



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

Date: January 18, 2022

Time: 11:00 AM – 12:00 PM

Subject: Bi-Weekly Meeting Agenda

Invited Attendees:

- 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**
- Michael DelCharco, **Taylor Engineering**
- Angela Schedel, **Taylor Engineering**
- Pat Lawson, **Taylor Engineering**
- Joseph Wilder, **Taylor Engineering**
- Stephanie Massey, **Taylor Engineering**
- Lynette Cardoch, **Moffatt & Nichol**
- Laura Vogel, **Nova Consulting**
- Peter Sahwell, **Nova Consulting**
- John Loper, **Anclote Consulting**
- David Key, **ESP – Florida**
- Nathan Slaughter, **ESP - Florida**

Notes:

1. **Meeting Kickoff** – Michael
 - a. Roll call
 - b. Summary of Agenda
2. **Task 1 Workshops** –
 - a. Lynette and Nicole working on text for an email blast
 - b. Ideas on follow up – Lynette
 - i. Perhaps an update meeting scheduled regularly, say quarterly
 - ii. Akin – let’s keep this focused on accomplishing the tasks at hand for this project; He’s rather it is not an update meeting, but more a way of getting input from them
 - iii. Lynette – is there somethings, some feedback we need from the partners?
 - iv. Carolina – keeping the partners updated and brought along the process is important for buy in. They need to know how we got to where we are.
 - v. Hongying – we do need to communicate to the partners the approach we have used. We don’t want any surprises at the end.



- vi. Lynette, Nicole, and Ann can work on scheduling the meeting.
- vii. The District's idea of a working group is to get a small group engaged to help move tasks forward.

3. **Task 2 H&H Evaluations** – Michael

a. Model M2A & M2B

- i. New model iterations combined with conveyance improvements, regional storage project, and injection wells
- ii. Operations – using a set of rules for each SLR 1, 2, and 3.
- iii. We made many runs to get a range of pump options and examine how the system responds.
 - 1. For example, increasing pump sizes doesn't affect the upstream ends of the canal. So, we looked at geometric changes in the canal. Did not see large changes. Up to 0.1 ft in some areas, but not doing a lot.
 - a. Carolina pointed out the it is good to show this is not the whole solution, but would be part of it
 - 2. Looked at injection wells (as proposed by MD). Looking at old studies we looked at how much could be pumped into boulder zone. 30 cfs was their "useful" number. A report showed 20 wells would cost \$286M in 2007.
 - a. Lynette said MD has much more recent efforts. Carolina said this option is going to be part of the solution. FAU has some recent studies as well.
 - b. Joseph said it does have an impact and can be operated usefully
 - c. Carolina likes that this also provides WQ benefits
 - d. Akin – these are permissible and achievable. Damage avoidance may make the cost justified. The WQ helps, too. Could pumps do pre-storm draw down? May not be preferred option – but maybe during high coastal events.
 - e. Vijay – those costs may be old. There is newer data.
 - f. Joseph saw good results with 10 along the C8. Also tried it with scattered wells. Also looked at some targeted areas.
 - g. Carolina said we might want to do some cost benefit testing before we run all the 48 runs for each of the mitigation sets. Carolina said the tool is just about ready. The background data sets are ready to go, too.
 - h. When we come up with our number, Vijay can provide us a dollar amount.
 - i. Is there an upper limit of number of wells? Joe will use something between 10-20 wells. He presented results for PM1.
 - 3. Joseph showed results for canal conveyance improvements and injection wells.
 - a. Vijay – canal conveyance improvements are very difficult to perform. Joe agreed, and what he showed was that it had very little benefit anyway.
 - 4. PM5 differences – with some local scale projects. Opalocka area showed little improvement. Akin – you could target that area with an injection well. Joe said he looked at that some and sees that he gets better improvement by actually lowering the canal with wells along the canal.
 - 5. Another PM5 difference map using injection wells scattered throughout the basin. It shows less than a tenth of a foot.
 - 6. Joseph discussed the storage projects. If we had some generic storage, what would it take to move the needle? Some of our original concepts were not helpful. We may just



remove the water (like the injection wells). That can help us understand what kind of storage volumes would help

- b. M1 mitigation projects
 - i. model results for the following (some combinations)
 1. Pembroke Pines three basin interconnect at Century Village
 2. Injection Well construction
 3. SBDD B-1 / B-2 Pump Station upgrades
 4. SBDD Basin 3 / Basin 7 interconnects at Country Club Ranches
 5. Add operable structures (gates / pumps) to confluency of primary / secondary canals
 6. Storage addition to non-pumped drainage areas
 - c. Previous Action items for Discussion
 - i. How are we going to assess downstream flooding? (Any plan on proposing a draft SOW?) Michael will send in some draft this week.
 - ii. BC changes & SLR/Surge assumptions
 - iii. Planning for working group meetings (Could you propose a date? We need to give at least two weeks of notification.
- 4. Schedule Discussion**
- a. Task 2.1 completed. Will try to address the additional comments from the resilience
 - b. Tasks 2.2 due 3/25
 - c. Task 2.3 due 4/29

