Dade-Broward Levee Project

Task 1: 7.5 mile berm repair
_completed 2016_

Task 2: two proposed water control structures
_under construction_

Task 3: L-30 structure repair/
remote control operation
_design review complete_

9/19/2018
Modeling Results

**Task 1:**
Repair of the gaps in the Dade-Broward Levee offsets potential impacts from Phase 1 mining;

**Task 2:**
Wellfield Protection Canal structure offsets potential impacts from Phase 2 mining; and

**Task 3:**
Diversion of water from the L-30 Canal to the Pennsuco wetlands offsets potential impacts from Phase 3 mining with 1000’ setback on east side of Dade-Broward Levee.
DBL gaps - 1370’ below 6.5’ (seasonal high water)
Berm Repair

Correlation between G-3761 and G-3818 - Wet Conditions

- July 2011 - July 2016
- After July 2016
- 2018

Correlation between G-975 and G-3818 - Wet Conditions

- July 2011 - July 2016
- After July 2016
- 2018

Map showing geographic locations of monitoring wells.
Water control structures
West WPC structure

Upstream

Downstream
Pennsuco Diversion structure
New Structure

Wellfield Protection Canal stage adjacent to Pennsucos Wetlands

Wellfield Protection Canal stage (upstream vs. downstream of new structure)

Canal stage increase of ~0.6' on 11/3/2017 when the canal plug for the new structure was placed.

Canal plug installed 11/2/12
Upstream stage increased 8' P
Structure completed May 2018

Upstream - new station
Downstream Stage - USGS
Upstream - downstream
Wellfield Protection Canal vs. Pennsuco wetland water levels

Recharge of the Pennsuco Wetlands from the Wellfield Protection Canal

Drainage of the Pennsuco Wetlands into the Wellfield Protection Canal

- Canal plug installed - 11/2/2017
- Upstream stage increased 0.4'
- Structure completed May 2018

Legend:
- New WPC-DBLS
- New WPC-DBLN
- New WPC-G975
L-31N Updated Monitoring Program

New wells and dataloggers have been installed
Paired Monitoring Wells Up-gradient and Down-gradient of 36' Deep Seepage Barrier
Groundwater Stage Difference Across Barrier

(Difference between paired water table wells upstream and downstream of the barrier at each specified location)

The northern 2 miles of barrier were completed in 2012. The remaining 3 miles were completed in April 2016.
Effect of a 5-Mile Barrier Wall on Groundwater Levels Inside the ENP
Barrier Depth: 30 ft; Daily Average: 7/1/2008-10/31/2008 (Wet)

2013 modeling
Seepage into the L-31N Canal between S-335 and Mile 3 vs. stage difference between the ENP and canal at mile 1 (with 2 miles of barrier constructed)
Seepage into the L-31N Canal between S-335 and Mile 3 vs. stage difference between the ENP and canal Mile 1

[Graph showing seepage into L-31N Canal vs. groundwater gradient with markers for pre Wall, 2 mi Wall, 5 mi Wall, and 2018, and a wet season label.]
Seepage into the L-31N Canal between Mile 3 and Mile 5 vs. stage difference between the ENP and canal at mile 4 (with 2 miles of barrier constructed)
Seepage into the L-31N Canal between Mile 3 and Mile 5 vs. stage difference between the ENP and canal Mile 4

Seepage into L-31N Canal vs. Groundwater Gradient - South

Wet Season