Restoration Strategies: STA Expansions and Flow Equalization Basins Construction Status Update

Greater Everglades Ecosystem Restoration
April 22, 2025

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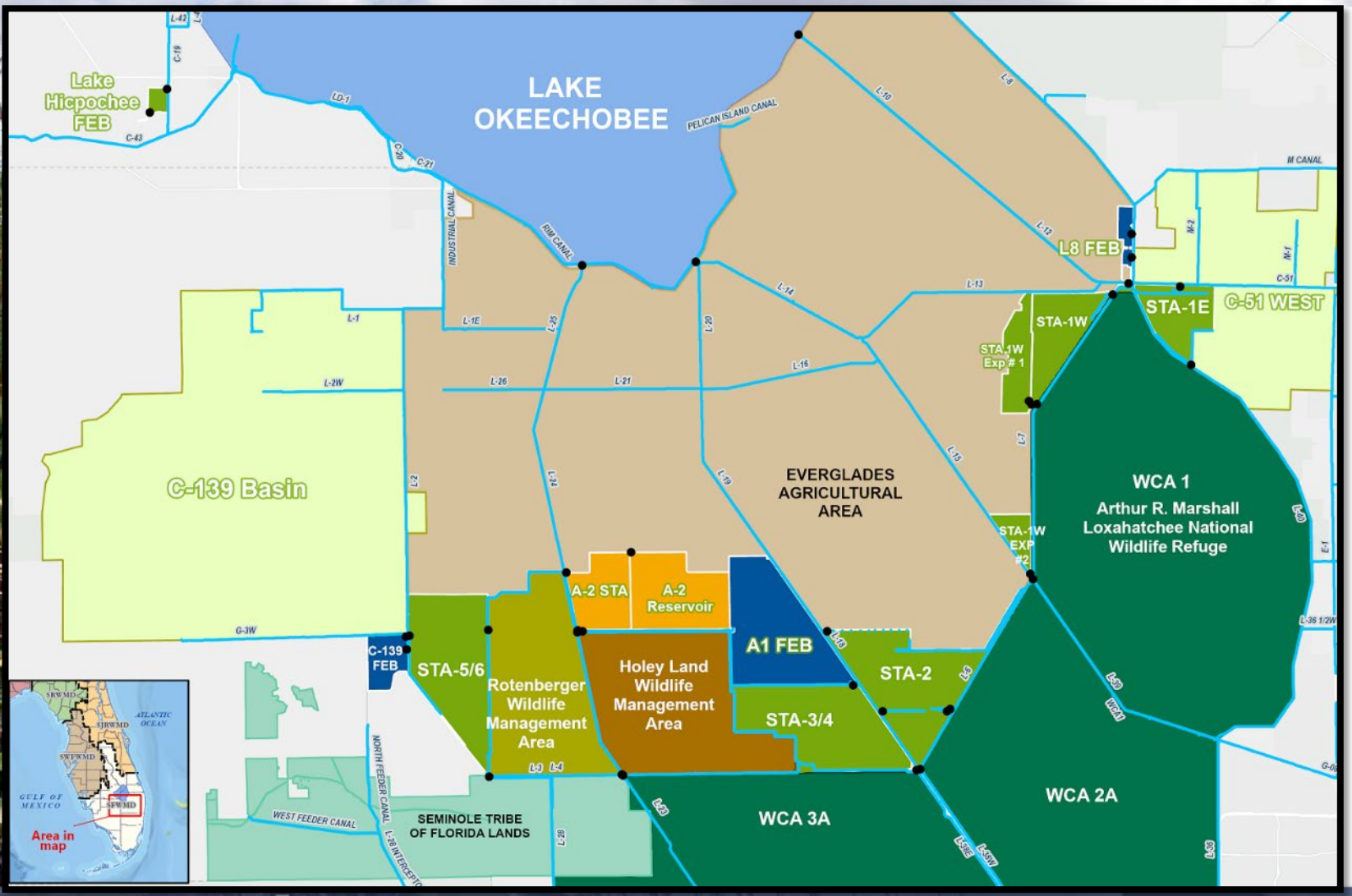
South Florida Water Management District

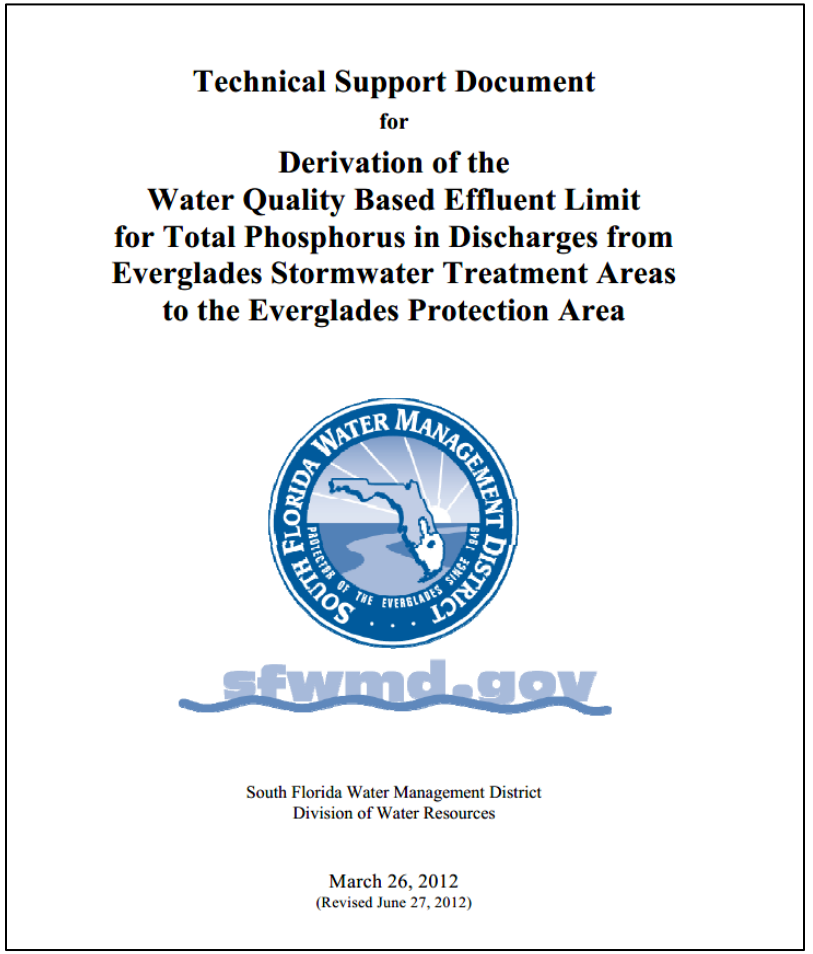
Everglades Stormwater Treatment Areas (STAs)

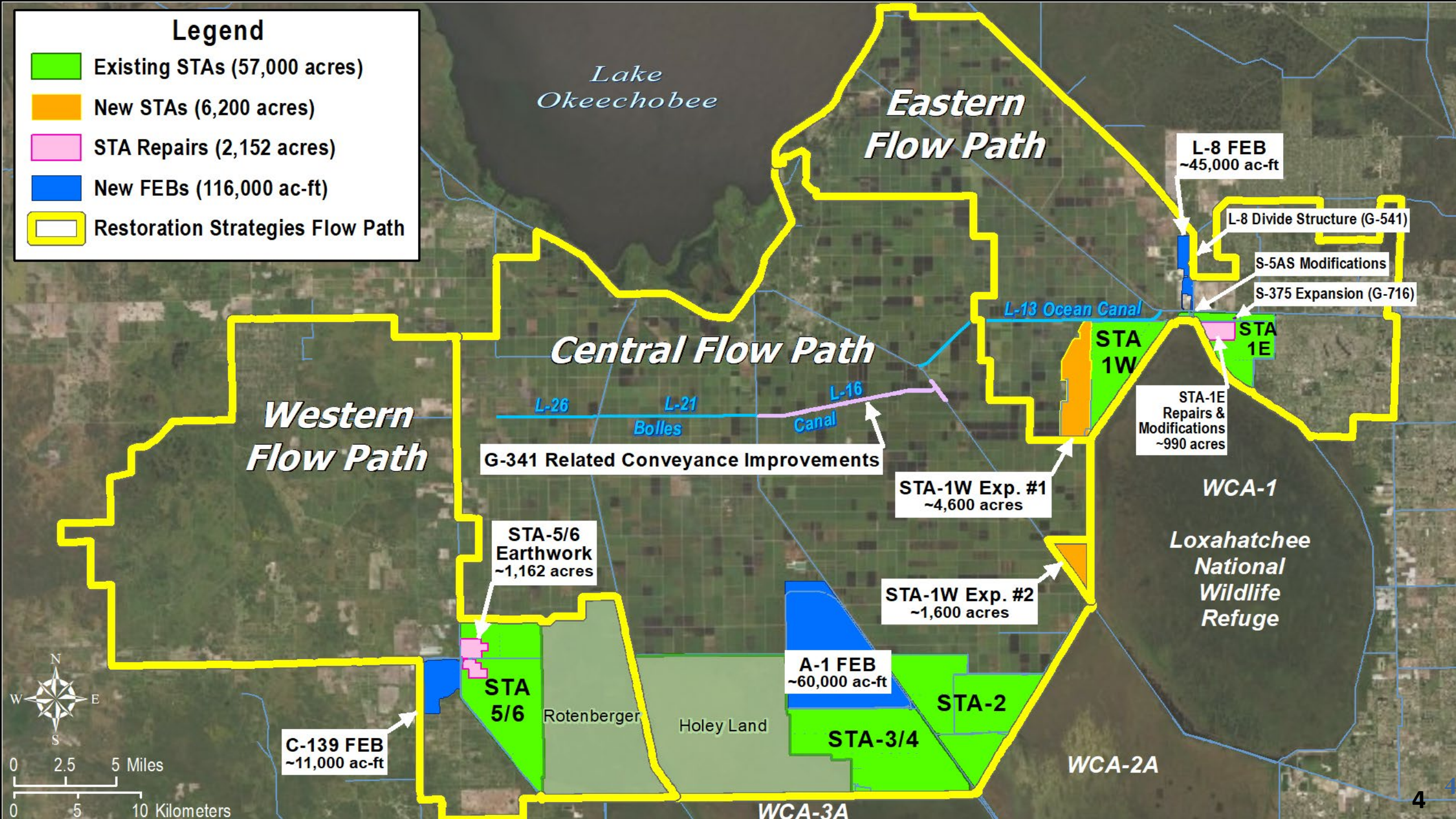


- Reduce phosphorus from stormwater runoff prior to discharge to Everglades
  - 64,000 acres of STAs
  - 19,000 acres of Flow Equalization Basins (FEBs)
- Restoration Strategies projects designed to achieve Water Quality Based Effluent Limit (WQBEL)

Water Quality Based Effluent Limit

- Established in National Pollutant Discharge Elimination System (NPDES) and Everglades Forever Act (EFA) operations permits
- Two-part compliance test:
  - Total Phosphorus (TP) long-term flow weighted mean of 13 ppb, not to be exceeded in more than three out of five water years on rolling basis, and
  - A maximum TP annual flow weighted mean of 19 ppb in any water year
- Ensures STA discharges will not cause or contribute to violation of Everglades water quality standards

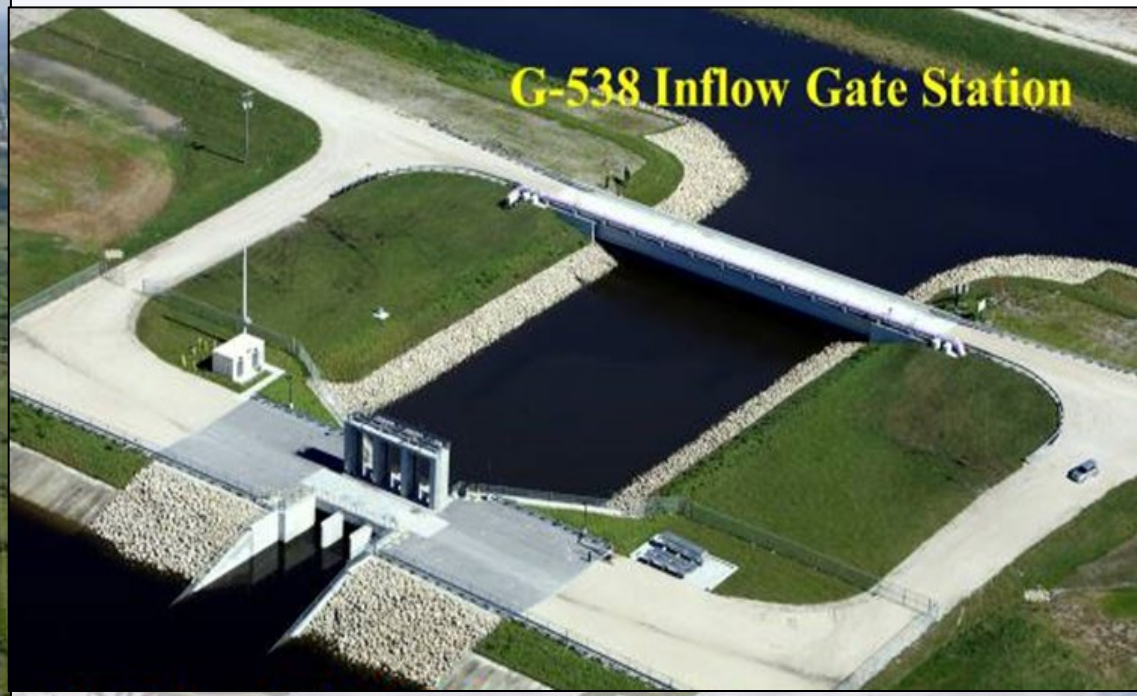



Legend
Existing STAs (57,000 acres)
New STAs (6,200 acres)
STA Repairs (2,152 acres)
New FEBs (116,000 ac-ft)
Restoration Strategies Flow Path
Lake Okeechobee
Eastern Flow Path
Central Flow Path
Western Flow Path
L-8 FEB
~45,000 ac-ft
L-8 Divide Structure (G-541)
S-5AS Modifications
S-375 Expansion (G-716)
L-13 Ocean Canal
STA 1W
STA 1E
STA-1E Repairs & Modifications ~990 acres
L-26
L-21
Bolles
Canal
L-16
G-341 Related Conveyance Improvements
STA-1W Exp. #1
~4,600 acres
STA-1W Exp. #2
~1,600 acres
WCA-1
Loxahatchee National Wildlife Refuge
STA-5/6 Earthwork
~1,162 acres
A-1 FEB
~60,000 ac-ft
STA 5/6
Rotenberger
Holey Land
STA-3/4
STA-2
C-139 FEB
~11,000 ac-ft
WCA-2A
WCA-3A
N
W
E
S
0 2.5 5 Miles
0 5 10 Kilometers

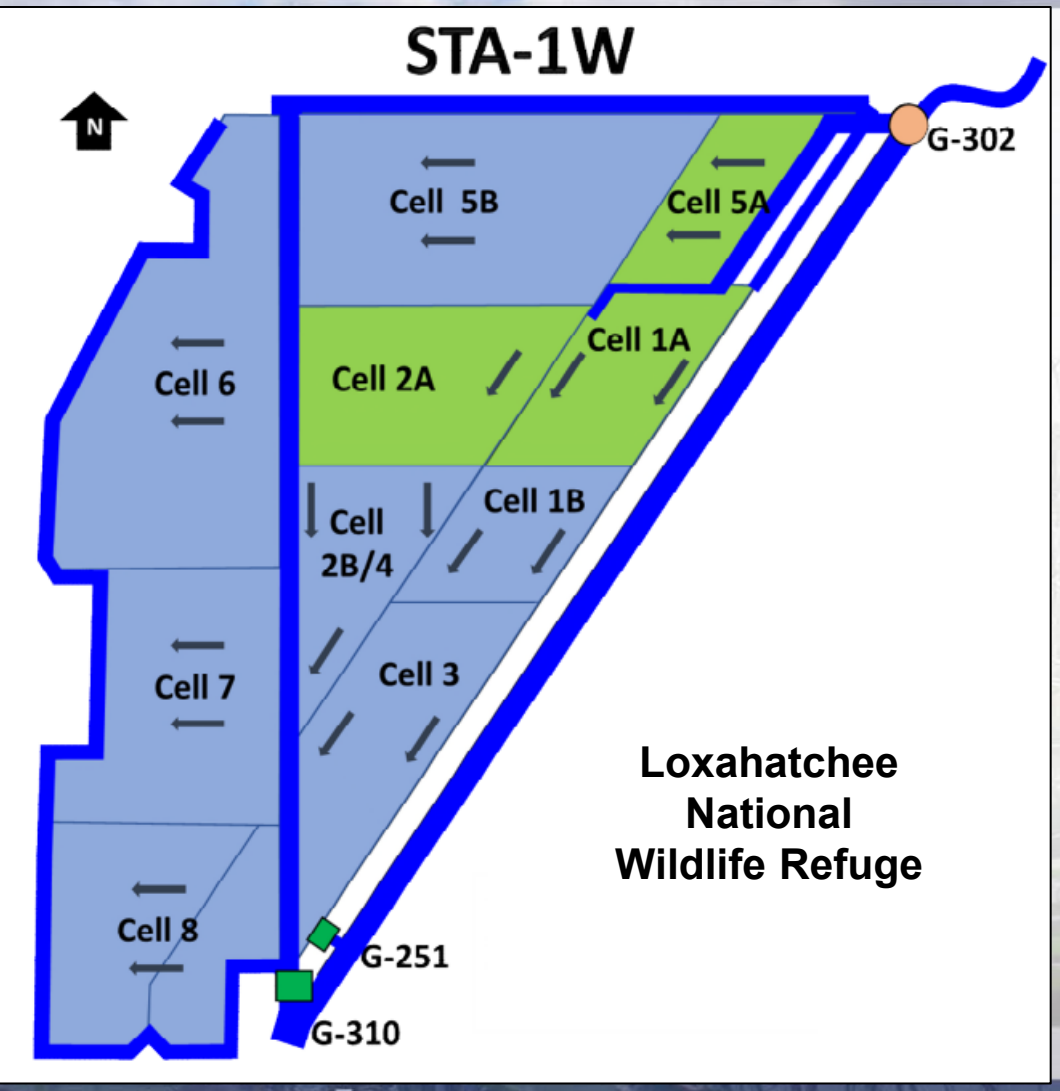
L-8 FEB

- Flow attenuation and phosphorus pre-treatment for STA-1E & STA-1W
- C-51 West, S-5A, L-8 Basin Runoff
- 900 acres x 50 feet = 45,000 ac-ft
- Below-ground storage at former rock mine
- Inflow G-538 (3,000 cfs)
- Outflow G-539 (450 cfs)
- Operational since 2017

L-8 FEB

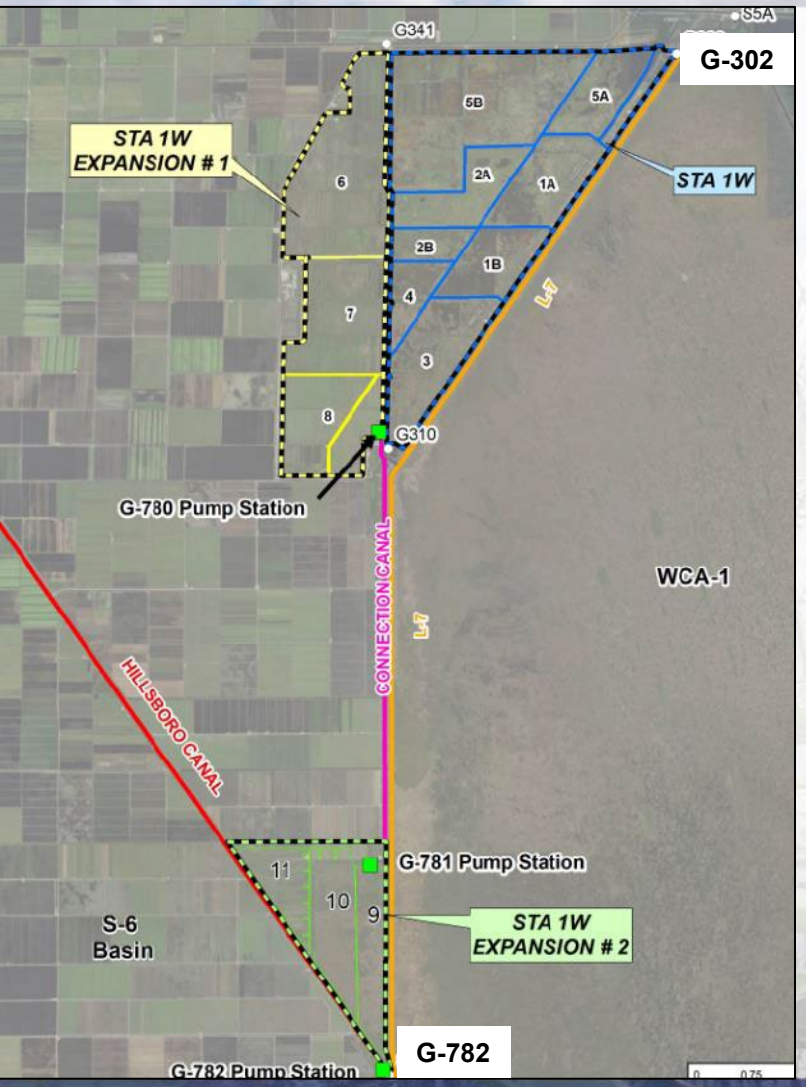


STA-1W Expansion #1



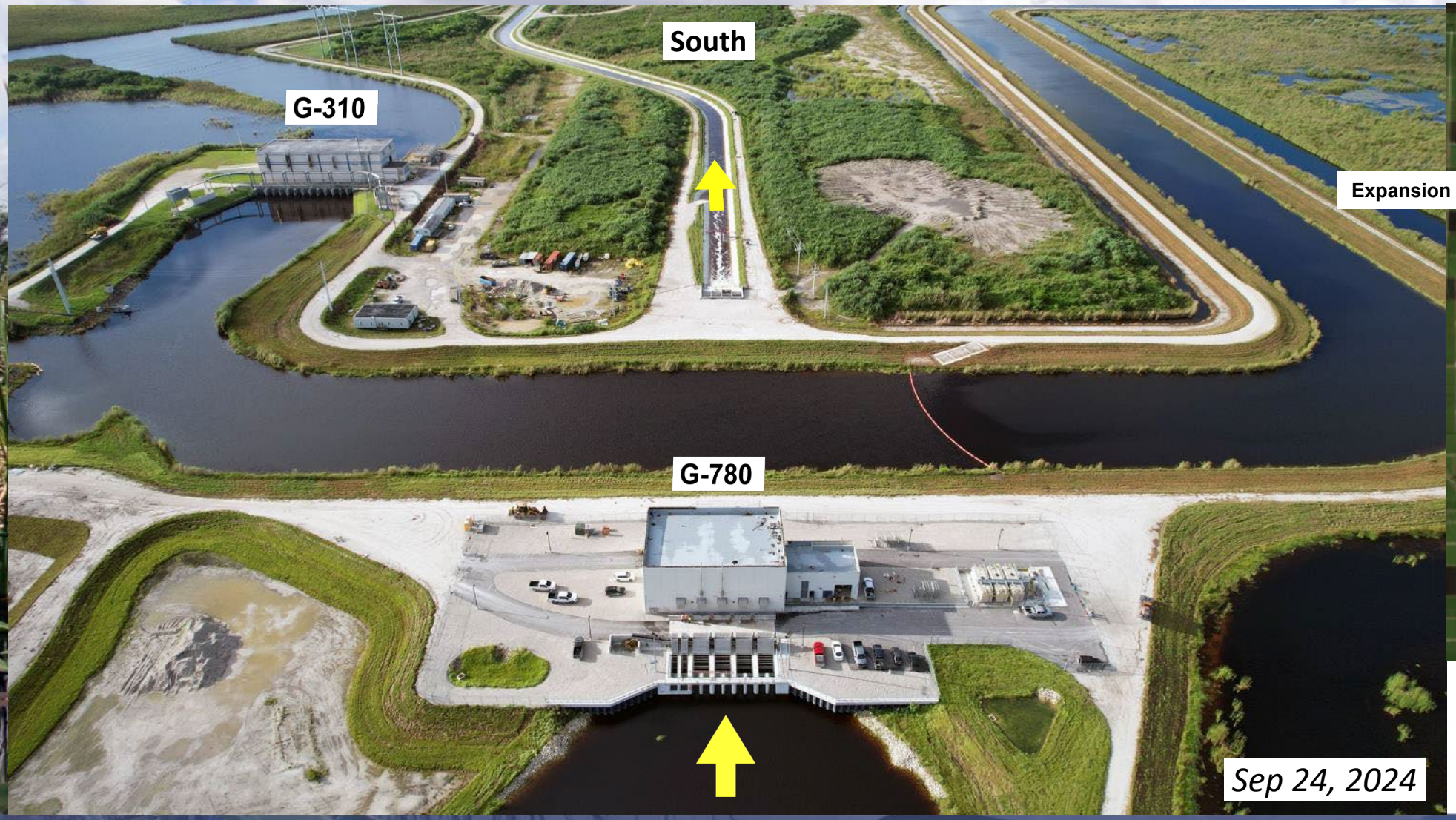
- C-51 West, S-5A, L-8 Basin Runoff
- STA-1W: 6,500 acres completed 2000
- Exp #1: 4,300 acres completed 2018
- Existing STA-1W inflow G-302 (3,250 cfs)
- Existing outflow G-251 (450 cfs) & G-310 (3,040 cfs)
- Discharges to Loxahatchee National Wildlife Refuge (WCA-1)

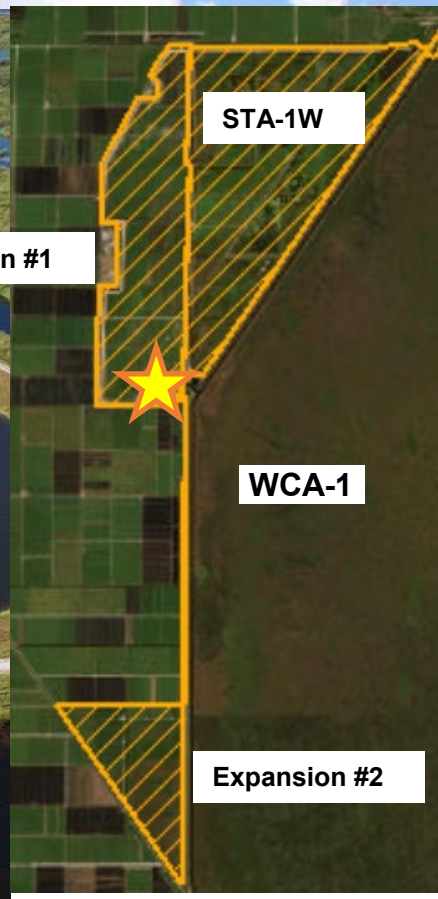
STA-1W Expansion #2



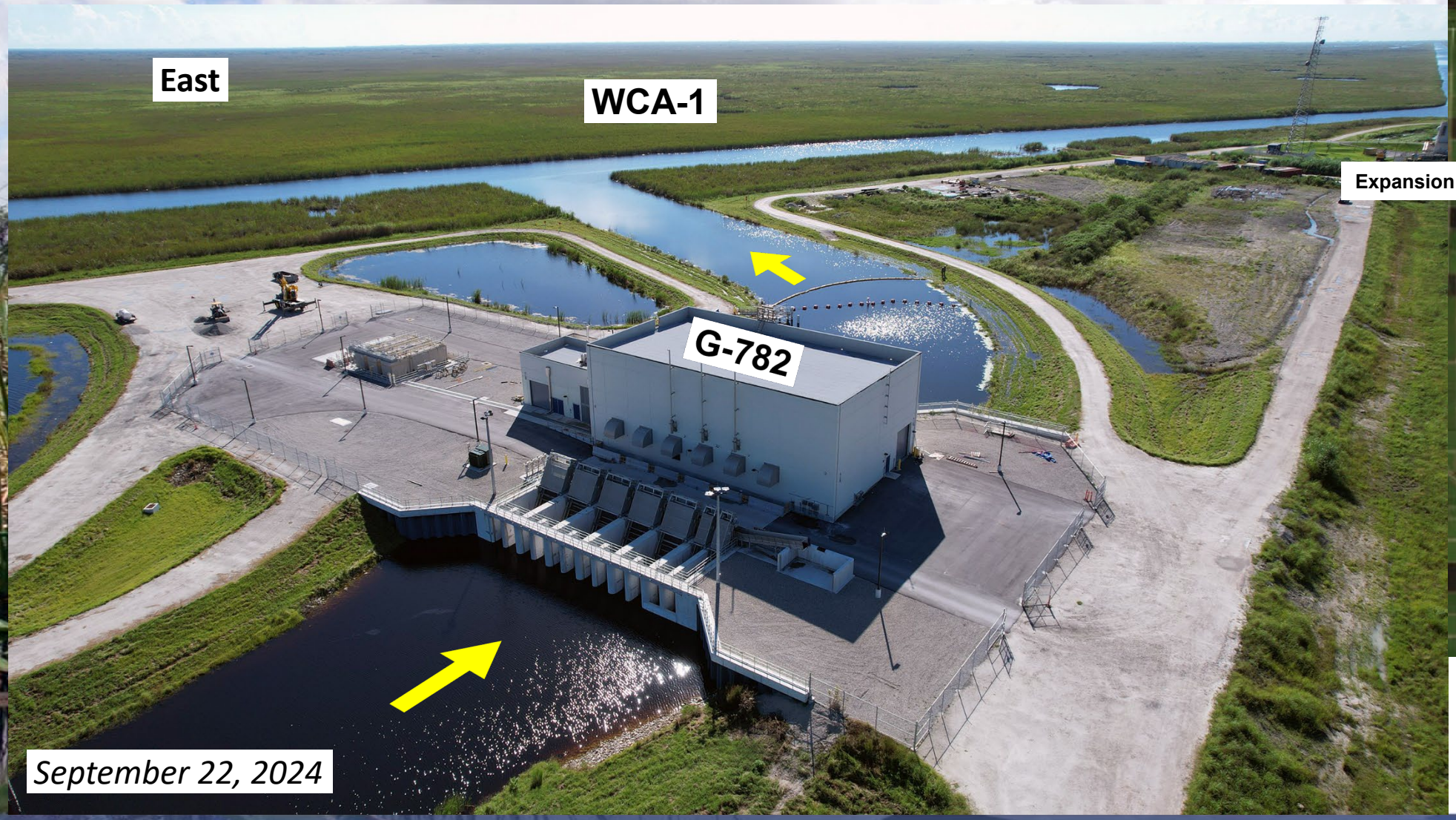
- Treats S-5A, C-51W and L-8 Basin runoff
- Expansion #2: 1,800 acres completed 2024
- Existing STA-1W inflow G-302 (3,250 cfs)
- New outflow pump station G-782 (625 cfs)
- Connected to STA-1W by ~6-mile-long concrete lined canal and 2 - 500 cfs pump stations
- Discharges to Loxahatchee National Wildlife Refuge (WCA-1)

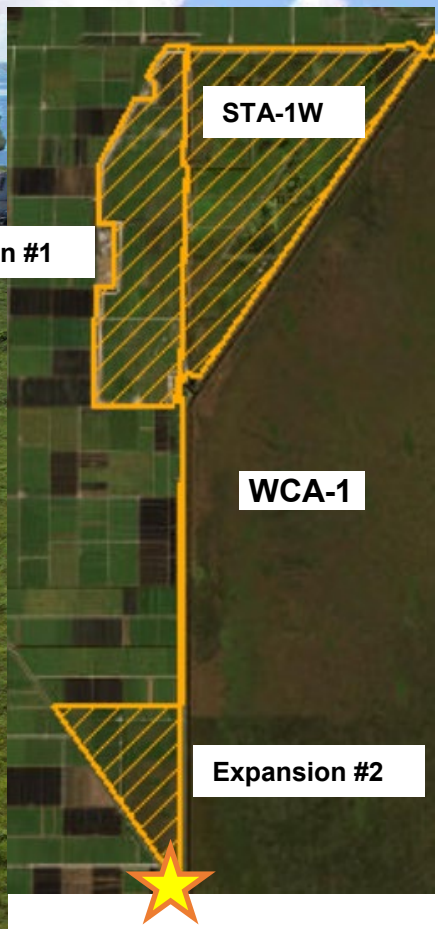
Expansion #2 - G-780 Inflow Pump Station



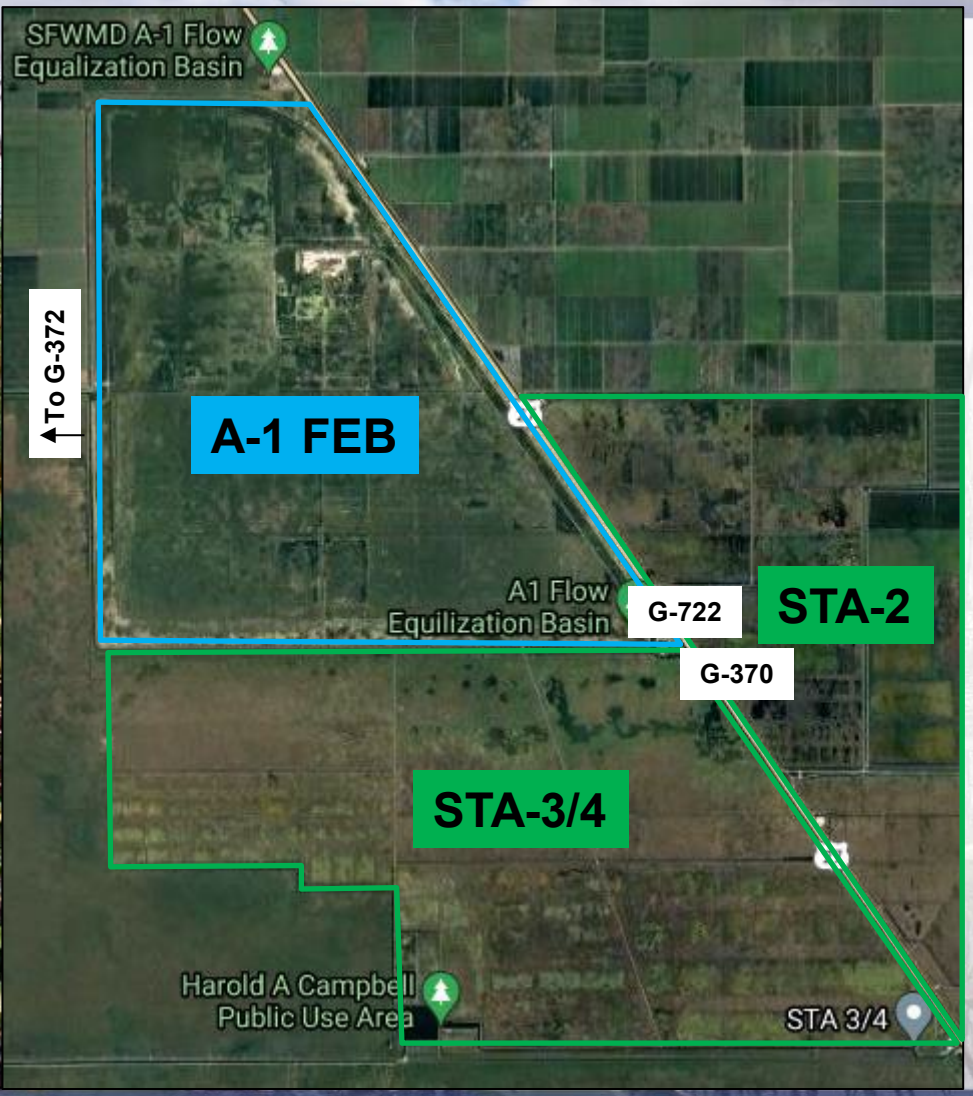


Expansion #2 - G-782 Outflow Pump Station





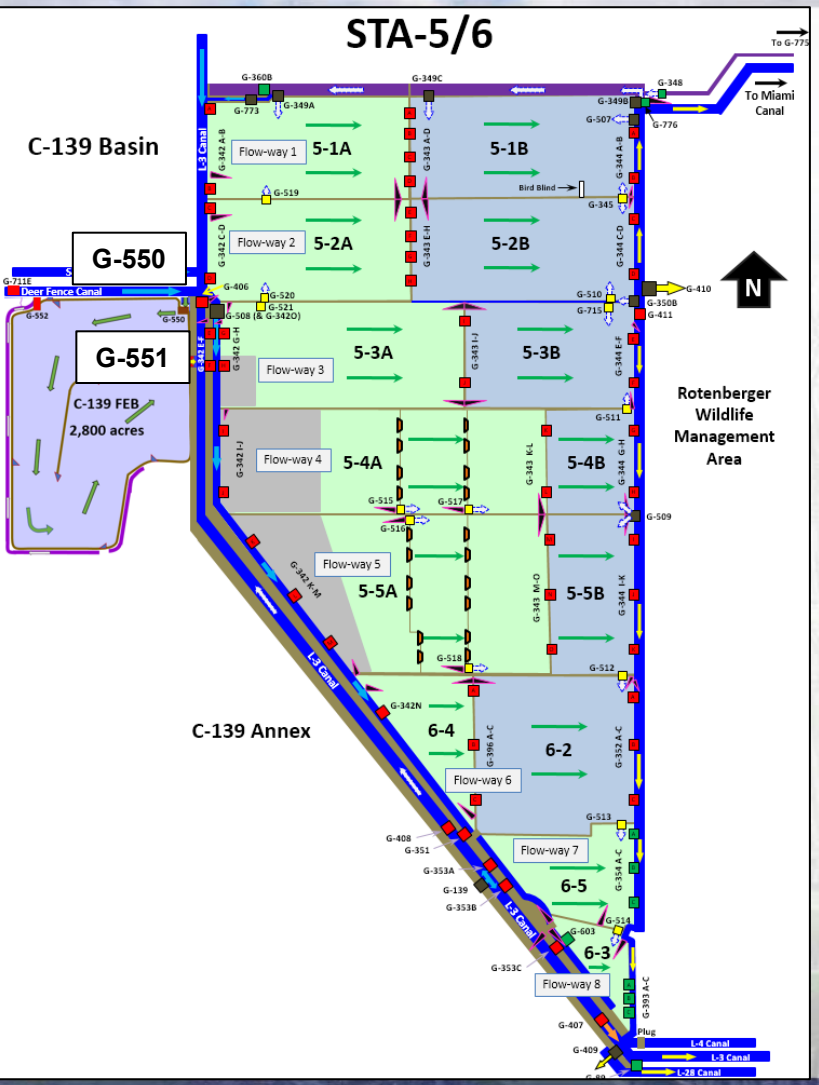
A-1 FEB



- Flow attenuation and phosphorus pre-treatment for STA-3/4 and STA-2
- 15,000 acres x 4 feet = 60,000 acre-feet
- Above-ground project on former farmland
- Existing STA-3/4 pump stations G-370 (2,775 cfs) & G-372 (3,700 cfs)
- Discharge Structure G-722 (2,000 cfs)
- Operational since August 2015

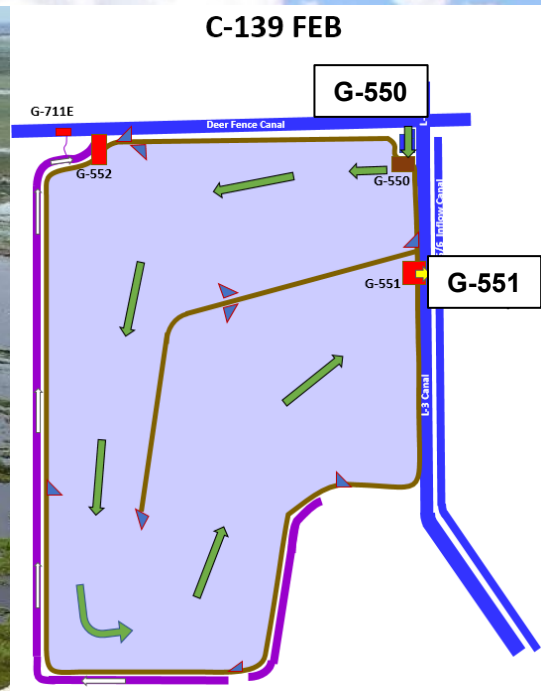

G-370 Inflow Pump
G-722 A-1 FEB Outflow
STA-3/4 Inflow Canal
G-721 A-1 FEB Inflow
A-1 FEB Inflow Canal

C-139 FEB



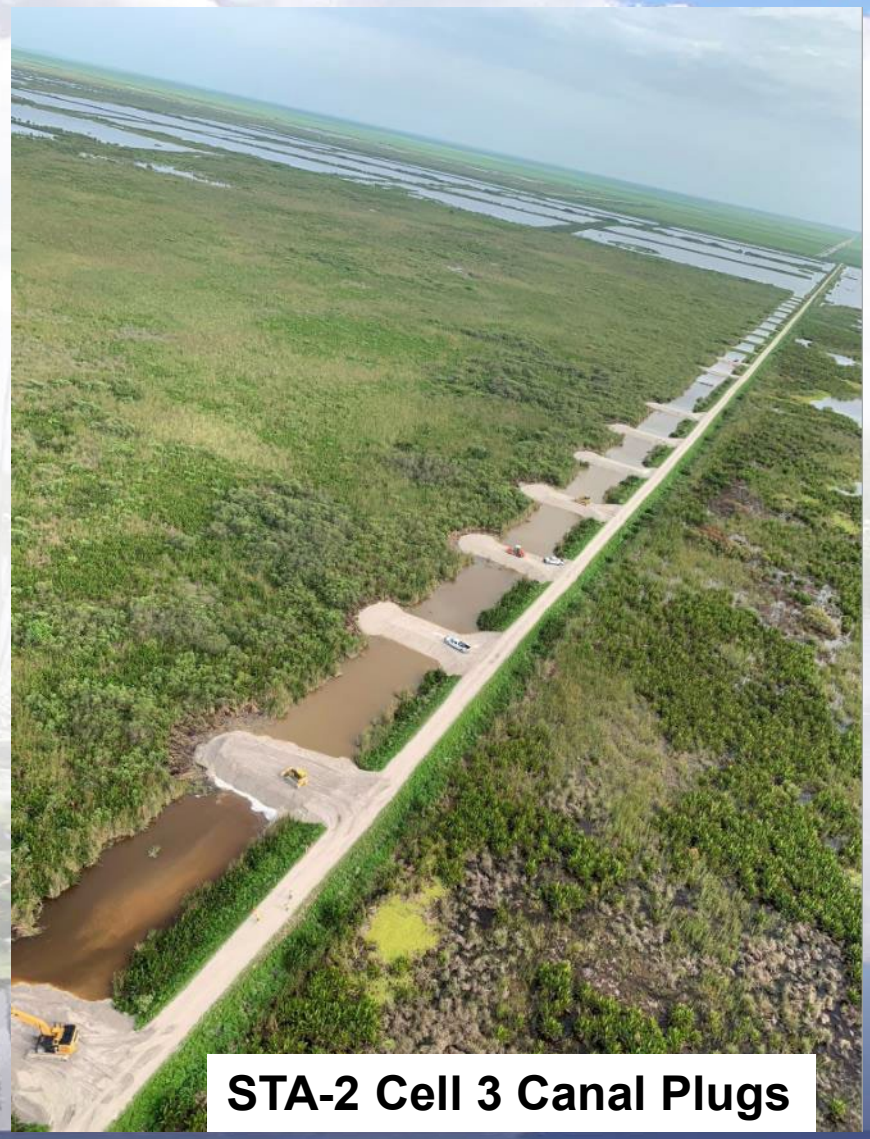
- Flow attenuation and phosphorus pre-treatment for STA-5/6
- 2,800 acres x 4 feet = 11,200 acre-feet
- Above-ground project on former farmland
- Inflow pump station G-550 (690 cfs)
- Outflow gravity structure G-551 (690 cfs)
- Construction completed and start-up in 2024

C-139 FEB – G-550 Inflow Pump Station



STA Refurbishment Projects

STA-3/4 Energy Dissipators



STA-2 Cell 3 Canal Plugs

Restoration Strategies Construction Summary

- ✓ 116,000 acre-feet of FEB storage
- ✓ 6,100 acres of STA expansions
- ✓ 2,100 acres of earthwork in treatment cells
- ✓ Canal improvements and ancillary structures
- ✓ FEBs effectively reducing peak flows and inflow TP concentrations to STAs
- ✓ STA major refurbishment projects proactive measures to achieve WQBEL

Questions

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