



# South Indian River Water Control District™

*Established 1923*

May 6, 2019

Dr. Ann Hodgson  
U.S. Army Corps of Engineers  
Jacksonville District P.O. Box 4970  
Jacksonville, FL 32232-0019

RE: Draft Project Implementation Report/Environmental Impact Statement  
for the Loxahatchee River Watershed Restoration Project (“Project”)

Dear Dr. Hodgson:

South Indian River Water Control District (SIRWCD or “District”) was created in 1923 by an act of the Florida Legislature and consists of the Jupiter Farms and Palm Beach Country Estates communities that would be impacted by the above referenced project. This District provides water management services to these communities.

The main drainage for approximately 15 square miles of the Jupiter Farms community is the Northwest Fork of the Loxahatchee River. There are three points of entry into the Northwest Fork of the Loxahatchee River: SIRWCD Canal 2, SIRWCD Canal 3, and SIRWCD Canal 14 (C-14). The C-14 Canal is connected with the South Florida Water Management District (SFWMD) C-18 Canal through the G-92 Structure.

When the G-92 structure was upgraded and installed, an agreement between SFWMD and SIRWCD was executed on the operation of the structure in 1989. The operational criterion in the agreement is stated as:

“For purposes of river flow augmentation, SFWMD will be allowed to discharge from C-18 of SFWMD to C-14 of SIRWCD through G-92, a quantity of water in cubic feet per second (cfs) equivalent to the maximum discharge capacity of the structure or four hundred cubic feet per second (400 cfs), whichever is less, and with the provision that the C-14 stage shall not exceed 14.5 feet National Geodetic Vertical Datum (NGVD) during operation. For purposes of flood control SFWMD shall operate S-46 and G-92 so as to give maximum opportunity for flow from C-14 to C-18 when water in C-14 at G-92 exceeds 15.0 feet NGVD. Flood control operations will continue until the stage recedes to 14.5 feet NGVD in C-14 or to the C-18 stage, whichever occurs first.”

*A Florida Special District*

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Unfortunately the agreement was executed under a different water management system that was not built in accordance with the approved permit and therefore, this agreement needs to be re-evaluated with the water management system that is under current operation.

Over the past years, SIRWCD has seen the effects of keeping the G-92 open during rain events. SIRWCD works closely with SFWMD on when the G-92 structure should be closed in order to not affect SIRWCD's flood protection capabilities. Currently, SIRWCD contacts SFWMD when the water levels in the SIRWCD C-14 canal are between 13.5 feet to 14.0 feet NGVD instead of the 14.5 feet NGVD in the agreement due to the impacts of the stage on SIRWCD's flood protection during the wet season. The operation schedule as described above has not been kept due to the effects of additional discharge from the G-92 structure into the C-14 Canal causing an adverse tail water condition to SIRWCD's water management system. SIRWCD's system currently has three control structures at elevation 14.0 feet NGVD and two control structures at elevation 13.0 feet NGVD, one of those structures is close to the G-92 structure on C-14 canal. In addition, an analysis of the 400 cfs allowed to discharge through the G-92 needs further evaluation and should only be delivered at times where the delivery does not affect SIRWCD's flood protection.

Palm Beach Country Estates is not affected by the G-92 structure, but is affected by higher elevations in the SFWMD C-18 canal. Palm Beach Country Estates drains from west to east into the Turnpike Borrow Canal, which discharges into the SIRWCD outfall canal that discharges just north of the S-46 spillway. There are two connections into the SFWMD C-18 canal by SFWMD Project Culverts PC-8A and PC-10. These culverts are controlled by flash board risers. Under extreme events when the C-18 Canal is stage is lower than Palm Beach Country Estates stages, Palm Beach Country Estates has the ability to drain into the C-18 Canal via the project culverts.

AECOM Technical Services, Inc. serves as District Engineer for SIRWCD. As District Engineer, I have been involved in attending meetings for this Project and have reviewed the Draft Project Implementation Report/Environmental Impact Statement along with reviewing supporting documents for this Project. As a result of this review and conferring with the Board of Supervisors for the District, enclosed please find an official letter from the Board of Supervisors stating their concerns and please accept the following comments regarding the report and supporting documents:

1. On page xiv, the report states, "The TSP meets the requirements of the WRDA 2000 Savings Clause by maintaining current levels of service for flood protection..." The analyses that were completed for the project were based on observing groundwater flows and levels. Hydrologic and Hydraulic modeling was not completed on main conveyance features to illustrate the effects of the project when storm events occur. The SIRWCD C-14 Canal through the operation of the G-92 structure is the main point of discharge for Flow ways 1 and 2. If the volume of water is being increased through the G-92 structure, then the water level is also increased through the SIRWCD C-14 Canal which may affect the flood protection of SIRWCD due to increased tail water stages. An analysis from the G-92 structure to the Lainhart Dam is needed in order to assure that the flood protection of SIRWCD is not impacted by the Project.

2. On page xvii, the report states, “Since the C&SF project and resulting urban and agricultural development adversely impacted many wetlands in the project area, the disturbed wetlands that the TSP would restore are located adjacent to developed land. Stakeholders are concerned that restoring wetlands may increase the likelihood of flooding in developed areas.” Jupiter Farms and Palm Beach Country Estates are bordered by wetlands and natural areas. These areas are separated by SIRWCD’s canal system. Please consider additional analysis to ensure that seepage from the natural areas does not impact SIRWCD’s flood protection by increasing the base flow in the canal system.
3. On page xvii, the report states, “Existing modeling shows no increased flooding in developed areas. To ensure that developed areas are not adversely impacted from the TSP, the TSP will undergo additional analysis using new modeling tools developed specifically to assess potential flooding.” SIRWCD acknowledges that an analysis of its system was not completed for this report, however requests that the Army Corp of Engineers performs an analysis of the SIRWCD C-14 Canal to beyond the Lainhart Dam to ensure that the additional volume discharging from the G-92 structure does not impact SIRWCD’s flood protection.
4. On page 1-4, paragraph 3, a reference is missing from the document.
5. On page 1-5, the report states, “WRDA 2000 recognized that the CERP was conceptual in nature and that refinements would be required during further studies and implementation. SIRWCD acknowledges that further analysis is required and requests to be involved in the process to ensure that flood protection to SIRWCD is not compromised.
6. On page 1-8, Figure 1-3, the Pine Glades Natural Area is not shown. This area is adjacent to Jupiter Farms on the west border and is owned and operated by Palm Beach County. Also, Section 33, Township 40 S, Range 41 E is part of Jupiter Farms and is not highlighted. The same is true on Figure 1-5, page 1-10; Figure 2-2, page 2-5; and Figure 2-3, page 2-6.
7. On page 2-4, the report states in the second bullet, “The Jupiter Farms Basin is over 16 square mile area with the majority of the land area comprising the South Indian River Water Control District (SIRWCD). This area is a rural, residential community with an extensive managed canal system that discharges primarily to the NWFLR via SIRWCD’s Canal 14.” First, this area is only 15 square miles. Also, please remove the words, “extensive managed”. “Extensive” is arbitrary and the canal system is controlled by gravity control structures. Only 4 of the 7 west-east canals discharge into SIRWCD Canal 14. Canal 1 discharges into Canal 2, and Canal 2 and Canal 3 discharge directly into the NWFLR through Riverbend Park.
8. On page 2-4, the report states in the fifth bullet, “G-92 culvert that diverts water to the NWFLR...” Please reword to “G-92 culvert that diverts water into the SIRWCD Canal 14 which conveys water to the NWFLR...” There needs to be a clear understanding that the water is entering SIRWCD Canal 14 before entering NWFLR.
9. On page 2-14, under Land Use, the report states, “Agriculture is expected to remain a dominant industry, although some presently agricultural areas may transition to urban or other development, Additional developments are being considered in the Jupiter Farms, Avenir... These proposals would result in converting some acreage from agriculture to urban/suburban use.” Jupiter Farms and Palm Beach Country Estates are zoned Agricultural Residential. These areas do not have plans to transition to urban or other development. These areas are already subdivided into 1.5 acre and greater lot sizes.

- Under Palm Beach County Land Development regulations, these areas cannot be subdivided to a higher density. Through Agricultural Residential, the land use is restricted to Single Family and Congregate Living Facility, Type 1, which is a maximum occupancy of six persons. Please remove Jupiter Farms as a potential for further development.
10. On page 2-19, Section 2.6, the report lists a project "Jupiter Farms Water Quality Improvements." We are unaware of a project with this name. Please clarify this project. Is this the Lateral Control Structures that were installed in 2005?
  11. On page 5-6, first paragraph, the report states, "The restoration flow target is a variable dry season flow between 50 and 110 cfs, with a mean monthly flow of 69 cfs over Lainhart Dam." Please provide the flow required at the G-92 in order to meet these targets and provide an analysis that the additional flow would not impact SIRWCD flood protection.
  12. On page 5-19, the report states, "None of the alternatives showed a detrimental net increase to the amount of phosphorous in the system. Total nitrogen in the system in total daily loads has a slight increase compared to FWO at the limited three sites modeled for nitrogen while at the same time having a decrease in concentration. This is likely a result of increased flow into the system and not reflective of new nutrient input." Please provide a map of the three sites modeled and the existing sampling of data at the three sites. Also, this basin is undergoing a Reasonable Assurance Plan (RAP) through the Florida Department of Environmental Protection (FDEP) for Chlorophyll a. The draft PIR states that there is an increase of loading for Total Phosphorus and Total Nitrogen by increasing the flows into the NWFLR. The RAP is currently not including the C-18 basin although it contributes to the load. Please coordinate with the FDEP on the effects of this project to water quality on the RAP.
  13. On Table 5-6 and 5-7, please confirm the target of 54 ppb for Total Phosphorus and 1.20 mg/L for Total Nitrogen. According to the numeric nutrient criteria for the peninsula, the threshold is 0.12 mg/L for Total Phosphorus and 1.54 mg/L for Total Nitrogen for Streams. For the Loxahatchee Estuary, it is 0.075 mg/L as average geometric mean for Total Phosphorus and 1.26 mg/L as average geometric mean for Total Nitrogen.
  14. On page 6-40, the report states, "A more localized analysis, with higher resolution hydrologic and/or hydraulic models, will be performed if there is an indication of significant increase in flood risk from the regional analysis. The Engineering Appendix A provides more detail on the Hydrologic Engineering Center River Analysis System (HEC-RAS) modeling performed for all of Flow-way 3 and some areas of Flow-way 2." SIRWCD Canal 14 is part of Flow-way 1 and 2 since they both discharge into the C-18 Canal and ultimately the G-92. Please perform a model on SIRWCD Canal 14 to a distance past Lainhart Dam to confirm no impact to flood protection to SIRWCD.

As stated in the above comments, the main concern is flood protection for SIRWCD. In addition to responding to our comments, please keep SIRWCD informed as elements are being designed and analyzed to ensure that flood protection is kept. Should you have any questions or need any additional information as you review and respond to the above comments, please let me know.

Sincerely,



Amy E. Eason, PE  
District Engineer  
South Indian River Water Control District

Enclosures

Cc: Ms. Beth Kacvinsky, SFWMD  
Mr. Mike Dillon, SIRWCD Operations Manager  
Mr. William Capko, SIRWCD District Attorney



**South Indian River  
Water Control District™**

*Established 1923*

April 18, 2019

Dr. Ann Hodgson  
U.S. Army Corps of Engineers  
Jacksonville District P.O. Box 4970  
Jacksonville, FL 32232-0019

RE: Draft Project Implementation Report/Environmental Impact Statement  
For the Loxahatchee River Watershed Restoration Project

Dear Dr. Hodgson:

In response to the U.S. Army Corps of Engineers request for comments on the Draft Project Implementation Report and Environmental Impact Statement for the Loxahatchee River Watershed Restoration Project, the South Indian River Water Control District (SIRWCD) Board of Supervisors wishes to provide the following comments.

Although SIRWCD is generally supportive of this restoration project, as a Special Taxing District with drainage and flood protection responsibilities for the Jupiter Farms and Palm Beach Country Estates communities, the Board of Supervisors for SIRWCD hereby states its concerns regarding the potential loss of flood protection resulting from implementation of the tentatively selected plan. These communities rely solely upon gravity discharges to the receiving waters that would be subject to the hydrologic and hydraulic modifications proposed as a part of this project. Consequently, the Board of Supervisors requests additional studies and modeling to provide assurances that the level of flood protection is in accordance with SIRWCD's water control plan and current permitted conditions prior to implementation of this project.

Consideration and further action to address these concerns would be appreciated.

Sincerely,

Steve Hinkle, President  
South Indian River Water Control District

Cc: Ms. Beth Kacvinsky, SFWMD