to the public at that time. In February I was able to locate a FDEP site that appeared publicly accessible. However, while writing this letter and conducting a quick search, keywords: "FDEP report sanitary sewer overflows" my top search item took me to a FDEP portal that again required a password, clearly for internal purposes. Among the search results, it appears Orlando does have a way to serve their residents in this capacity. I recently brought this issue up at the BoCC Regular Meeting 6/19/24.

Affected residents are notified by FDEP within 7 days by a written letter. This is not robust enough or timely to protect public health and quite frankly defies "common sense" given inaccessibility and loss of services stemming from a disaster. I have urged County leaders to find ways to address this and for the public to report this information, including cell photo reporting — in which time-stamp/location data can be extracted. I am very concerned that currently the residents of Lee County are not given strong enough "guidance" about what to do in instances of SSOs, as seen in the recent Invest 91L flood event. This past January an SSO in Cape Coral went on for 10 days. **Sanitary Sewage Overflows are illegal.** Enforcement is not adequately being handed down and the impacts to public health and environmental damage are widespread. SFWMD must address this in resilience planning.

There is much ado about purported benefits of septic to sewer conversion; however, in reality sanitary sewer conversion is a way to intensify development in rural and formerly protected areas (DRGR) and convert large agricultural tracts leading to density increases. Conflating septic conversion benefits is disingenuous given wide-spread SSOs and wastewater contamination and has created a rural "stigma". Urbanization in remote areas is harming our local wildlife biodiversity such as in the core Florida panther breeding area in Lee County and violates the Endangered Species Act. Environmental liability, such as impacts to aquifer recharge, of urbanization far outweighs any benefits. SFWMD leadership including protection of CREW land resources, is essential to enact and enforce federal frameworks that marry natural solutions in combination with wildlife protections (ie. hydrological/wildlife corridors)--- such as detailed in CRS (Community Rating System) guidance.

Residents need direction, education, support and a way to report flooding, such as sending in cell photos with extractable data and/or clear guidance. Information reported by residents could inform modeling, high water marks and also help determine the magnitude of response needed in emergency situations with real-time data and environmental conditions. Residents need some clarity about "how" to document flooding for insurance purposes. There is unrealized opportunity to tap into citizen science capacity while simultaneously educating residents to protect their lives and property.

The residents of Lee County have spoken loud and clear about their collective desire for nature-based solutions; yet, the rapid rate of urbanization continues break neck. Over 550 permits are being sought of FDEP in Lee County, slightly more in Collier — Lee and Collier are outliers well exceeding other permit applications (by County) in the state. Funding help from Ian, ironically enough, appears to be fueling urbanization and **DIMINISHING**, rather than helping increase resilience for existing residents through excessive growth. Luxury market rate development for those relocating to the area dominates new housing starts. When large tracts are cleared for new construction, including wetlands, it is painfully obvious that ecological function is fully lost —- with standing water appearing like large lakes (ie. Alico E. and Ben Hill) requiring massive fill elevation from mining and/or on-site lakes dug far in excess (ceiling) of

what is required (floor) for stormwater permitting purposes. These practices damaging and consuming our natural resources are inequitable and unsustainable. SFWMD plays a policy and regulatory role in addressing these concerns through guiding resiliency and safe-guarding our resources.

In the coastal and redevelopment areas, repetitive flood areas with the greatest potential to reduce flooding risks — are instead being redeveloped, including seeking intensification of use and density increases BEYOND what was existing pre-disaster. These policies are ill-informed and I urge SFWMD and others to re-examine their oversight including through permitting and their role in coordination with others — to reconcile practice with resilience principles and prioritize public health, life and safety. Please consider how current permitting and reliance on unexamined precedent is enabling unsound practices to perpetuate through normalization, operations and close this gap. Concerns for public health, life, safety and property that are guarded by regulation and sound policy FAR well exceed unsustainable margins gamed for maximum profit or business as usual. Pressure from the development community and regulatory agencies — peer to peer — is needed to stop the current cycle and compel responsible action from professionals, engineers, administrators and others — those equipped with insider knowledge needed to protect the public interest by applying the full weight of their intellect. Priority of action must address the gravity that the threat of flooding poses to current and future potable water supplies and the spoiling of our natural resources both directly and indirectly.

Continuing the same practices —- increasing impermeable cover, digging lakes to compact the stormwater footprint makes localized flooding worse not better since flooding is most likely to occur in the summer rainy season when ponds are already at capacity. Natural or constructed wetlands and dry detention for water polishing, habitat, etc. which maintain greater integrity and efficacy over time — are preferred with flooding benefits. These are the natural solutions that are resilient and improve the community's ability to withstand storms and precipitation events. Carbon accounting efforts support this through increased plant cover.

Stormwater ponds from a developer's perspective are a source of municipal bond "financing" and income for lake utility in CDDs (Community Development Districts). These lakes demand intensive management practices that may introduce increased pollutant loads (ie. copper, herbicides), tap nutrient laden groundwater and are a drowning hazard (including drivers), particularly for vulnerable populations (children, disabled). The use of these "windows to the aquifer" for landscape/irrigation practices puts those reliant on DSS wells tapped into the surficial/intermediate aquifer as permitted legal, existing users for their potable water use, in a scarcity scenario facing well collapse and decreased water quality. Landscape/irrigation is hardly a "responsible" use of water resources. Often, water benefits are conflated by inappropriately mixing agricultural use , rightly necessitating water of higher quality — with landscape/irrigation use. Unnecessarily "deep" lakes represent an increased risk that is passed on to others (public) to deliver a cost savings to developers who bypass assuming cost and responsibility associated with increased liability— including risk of death and environmental damage.

Having recently within the past 6 months, participated in a zoning actions seeking to put a wastewater facility contiguous (Wild Turkey Preserve) with 2 flow-ways (Wildblue & Devore flowways) I was appalled that the design standard as put forth by Johnson Engineering was for a 25-year flood event **and** extreme precipitation events from 2017 (Irma & pre) and Ian were **EXCLUDED** from models. It was asserted that due to the "numbers" the engineering was pass permitting "muster" Excluding and cherry picking data to paint a favorable picture is unacceptable given that SSOs (Sanitary Sewage Overflows) are occurring during flood events on a routine and recurring basis. As much emphasis (legislative, community, local leaders, etc) has been placed on moving residents from septic to sewer — to not design municipal systems in a resilient way is quite frankly negligent given the massive quantities of sewage spilled and

documented (and not documented) during extreme precipitation events. FGCU research has indicated that well functioning septic systems on larger lots >1 acres are adequate to do their job. However, oversight of these systems is needed as is education regarding the responsibilities for on-site septic maintenance and updates. PFAS contamination (products, household use, etc) is proving to further complicate wastewater management, though PEER (Public Employees for Environmental Responsibility) has recently taken a position in favor of smaller plants that are easier to control "inputs". Given the enormous quantity of PFAS found at car washes, wastewater effluent concentration, industrial sources (dry cleaners, drilling, leachate) and the need to manage these inputs —- resilience planning simply must not ignore this emerging environmental threat and this gap must be addressed proactively. The role of SFWMD as a regulatory agency to address pollution in tandem and inseparable from flooding — especially given the mobility of highly-transmissible and persistent PFAS contamination combined with other protein binding pollutants (dioxin, mercury, etc) — is an urgent call to act.

The intersect of municipal wastewater management and on-site septic systems and flooding is further complicated given analysis of influent and effluent PFAS contamination at wastewater plants. Additionally disposal methods of the sludge, dewatering and the widespread impacts from PFAS contaminated biosolid application, spray application and agricultural use is extensive, far-reaching and unfolding. These concerns are heightened when considering impacts to public water supply, domestic self-supply, food and eco-sensitive receivers.

PFAS contamination, from wastewater or other sources joins the list of documented and on-going concerns for "water borne illness" — NIH Study Twenty years of waterborne and related disease reports in Florida, USA noted that "During this time, 218,707 cases of water-related disease were recorded with 214,745 due to waterborne disease, 3255 cases of water-related vector-borne disease, and 707 cases caused by a water-based toxin." Already facing enormous challenges in preventing and responding to disease associated with water — Florida residents, including our children, should not have to chose between water that is safe or water that is affordable. I am in support of EPA 4ng/l standards for drinking water and absolutely endorse and support SFWMD efforts to safe-guard and protect our water supply to this end.

Flood modeling provided by The First-Street Foundation has identified our region as being at the top of the nation's list for flooding risks (emphasis, Cape Coral), including risks to infrastructure. First Street's models have proven to "best" FEMAs tools in real life comparisons and revealed limitations to the FEMA, including "unmapped" areas, as well as customizing for mitigation that can reduce risks. The CRS tools and FAUs Water Resiliency both model, quantify and reaffirm sound policy, including mitigation potential enabling natural solution benefits. Ultimately green infrastructure and technologies, innovation and open-space provide the best way to intervene and prevent pollution recurrences inherent to flooding.

In review of permitting — SFWMD must make publicly available Phase 1 Environmental Testing **PFAS Results** for commercial transactions as required in newly released CERCLA EPA rules governing PFAS hazardous substance declaration to guard public health and assure that liability for legacy PFAS is assigned — as intended. Further during SFWMD permitting, bundling flooding and pollution risks TOGETHER on an individual permit scale would enable more rigorous and revised analysis and examination of how the two (flooding/pollution) are inter-related. This combined analysis would better assess and reflect the protective features provided by natural solutions and the environment's inherent capacity and ecological function to protect water. Further a "combined" approach would be better at assigning costs and anticipating liabilities for development and practices (ie, clear cutting, development, urbanization, deep lakes, etc) and give proper "weight" to natural function and the benefit that natural function has to prevent flooding and thereby pollution. This approach would also prevent an unfair

“insider” knowledge of how to supply the numbers needed to issue a permit (ie. floor v. ceiling impacts, flawed models, bad precedent), close loopholes and plug coordination gaps — all well known to be exploited with damaging results.

Finally, these comments and my observations are submitted with intent to compel greater accountability, account for natural function and build resilience capacity.

Thank you for your careful consideration of my comments.

Sincerely,
Marsha Ellis

From: bluesquid7
To: Resiliency
Subject: 2024 Draft Sea Level Rise
Date: Thursday, June 20, 2024 10:15:29 AM

[Please remember, this is an external email]

I had a few items that may have been included in the draft, but I did not see them:

1.) Lift stations in low lying areas may be affected along with water table rising and infiltrating piping.
2.) With new urban sprawl water, runoff is going to be a larger problem and retention ponds may not be enough drainage/storage.
3.) In your report, the existing sea level has risen 6" inches. No graph was provided to show how fast the sea level has risen over 100 years. If a graph was provided showing the rate of rise then we can make better projections and take the necessary steps to accommodate.
4.) Your study was very intensive, but I don't recall any mention of "King Tides" that are unusually higher and affect all low lying areas, including roads, rain water runoff.
5.) The time is now to start considering building higher seawalls along our causeways that connect the mainland to the barrier islands, otherwise, construction cost will be higher and longer term just trying to keep sea water out of the concrete forms.
6.) Please consider the installation of water turbines at Lake Okeechobee's water gates to produce electricity. They could be Prefabricated and lifted into place downstream next to the gates.

Steve Needs

From: Copley Smoak
To: Resiliency
Subject: SFWMD
Date: Friday, June 28, 2024 1:15:56 PM

[Please remember, this is an external email]

It appears to me over the past several years that we mostly study and plan, but do very little to address the problems. We know and have known for years what the problems are, but the Gov and legislature just kick the can down the road, while the natural environment slowly degrades. The reason is that developers, Big Ag and mining control the State government. It's quite obvious to anyone with common sense.

Copley H. Smoak, Bonita Springs

From: msteph5307@aol.com
To: Resiliency
Subject: Public comment on SFWMD Resiliency Plan
Date: Thursday, June 27, 2024 11:54:53 PM

To Whom it may Concern:

I live in Chapel Trail in West Pembroke Pines and am in the area impacted by Conservation Area 3 between the C-11 and C-9 canal, between Sheridan Street and Pines Boulevard.

I have lived in my house for almost 30 years. My house in lower than the other houses since there are three drains in front of my house and the water fills up in my yard. I have lived through several floods here that probably no one knew about other than those impacted. I have a waterway behind my house that fills up and floods my entire yard to the street and sometimes my house. It is a horrible situation.

I would like to see more done to alleviate the flooding.

1-enlarge the c-11 canal so that it can remove more water more quickly when heavy rains are expected. Perhaps even add another canal to get water our of this area more quickly.

2- purchase more pumps for the Hwy 27/Griffin road pump station so that more water can be pumped out. What is one or more of the pumps fails

3- Build more flood water storage areas so that the water can be removed rather than sitting in my yard for weeks.

4- I would like to have pump trucks enabled to come into our community (it has a master and local HOA) to help remove the water.

5-Prior to expected heavy rainy, and not at the last minute, the SFWMD needs to lower the water levels, so that the South Broward Drainage District can lower our waterway levels, prior to and preventing the rising water out of our streets and yards. I feel very strongly that if the level of the water behind my house was lowered more, I would not have to experience damaging flooding. I feel the water could be lowered at least a foot more, without any negative impact to the wildlife, etc.

6- How would our water situation be impacted by a potential billion dollar garbage incinerator built by Broward County at Sheridan and 27 and/or a potential billion dollar garbage incinerator built by Miami-Dade next to the C-9 canal?

I was hoping to see some improvement before now, and not have to be writing this.

I truly think more can be done to save us from the flooding in our area.

Thank you.

Respectfully,

Mary Stephens

From: Craig Seger
To: Resiliency
Cc: Joe Capra; Gina Colonna
Subject: Draft 2024 Sea Level Rise and Flood Resiliency Plan Review Comments
Date: Friday, June 28, 2024 5:14:51 PM

Hello South Florida Water Management District Resiliency,

CAPTEC Engineering, Inc. is please to provide these comments regarding the Draft 2024 Sea Level Rise and Flood Resiliency Plan. Thank you for this opportunity to provide input on this important document.

The SFWMD 2024 Sea Level Rise and Flood Resiliency Plan Draft has created an effective resiliency baseline to identify impacts and remedies for sea level rise and rainfall on the South Florida populations. While the Plan generally covers heavily populated southern municipalities within the SFWMD, the plan also provides an overview for Martin County and the communities of the City of Stuart and the Town of Sewall's Point. The Plan's vision to promote resiliency to safeguard critical assets is helpful in addressing adaptability planning and implementation.

The SFWMD Resiliency Coordination Forum has been especially helpful in distributing content, effort, and direction that the Plan includes for resilience across the District. It is helpful to understand how neighboring communities in the District are handling extreme weather events and planned adaptability measures. In addition, the Forum is also helpful in gaining an understanding of funding expectations and future construction milestones.

The 2021 Florida Statute 380.093 Resilient Florida Grant Program is an important program for identifying flooding effects on critical assets within Florida communities. The resulting Resiliency Vulnerability Assessment Report focuses on depth of flooding caused by at least four event types: sea level rise, tidal flooding, storm surge, and rainfall inundation along with combined compound flooding associated with the four event types. The SFWMD 2024 Sea Level Rise and Flood Resiliency Plan would seem more complete with a detailed section that addresses these four event types and the associated compound flooding. An added benefit would be to include methodologies for analyzing flooding within riverine systems and estuaries.

Craig Seger
CAPTEC Engineering, Inc.
772-692-4344

From:	Alexander Suma
To:	Resiliency
Cc:	Dries Darrow
Subject:	Public comment on 2024 Draft Sea Level Rise and Flood Resiliency Plan
Date:	Friday, June 28, 2024 8:27:19 PM
Attachments:	image001.png image002.png

Dear sir/madam,

We just found out that the deadline of making public comments on the 2024 Draft Sea Level Rise and Flood Resiliency Plan passed last week, however, we hope you still appreciate input and consider taking up our comment in the draft plan.

I would like to comment on the subterranean barriers (West Miami) which are currently carried with traditional grouting methods till the limited depth of 60ft. We are developing a new technology that can reach much further depths creating an impermeable subterranean wall. With this new method we believe that through modelling and water management, compound flooding in the urban areas can be better controlled. Our novel method is biobased and thereby more durable and cost effective. The technology is currently in early development stage but we are optimistic in its effectiveness and value for South Florida's water management.
As soon as we can share more details, we definitely will.

With best regards,

Dr. Alexander Suma
CEO & Founder

nexuma

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3301 Gun Club Road
West Palm Beach, FL 33406
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September 2024