



SFWMD C-8 AND C-9 WATERSHEDS FLOOD PROTECTION LEVEL OF SERVICE ADAPTATION PLANNING AND MITIGATION PROJECTS STUDY

Date: April 11, 2022

Time: 2:30 PM – 3:30 PM

Subject: Bi-Weekly Meeting

Attendees Highlighted:

- Hongying Zhao, **SFWMD**
- Ana Carolina Maran, **SFWMD**
- Nicole Cortez, **SFWMD**
- Akin Owosina, **SFWMD**
- Ann Springston, **SFWMD**
- Lichun Zhang, **SFWMD**
- Matahel Ansar, **SFWMD**
- Larry Brion, **SFWMD**
- Carol Ballard, **SFWMD**
- Ruben Arteaga, **SFWMD**
- Sashi Nair, **SFWMD**
- Francisco Pena Guerra, **SFWMD**
- Shahana Mona, **SFWMD**
- Vijay Mishra, **SFWMD**
- Irela Bague, **Miami Dade**
- Marina Blanco-Pape, **Miami Dade**
- Alberto Pisani, **Miami Dade**
- Gregory Mount, **Broward**
- Kevin Hart, **SBDD**
- Susan Bodmann, **Broward**
- Jennifer Jurado, **Broward**
- Rajendra Sishodia, **Broward**
- Virginia Walsh, **WASD**
- Omar Abdelrahman, **RER**
- Pamala Sweeney, **RER**
- Katherine Hageman, **RER**
- Valentina Caccia, **RER**
- Michael Zygnerski, **Broward Co**
- Karina Cordero, **RER**
- Michael DelCharco, **Taylor Engineering**
- Angela Schedel, **Taylor Engineering**
- Pat Lawson, **Taylor Engineering**
- Joseph Wilder, **Taylor Engineering**
- Stephanie Massey, **Taylor Engineering**
- Lynette Cardoch, **Moffatt & Nichol**
- Peter Sahwell, **Nova Consulting**
- John Loper, **Anclote Consulting**
- David Key, **ESP – Florida**
- Nathan Slaughter, **ESP – Florida**
- Sarah Hamm, **Moffatt & Nichol**
- Elton Smith, **Taylor Engineering**

Notes:

1. Meeting Kickoff

- Roll Call

2. Presentation: M2A Preliminary Results

- PM Metrics
- PM 1 max water surface profile along the canal. It is a max at any time for the model run. It is shown with the canal banks.
 - Presented PM1 for various events and SLR 1, 2,3
 - The goal for M2A is 25-yr SLR 1. That is achieved for this mitigation pla.
 - C8 is showing good improvement.
 - C9 is performing well, too. 25-yr LR1 is just below current conditions. Not enough mitigation for SLR 2 and 3.
 - Looking at 100-yr, we see C8 that it is working just upstream of pump, but not further upstream. It does keep SLR2 and 3 from getting too high.



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- It is a little bit surprising for C9 is that it is getting SLR1 for 100-yr. That is really good. We are keeping it at 100-yr conditions with mitigation projects.
- C8 C9 – both basins had something like 5 yr LOS. With SLR we keep that similar using the M2A mitigation.
- Using 1550 CFS pumps. We proposed 1,000 cfs with Lake O and Western Mine Pits. But, Joe had to increase it to that level to achieve the 25-yr.
- Carolina – could we say that C9 sees some benefit from C9 impoundment? Yes, that is built into the future conditions model.

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3. Scenario M2B Discussion

- We have conceptual plans and are now working on model development.
- Joseph went over the concept of raising the canal embankments as part of this mitigation project. In real life you would put in flap gates to handle the overland flow into the canal. It is problematic to add that kind of detail into the model.
- Joe showed results of raising bank elevations and keeping flooding from canal to overbank. But, now you can see the flooding from interior drainage issue.
- How should we handle this flow to the canal that is now cut off and causing flooding?
- Carolina – could you assess how much that flooding is by looking at volume of flooding? Is the flooding worse from interior flooding or from overbank flooding? Joe thinks just by looking at it, it seems like the depth of flooding has increased.
- Akin – if you block it out and know you have to deal with it, you have to answer the question of “how does this help us make the decisions we need to make?” It would be challenging to make it work. Not sure we need to address this in a detailed model.
- Loper – we may test this by using a one-way culvert. It would be adding MIKE HYDRO branches. It is limited in how many we can do, but that approach may work.
 - i. Joe discussed how much work will go into adding these one-way culverts.
 - ii. Akin – before we do any modeling...are there scenarios where we are looking at secondary projects that would mitigate this flooding? Any sub-regional scale projects? Maybe you have a drainage feature that collects the flow and puts it in at some centralized point?
- Hongying – we are targeting 25-yr SLR2. Will we see this residual flooding for that event? Yes, we will.
- Susan Bodmann made this comment, “Is it the intent of the project to define the absolute fix or can the model result be used as an indication of something additional that needs to be evaluated. We know that if the bank is raised, then another methodology will need to be engineered to deal with the secondary drainage that now can't get to the primary canal. The question is how far outside the primary canal evaluation do you want to go before you begin solving secondary drainage.”
- Carolina made this comment, “I think we need to think holistically here... this is why I was trying to say that we need to quantify the overland volume blocked by the raising canal bank... we might want to bring the overall costs to fix both primary and secondary system as part of the final BCA analysis. [3:26 PM] Maran, Ana Carolina If not a secondary system, we might need to think of additional drainage features needed. How much of these drainage system already exist? Maran, Ana Carolina
- Joe, please let me know later if we really see overland flooding into canal or through an existing drainage system not represented into the model



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- Susan added, “Perhaps assume that you take the land adjacent to the canal, widen, raise and place a reverse berm swale along the bank top to catch local overland flow. Would that not be the ultimate outcome?”

Overview of Task 3 – Flood Damage Assessment

- Slide overview of concept – Did not get to this agenda item

4. Additional action Items from Previous Meeting

- Schedule update – Did not get to this agenda item
- Vijay – cost for structure hardening, pumps, levees? – Did not get to this agenda item

