

MINUTES OF THE WORKSHOP MEETING OF THE SOUTH INDIAN RIVER WATER CONTROL DISTRICT HELD ON OCTOBER 22, 2020

The workshop meeting of the South Indian River Water Control District was held on October 22, 2020, at 5:00 p.m. via Zoom video conferencing. Present were Supervisors Steve Hinkle, Tom Powell, John Meyer, Michael Howard, and John Jones. Also present were Amy Eason, engineer; Charles Haas, treasurer; William Capko, attorney; Mike Dillon, manager of operations; Donna DeNinno, public information; and Jane Woodard, secretary. Two landowners were also present via Zoom conferencing.

Mr. Hinkle called the meeting to order.

Mr. Hinkle confirmed that all Board and staff members were present. He read a statement that the meeting will be conducted consistent with the Governor's Executive Order 20-69. Information is available on the District's website for landowner attendance.

Ms. Eason presented an overview of the Jupiter Farms Re-Engineering Study, including the model history, model results, storm events, Sections 7 and 18 improvements, Section 11, G92 levels and the impact on the District, redevelopment storage, water quality, and level of service.

In 2002, a model was prepared in an effort to design water control structures on Canals 2, 3, 4, 5 and 14. The purpose was to design control structures that would not impact existing conditions, and to show the basic flow into the canals at certain points. Projects constructed since 2002 have now been added, including culverts under Jupiter Farms Road and culverts along Canal 18. The model was then run to look at results and verify all outfall culverts. It was revised to include basin-specific information. This model does not include interconnected weirs between basins.

The storm event in May 2020 was looked at and gauge data was added to simulate tailwater effects of the storm. Events were run including a 10-year/24-hour event, a 25-year/72-hour event, and a 100-year/72-hour event. Ms. Eason displayed a map of a 10-year/24-hour event. There was no flooding of swales and the water stayed next to the roads. She was satisfied that the model was tracking reality with some adjustments. Ms. Eason then displayed a map of Sections 7 and 18 in a 10-year/72-hour event. Section 7 was the worst and Section 18 was representative of the rest of the District. Two years ago, Section 7 was looked at with a detailed analysis and improvements were made with larger outfall culverts with 48' risers. This enlarged outfall got more water out. Swales were made deeper and wider, and overgrown swales were cleared. Internal pipe upgrades were looked at and some needed to be upsized to improve flow. After running and calibrating the model, showing pre- and post-development using those culverts and improvements, there was only 1/10th of a difference. Ms. Eason showed a graph of Sections 7 and 18 pre- and post-development with culverts and swales in a 10-year/72-hour event, showing a benefit but more water quality benefit. For the 25-year and 100-year results, there was not as much of a benefit with improvements. In Section 11, because it is upstream of structures, the system is tailwater-dependent. She looked at adding several improvements, but there were no additional benefits or improvements. Mr. Meyer asked if there are benefits to being able to operate risers so water levels can be pulled down when needed, causing more available water storage. Ms. Eason stated the risers are set at above the invert of the ditch. Intensive operations could adjust the weirs. The ditch can only be as deep as the easement and the water can only be released if the canal is lower than the water elevation in the ditch.

Ms. Eason then showed the G-92 levels. If the water level gets high, there is no impact. When the gate is open during wet season, there will be impact from the G92. Developing lots was evaluated and four basins in Section 11 showed an impact. The graph showed a loss of about one inch of storage. The District is almost 90% built out and the impact is negligible. The swales provide storage and conveyance. Ms. Eason noted that if swales are added, there will be a reduction in the system.

Ms. Eason stated there is a need to look at water quality in the future. Section 7 is designed to have improvement in water quality and the system is designed to have water in the swales. Larger culverts will give more flow. Tailwater impacts the system. She discussed examining head loss through the swale system and driveway culverts, examining outfall pipe sizes, reviewing canal top of bank elevations, and reviewing road elevations. There needs to be a more detailed look for a plan of improvements. Mr. Hinkle inquired about existing culverts under roadways. Ms. Eason stated if materials are underwater in a canal, that is a conveyance issue. If the control structures are higher than the bottom of the canal, the Flow regime is at water elevation. She noted the Lainhart Dam was only rated for a 2"/acre storm event. The canal system is designed for 4" for conveyance, but it is not designed for storage. Mr. Hinkle asked if SFWMD can lower the C18, and Ms. Eason stated she would like to go over the current detailed model with SFWMD. Mr. Powell noted that the Board first thought about major changes and a new Plan and asked why this is not being discussed. Ms. Eason stated she was asked to present an updated model so the next Plan and major projects can be started. Proposed projects would include making swales wider and deeper, reclaiming as many outfalls as possible, and utilizing easements any way possible. Major projects would include confirming that road cross culverts are sized adequately, looking at roads meeting the permitted level, looking at tailwater curves to be sure they are not overtopping the canal, increasing outfalls and determining if they are appropriately sized. Operational items would include driveway culverts being the appropriate size. Ms. Eason noted that road crossings may need to increase to 30".

Mr. Howard asked how the levels compare to possible levels of the River and G92. Ms. Eason stated it will be beneficial to fine-tune levels at the River all the way to Lainhart. Mr. Howard inquired if a significant increase in the height of water to reach flows is being proposed, and Ms. Eason stated she would need to look at the rudimentary analysis. Mr. Howard noted he does not want to do something that someone else is going to have to do and would like to see how Loxahatchee River restorations are coming along. Ms. Eason stated they do not have a model yet that shows if there will be an impact to the District.

Mr. Meyer believes there is leeway in how the G92 is operated and suggested the agreement with SFWMD should be renegotiated. He noted they have the discretion to lower our tailwater. He suggested going back to the conceptual drainage plan in Jupiter Farms which included lateral canals and structures, the G92 operations, and the pump that was to provide emergency control. For emergency purposes, the pump would offset control structures. The District's water quality and ground water storage were improved, but the drainage was negatively impacted. The G92 agreement needs to be looked at for better tailwater conditions. Ms. Eason stated water is still able to go forward in a peak storm. She agreed the District needs to talk to them about the agreement, and noted when this was originally the 8th Plan, the pump station got thrown out when it went to court. She would like to put more water down the S46 but SFWMD would probably not agree.

Mr. Hinkle discussed flooding in Wind in the Pines during storm events. There are riser pipes there that have caused problems. Ms. Eason stated this study will help negotiate an agreement with them and maybe they will pay for better downstream analysis. Mr. Powell noted Ms. Eason has done a good job on this study. He now wants to revisit the pump and the G92, the widening of swales, and culvert sizes. Although more analysis is needed, there are action areas that can be worked on now and the Board needs to be more specific. Mr. Hinkle agreed. It was noted that by widening swales, the water will be cleaner, especially if putting it into the G92. Help is needed in getting cleaner water out.

Ms. Eason discussed improvements in Section 7. It holds a lot of water and is the worst area in the District. She suggested implementing the widening and deepening of swales up through 95th Way. There is a drainage ditch that can be connected to the canal and also have a structure to alleviate water there. This can be started this year. Mr. Meyer asked for clarification of the quoted price of \$1.2 million, and Ms. Eason stated this would include everything. Some roads were not centered when they were paved, and it was decided to leave them and not raise the roads. The quote includes outfalls and clearing vegetation. Mr. Powell suggested combining items and structuring it into one comprehensive plan instead of doing things piecemeal. The District could then obtain financing and it would be less expensive for everyone. Ms. Eason stated the \$1.2 million quote did not include Mr. Dillon doing the swale work, so that would decrease the amount. Mr. Meyer asked if this quote would be applicable to other sections than Section 7, or would it be reduced if they do not require as much work. Ms. Eason stated she would continue to apply the same methodology to other sections and continue the process of adding culverts. Mr. Hinkle liked the idea of one Plan but there is still a need to do things in Section 7 and the District has money this year, as well as the equipment to clean out vegetation. He asked if there could be an individual project for Section 7, but a Plan of Improvements for Jupiter Farms. Ms. Eason stated there is money in the budget to continue analysis. She suggested increasing the pipes in the canals and widening the canals to see if these things make an impact. At that point she would be able to prepare a Plan. Mr. Howard noted that increasing the swales made an improvement. Swale work and culvert resizing will have a benefit. He would rather have storage benefits by fixing the swales. Mr. Meyer was concerned about the amount of staff time needed to operate risers in Jupiter Farms. Ms. Eason stated they could be put at elevations that do not require a lot of maintenance. Mr. Howard asked if the model gives the ability to look at other control structures in the District which would be more cost effective and less labor intensive. Ms. Eason confirmed it does have that ability.

Mr. Dillon suggested starting improvements with roadside swales. Mr. Powell felt a concrete plan is needed first. Ms. Eason will determine if another outfall is needed or if another easement should be acquired. Mr. Hinkle stated if the Board decides to address only Section 7 this year, a mailer should be sent out and a meeting with the landowners in that area scheduled to show them what is proposed and how they will benefit. Mr. Howard noted if the main goal is storage, there would not be a change in flow to the outfalls. He also noted landowner education is critical.

Discussion followed regarding proceeding with the smaller projects this year that are already funded and getting cost estimates based on the model. It was also suggested that Section 7 could be the first phase of a larger project, allowing for financing. Mr. Howard suggested proceeding with Section 7 improvements and if they exceed the available \$70,000, work could be scaled down to just a portion of that Section. It was his opinion that the Board should focus on benefits to the landowners in Section 7 rather than a larger project throughout the District. Mr. Powell suggested adding an outfall into the Plan and draining

the lake in the middle of Section 7. Mr. Meyer asked for a concept plan that can be applied anywhere in the District. Ms. Eason agreed to look at all the suggestions made, determining what will provide the most benefit with more flood control and swale storage throughout Jupiter Farms.

There was no further workshop business to come before the Board, and a motion was made to adjourn. The motion was seconded and carried unanimously.

ADJOURNED.