

## Underwater Inspection Report



### Lake Pretty Water Control Structure

For

Southwest Florida Water Management  
District



## **Structural Inspection Report**

**Structure Name:** Lake Pretty Water Control Structure

**Inspection Date:** November 25, 2019

**Inspection Personnel:** William Barna, P.E., Dave McSweeney, P.E., Josh Lindstrom, P.E.

**Structure Type:** Steel sheetpile gated weir consisting of two 4'-0" wide sluice gates and two 3'-4" wide adjustable crest gates. The gates are fitted with actuators and can be operated remotely via SCADA system or manually on Site. The gates are to be replaced in the near future. The intent of this inspection is to identify the existing condition of the existing features that may remain in place as part of the proposed structure replacement. Specifically, the intent of the proposed project is to remove the 4 gates, leave the existing sheetpile weir and concrete sill in place, and perform structural modifications to the existing weir necessary to attached new, larger sluice gates. This inspection was limited to the condition of the existing Sheetpile Weir (MZ-27 sheeting, per the provided As-built information), the reinforced concrete sill over the sheetpiles, and the newer steel sheetpiles driven along both the upstream and downstream sides of the structure on both banks.

**Waterway:** Pretty Lake

### **Summary of Inspection Findings:**

1. Silt was present along the upstream edge of the structure, approximately flush with the top of the concrete sill.
2. The depth and condition of the north and bottom faces of the concrete sill could not be verified along the upstream side of the structure.
3. Downstream scour protection (rip rap) was present to tithing 6 inches of the top of the concrete sill.
4. The depth and condition of the south and bottom faces of the concrete sill could not be verified along the upstream side of the structure.
5. The portions of the MZ-27 sheetpile accessible (above the mudline) appeared o bne in reasonable condition; no separation of joints was observed and no water was detected migrating through the sheets.
6. Ultrasonic Thickness measurements were taken 8 locations with a remaining section thickness ranging from 0.310 to 0.330 inches (Refer to Figure 1 for specific results).
7. Moderate corrosion was observed along the sheetpile weir, particularly at the joints.
8. The upstream and downstream channel sheetpile were in good condition; ultrasonic thickness measurements averaged 0.440 inches
9. Minor scaling of the concrete surface with a depth of penetration of between  $\frac{1}{4}$  and  $\frac{1}{2}$  inch was observed, with no exposed reinforcing steel.





Photograph 1: Upstream face of structure (facing south)



Photograph 2: Downstream face of structure (facing north)

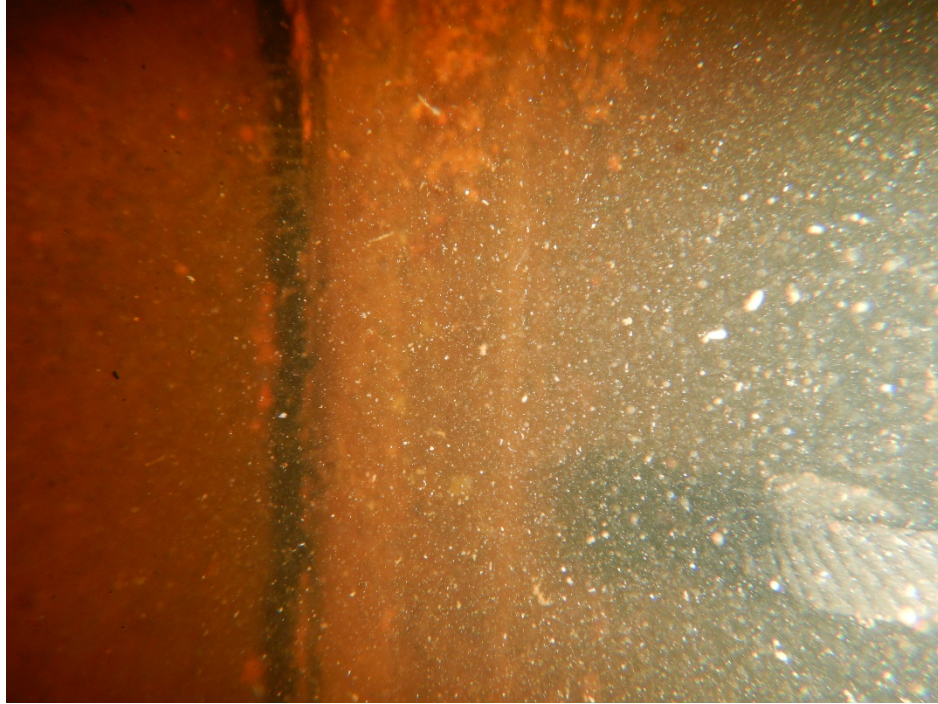




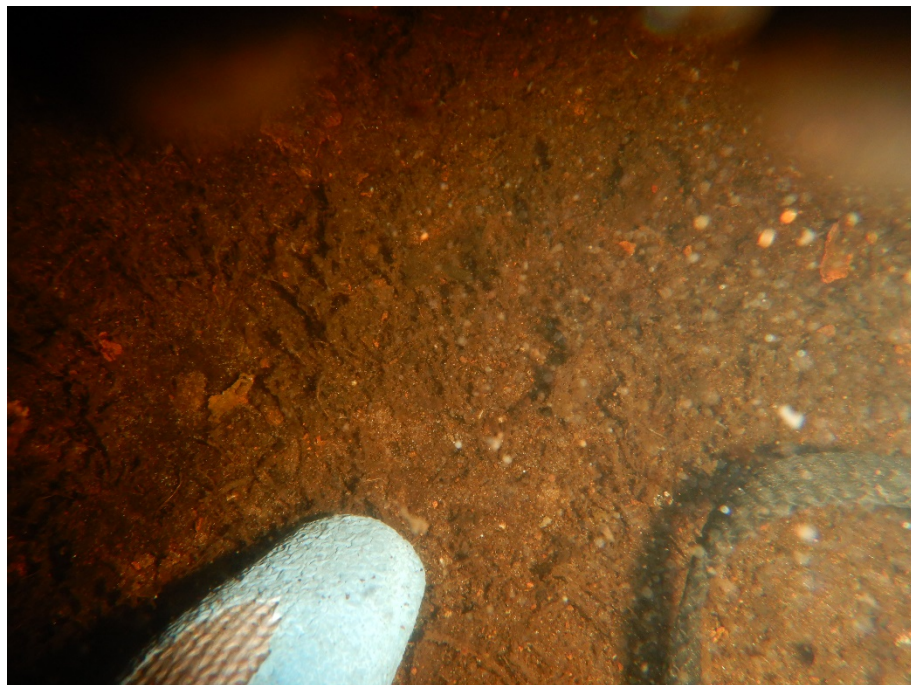
Photograph 3: East crest gate from downstream side.



Photograph 4: View of service platform knee bracing, note moderate corrosion, walkway will be replaced).



Photograph 5: Typical view of condition of sheetpile weir  
beneath water line



Photograph 6: Condition of concrete sill





Photograph 7: Typical view of upstream side of structure.



Photograph 14: Heavy Corrosion on Upstream Weir Gate Seat - See Note 14

