TAYLOR ENGINEERING, INC.

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

Date: May 9, 2022

Time: 2:30 PM – 3:30 PM

Subject: Bi-Weekly Meeting #25

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**
- Elton Smith, **Taylor Engineering**
- Lynette Cardoch, **Moffatt & Nichol**
- Sarah Hamm, **Moffatt & Nichol**
- Peter Sahwell, **Nova Consulting**
- John Loper, **Anclote Consulting**
- David Key, **ESP – Florida**
- Nathan Slaughter, **ESP – Florida**

Notes:

1. **Meeting Kickoff**
   - Roll Call
2. **Task 2 – Modeling:**
   - Scenario M2B Discussion
     i. Update on modeling- finalizing model changes to eliminate artifacts such as greater 2D flood depths for a portion of C-9 Canal that has lower 1D elevations
        - Requires updates to topography where the 1D model couples to the 2D model- 2D topography elevations need to be raised to match the 1D bank elevations that were elevated as part of mitigation strategy. This mostly eliminates the water that stacks on the low canal grid cells that can't "drain" to the 1D model until it ponds high enough to reach the raised 1D bank elevations.

     ii. Including Lake Ojus (East/West Lake) as part of the model setup changes, not related to any mitigation,

- Without explicitly including this lake as a river link, raising bank elevations along the canal further isolates the available storage.
- From the earlier iteration runs, we knew that there were improvements to the maximum profile associated with just adding that lake into the 1D model and did not want this improvement to appear to be from the actual mitigation projects.
- As a test, reran the 25-year current conditions storm event with Lake Ojus represented to get a new 1D profile for comparison with the mitigation runs that include Lake Ojus.
- For current conditions, the C-9 canal had an average decrease of 0.12 ft and a maximum localized decrease of 0.23 ft as a result of including Lake Ojus in the 1D model.
- A PM5 comparison was also done, which showed minimal changes to flood depths across the model, mostly in low-lying undeveloped land or along canals. The PM5 difference map also showed some increase in depth across Lake Ojus, which makes sense as the C-9 Canal is now directly connected with the lake in the model as it is in the real-world and utilized more of the lake's potential storage.

iii. Continuing on with M2B modeling and will include the Lake Ojus updates as part of M2C. Will circle back at a later date and discuss if these changes need to be applied to M2A.

- Scenario M2C Discussion
  i. Discuss goals – made final decision for M2C – using 25 yr SLR 3

3. **Task 3 – Flood Damage Assessment**
   - Update – QA'ing M3 results which have been run in FIAT
   - EAD values may vary within each grid, due to the percentage of the building in each cell that is flooded
   - WSEL vs flood depth – which is best to use? (WSEL uses more of an average water level across each cell, whereas a flood depth comparison is more extreme)
   - Currently using median topo elevation across the grid (50% will be over-estimated, 50% will be under-estimated)
   - Consultant team will justify the chosen scenario (WSEL or flood depth)
4. **Additional action Items from Previous Meeting**
   - Schedule update – 1 or 2 more weeks for M2B
   - For Katie (RER) – requested flood data (10yr, 100yr SLR2) – HZ to send to her
5. **Action items for this week**
   - Joe to finish up M2B
   - Angela to QC M3 results
   - M2A cost estimation results - apply benefit/cost ratio to be ready for adaptation planning