

# Program & Project Update

## South Florida Ecosystem Restoration Task Force

October 19, 2022

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Principal Federal Policy Analyst

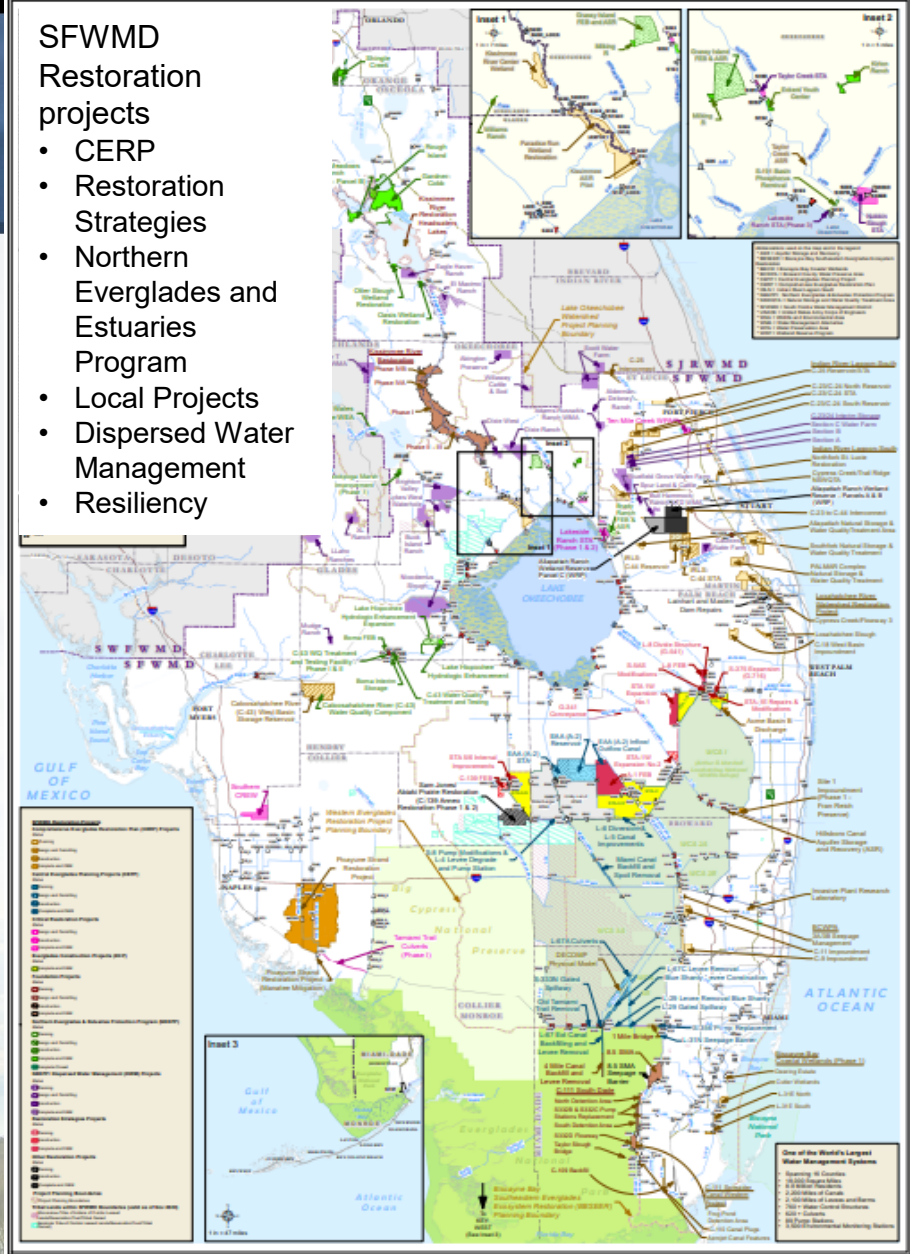
Restoration Planning Bureau

Ecosystem Restoration & Capital Projects



# SFWMD's Role in Restoration

- Non-Federal Sponsor & Partner with USACE
  - CERP & Non-CERP Federal Projects
  - C&SF Section 216 Infrastructure Resiliency Plan
  - Operational Planning
  - C&SF System Operation and Maintenance
- Project planning, design, engineering, construction, operation, maintenance, and monitoring
- Technical and Regional expertise:
  - Interagency Modeling Center
  - RECOVER
  - Advancing ASR science and design
  - Monitoring
  - Water supply planning
  - Land management
  - Water quality



- SFWMD Restoration projects
- CERP
  - Restoration Strategies
  - Northern Everglades and Estuaries Program
  - Local Projects
  - Dispersed Water Management
  - Resiliency

[Link to Projects Map](#)

# SFWMD SFER & Restoration Strategies Projects

## Planning

- Lake Okeechobee Watershed Restoration Project (LOWRP)
- Western Everglades Restoration Project (WERP)
- Biscayne Bay & Southeastern Everglades Ecosystem Restoration (BBSEER)
- C&SF Section 216 Infrastructure Resiliency Plan
- Operational Planning

## Design

- IRL-S C-25 Reservoir and STA
- LOWRP ASR Wells and Treatment
- BBCW Phase 1 Cutler Flowway Contract 6B
- LRWRP Loxahatchee River Flowways 2 & 3
- CEPP EAA Conveyance Improvements
- CEPP North
- CEPP New Water Seepage Cutoff Wall
- WERP L-28S Culverts & Conveyance
- C-111SD Replacement Pump Stations

## Construction

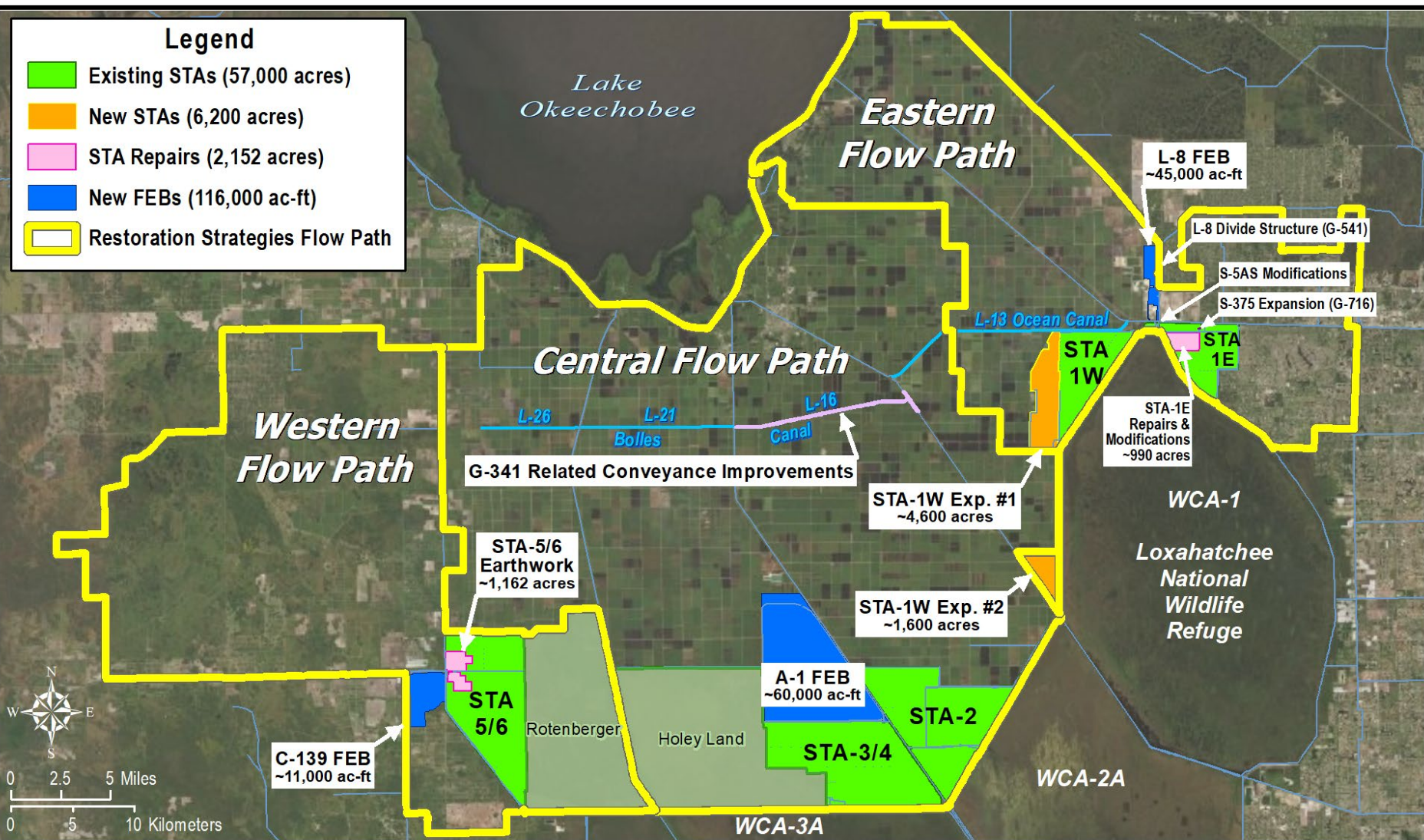
- C-43 Reservoir
- CEPP EAA A2 STA & I/O Canal
- IRL-S C-23 to C-44 Interconnect
- BBCW Phase 1 Cutler Flowway S-701
- STA-1W Expansion #2
- C-139 FEB
- STA-1W Refurbishments
- STA-2 Refurbishments
- Bolles Canal Conveyance Seg.5



# Restoration Strategies Project Updates



# Restoration Strategies



Continue to Meet Milestones:

- 8 of 13 projects completed.

Under construction (3):

- STA 1W Expansion #2
- G-341 Conveyance Imp./ Bolles Canal Seg. 5
- C-139 FEB

All Restoration Strategies Projects will be completed in 2024



# STA-1W Expansion No. 2



View to the North along the L-15 Canal

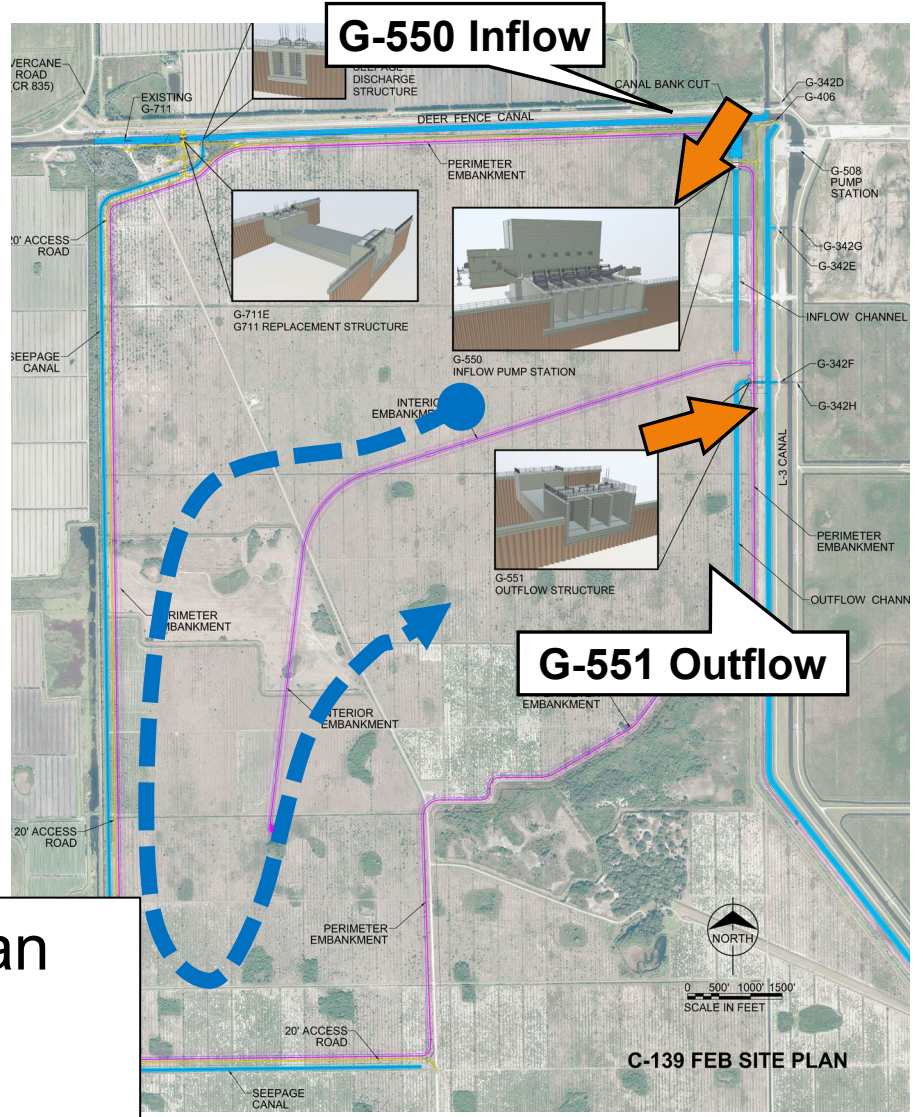
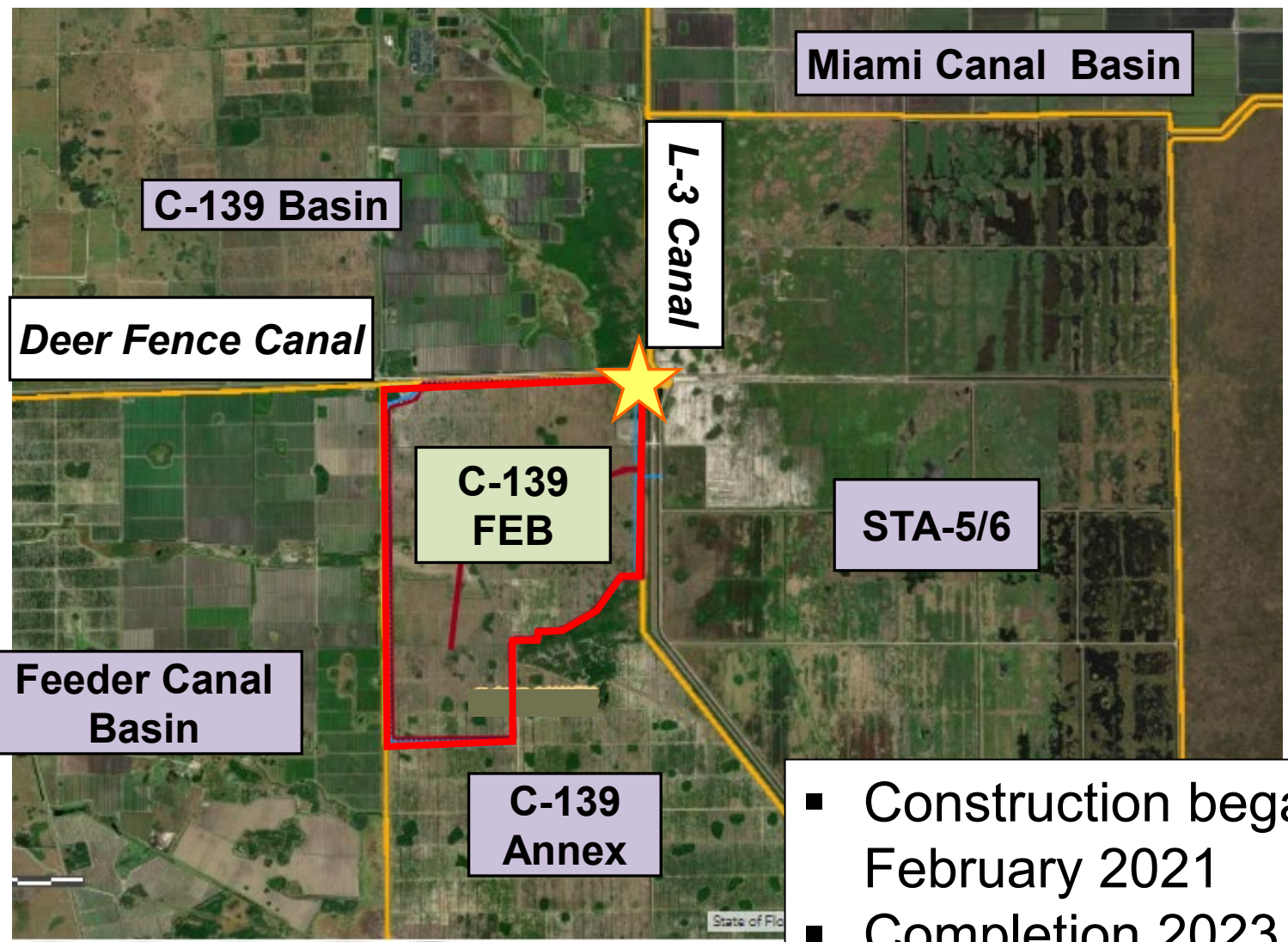


Looking West from WCA 1

Presenter: Mindy Parrott



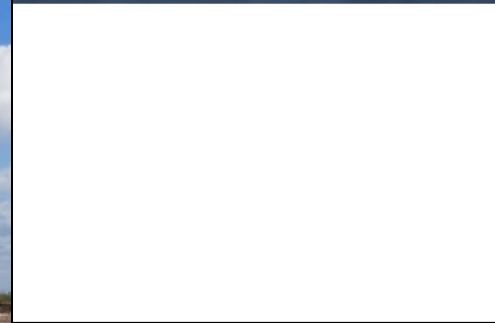
# C-139 Flow Equalization Basin



- Construction began February 2021
- Completion 2023



# C-139 Flow Equalization Basin





# C-139 Flow Equalization Basin





# CERP Project Updates



# Indian River Lagoon-South C-44 Reservoir and STA



- Operational Testing & Monitoring Phase
  - STA complete – January 2021
  - Reservoir complete – September 2021
  - Start reservoir filling – January 2022
  - Operational Testing Start – May 2022



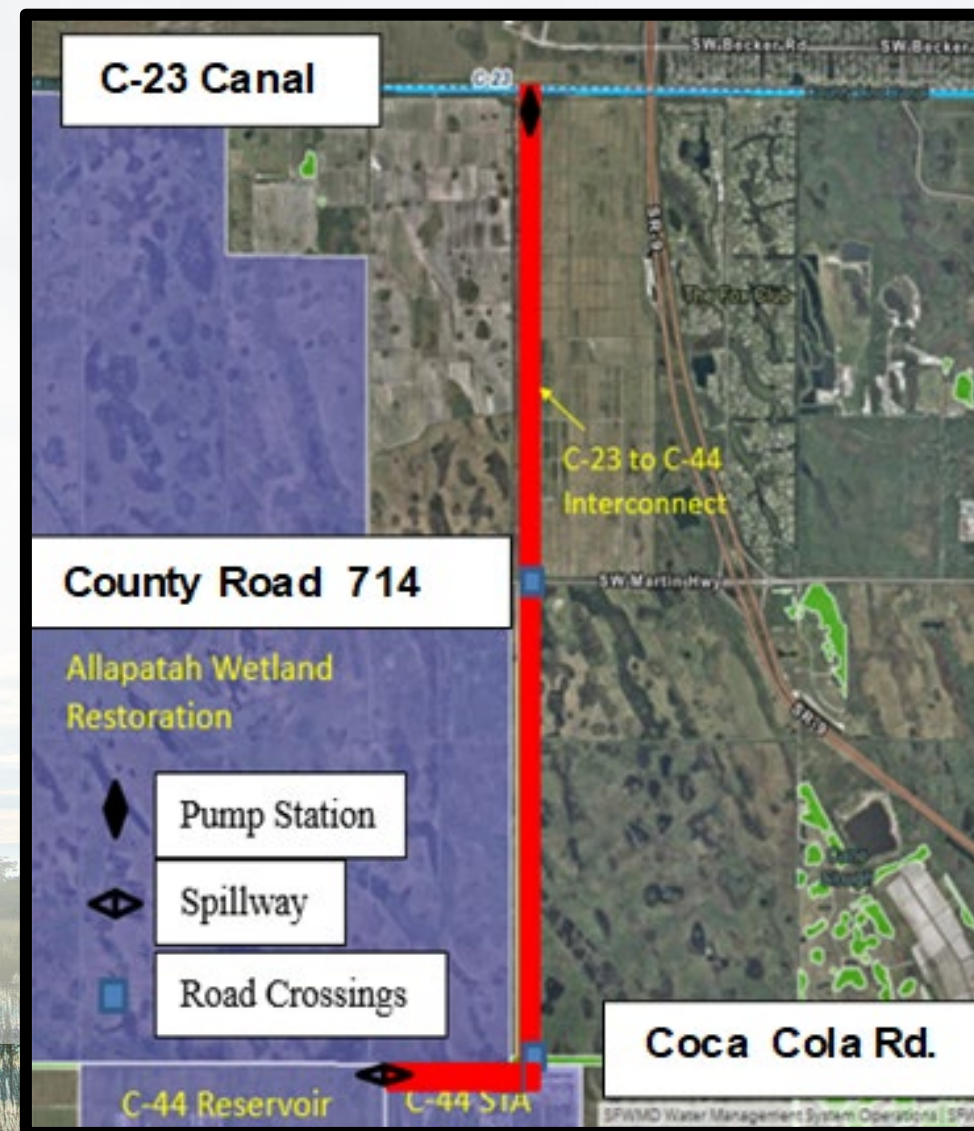


# IRL-S C-23 to C-44 Estuary Diversion

- Diverts harmful C-23 Canal discharges away from the middle St. Lucie Estuary to C-44 Reservoir and STA
- Brings flows to estuary closer to natural patterns
- Improves water quality in the estuary

## Current Status:

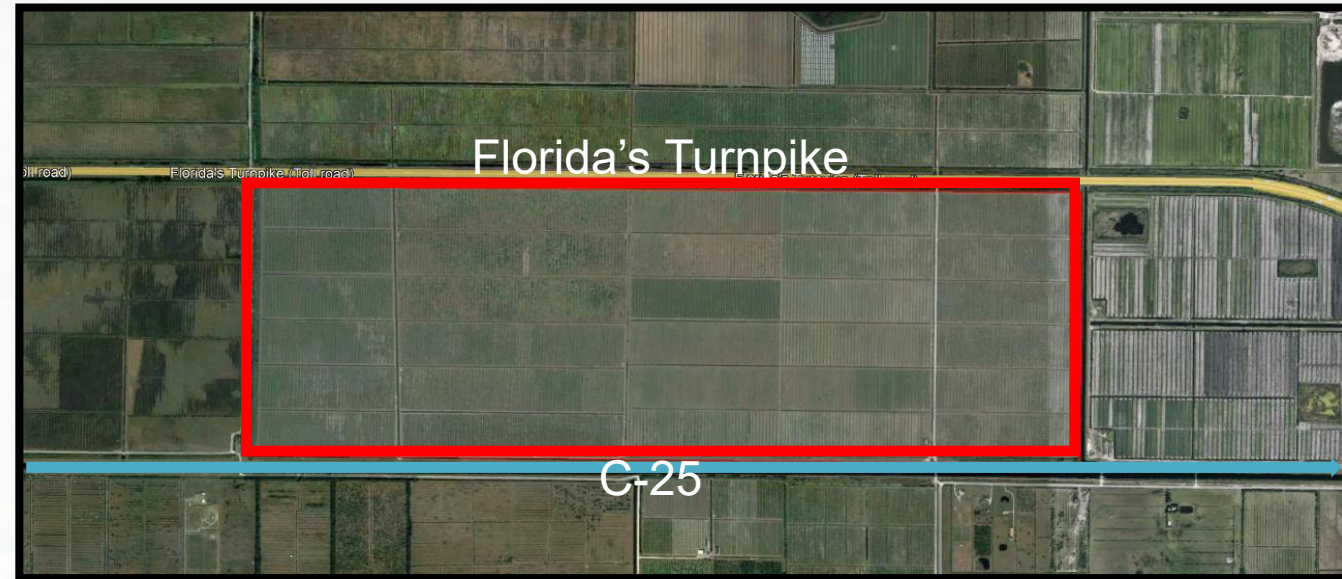
- Amendment to Project Partnership Agreement
- Governing Board Construction Contract Award – **October 2022**





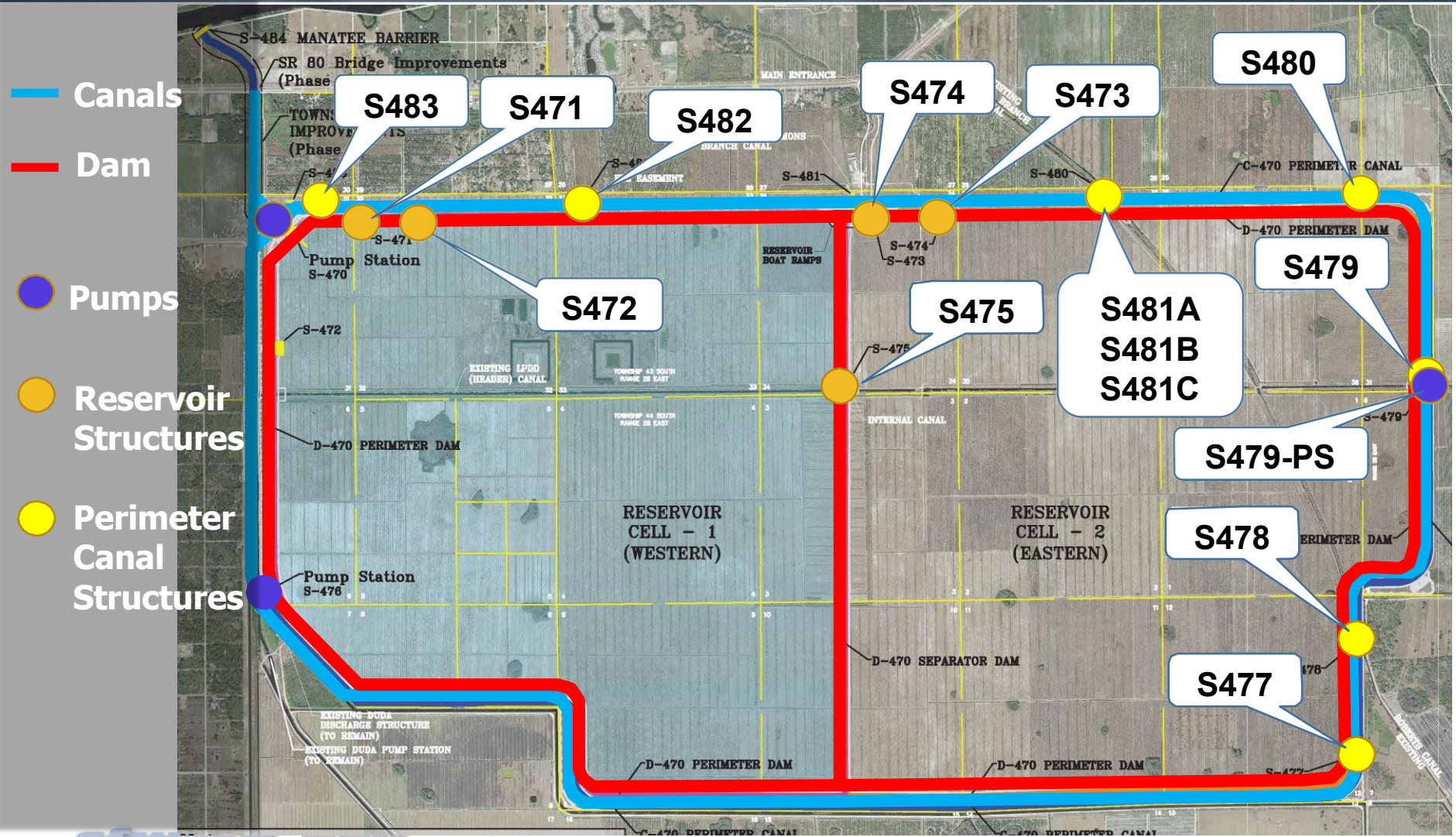
# IRL-S C-25 Reservoir & STA

- Benefits:
  - 5,100 acre-feet of storage
  - Reduce nutrient loads to the Indian River Lagoon
- Real Estate Acquired- December 2021
- Current Status:
  - Design
  - Pending WRDA 2022
  - Construction to begin 2024





# C-43 West Basin Storage Reservoir



## Features

- 2-Cell Reservoir
  - 10,500 Acres
  - 170,000 ac-ft of storage
  - Depth ranging from 15' – 25'
  
- 60% Complete



# C-43 West Basin Storage Reservoir



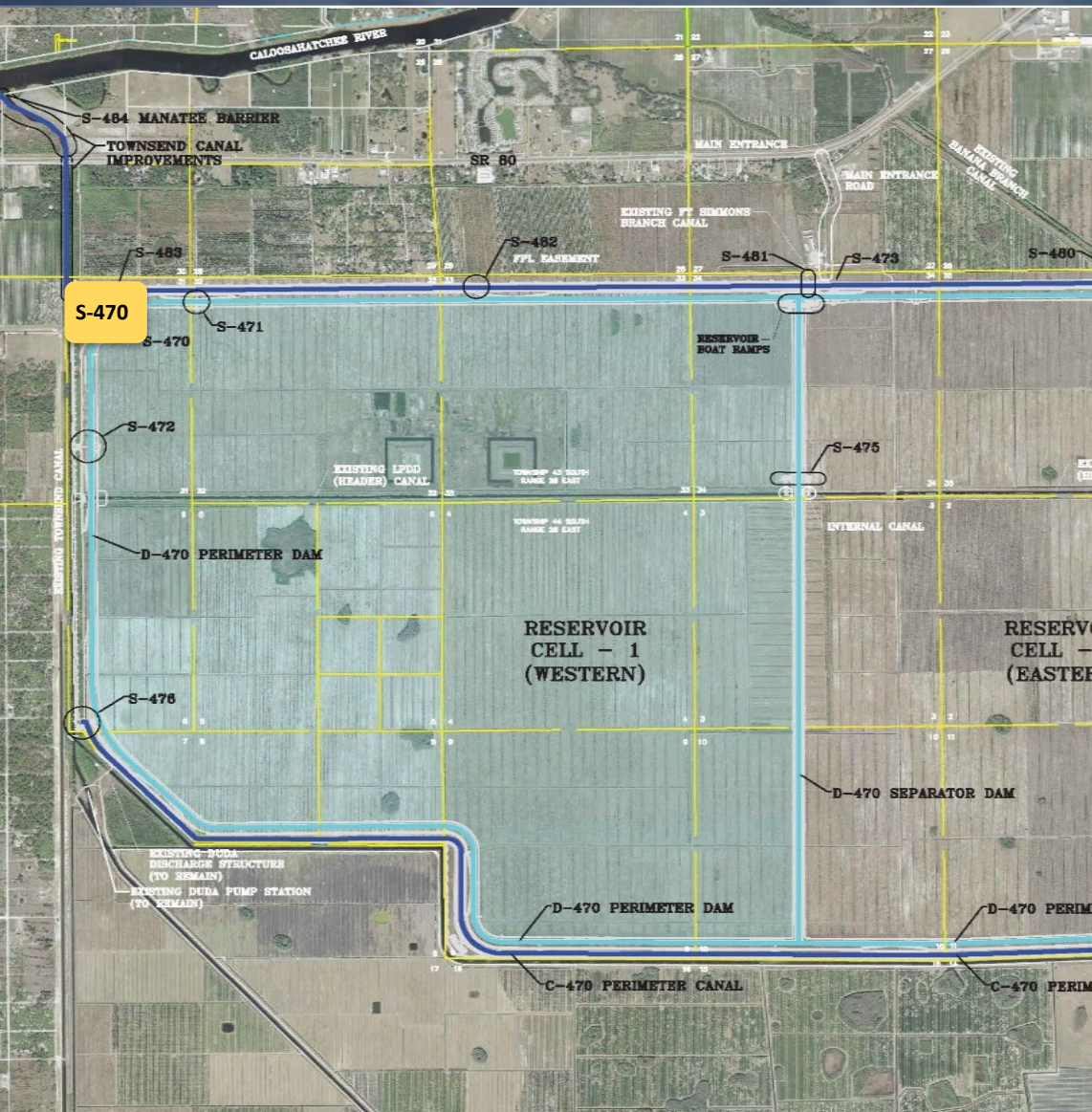
Dam embankment up to elevation 47 feet



S-477 Western Perimeter Canal Structure



# C-43 West Basin Storage Reservoir - Inflow Pump Station



S-470 is Substantially Complete!





# Caloosahatchee Reservoir Water Quality Component

## Feasibility Study and Siting Evaluation December 2020:

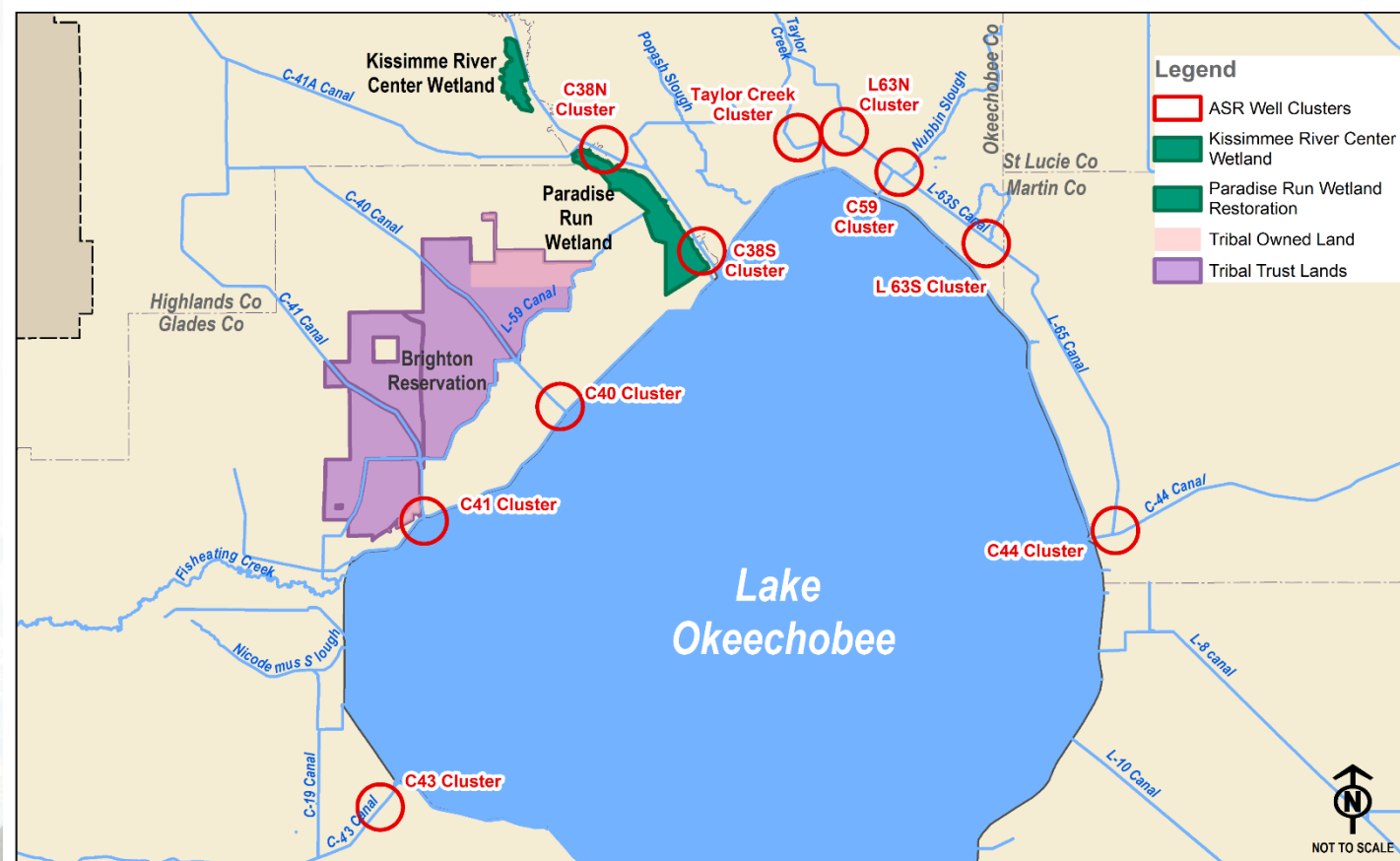
- In-reservoir alum treatment was the most cost-effective and could be applied at reservoir inflow pump station
- **Design & Construction**
  - Complete Design by the end of 2022
  - Procurement and installation in 2023
  - Obtain operations permit in 2024 concurrent with the C-43 reservoir operations permit
- **Northern Everglades & Estuaries Project- not CERP**





# Lake Okeechobee Watershed Restoration Project

- Aquifer Storage and Recovery
  - Phased implementation and Science Plan to address uncertainties & reduce risk
  - Next step in design: 10MGD Pilot to further test treatment technologies
- Wetland Restoration
  - 5,900 acres
  - Land acquisition





# LOWRP - Aquifer Storage and Recovery



Continuous Cores



Treatment Technology- Proof of Concept Testing

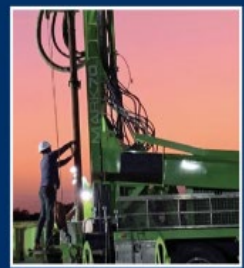


# LOWRP ASR - Test/Exploratory Wells



## 2022 Aquifer Storage and Recovery SCIENCE PLAN

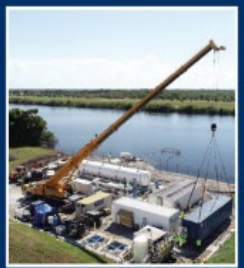
DRAFT - JUNE 2022



Test/Exploratory Well Drilling at C385



Mechanical Integrity Test at L63N



Proof of Concept Testing Kissimmee River ASR Well

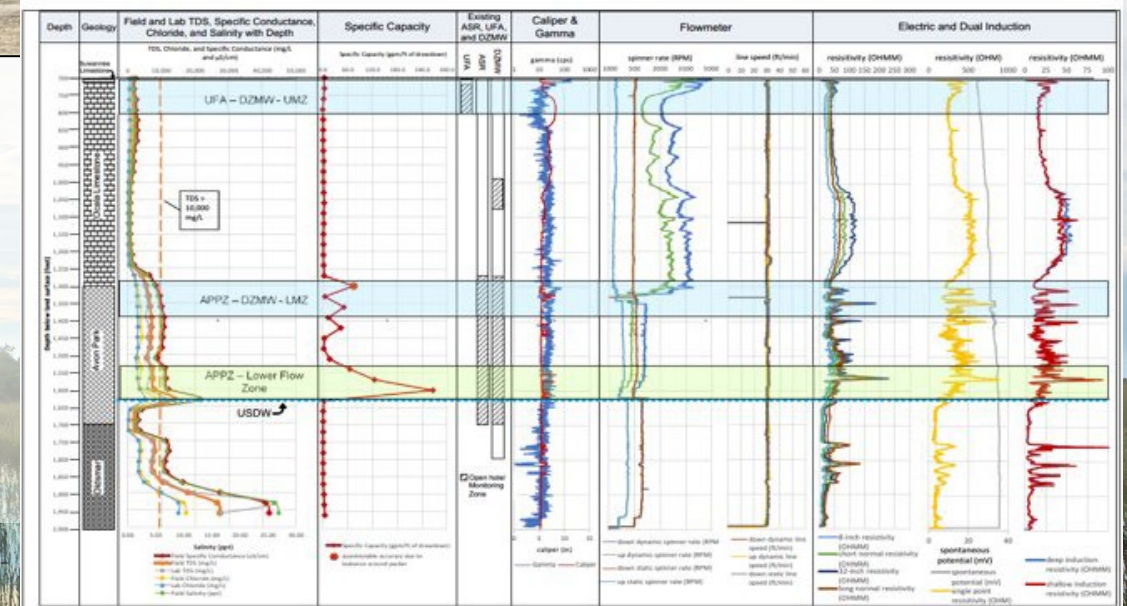
L-63N Continuous Coring Program Samples



500 - 510 feet bls



1,800 - 1,810 feet bls





# Loxahatchee River Watershed Restoration

- Authorized in WRDA 2020
- Pre-Project Credit Agreement executed July 2022
- Anticipating a Project Partnership Agreement in 2023
- Flow Way 3
  - Survey, Geotech, and Modeling
  - Engineering & Design starting with Gulfstream East and Kitching Creek
- Flow Way 2
  - Developing a Design Scope
  - Architectural rendering

**Flow Way 3**

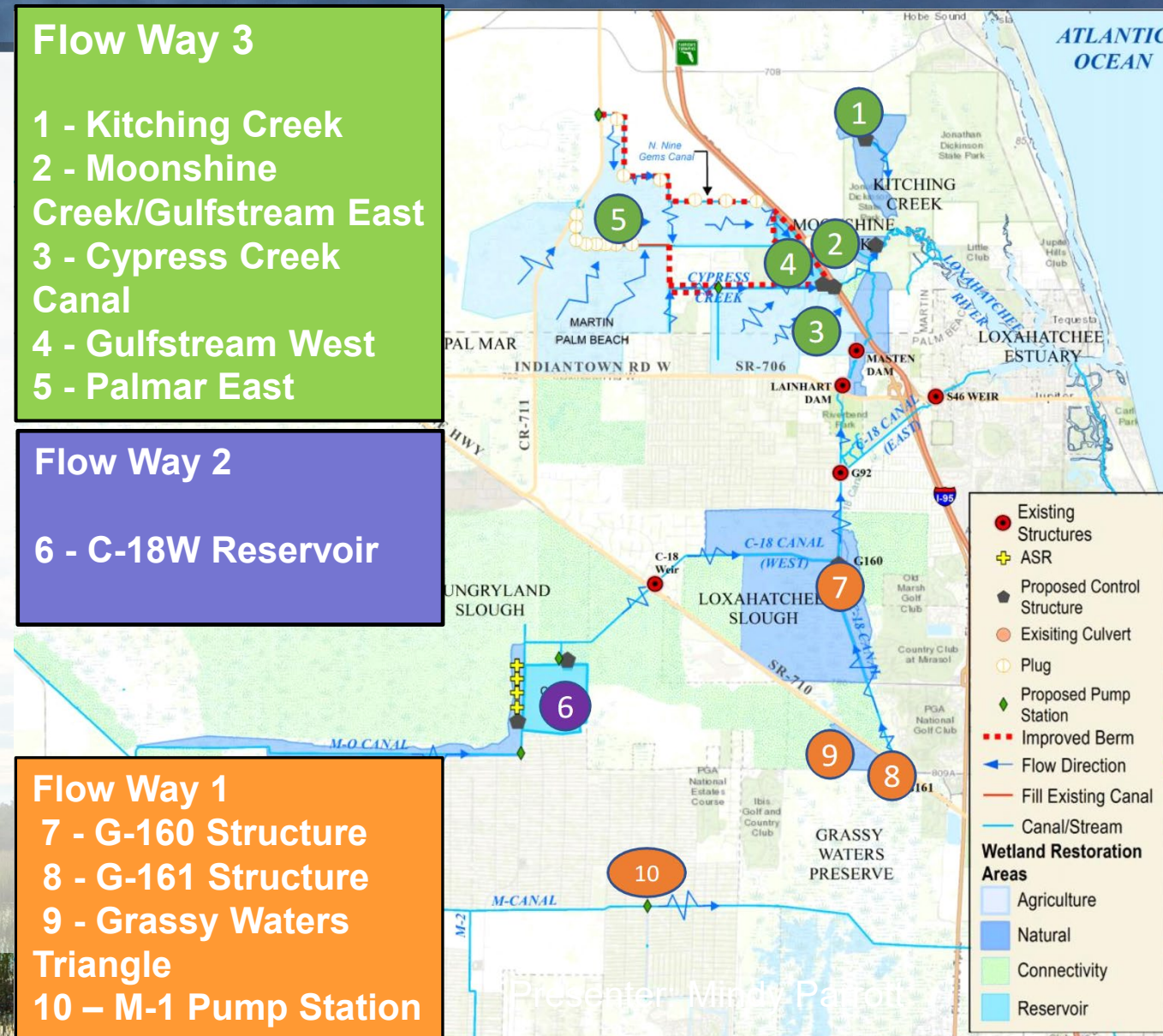
- 1 - Kitching Creek
- 2 - Moonshine Creek/Gulfstream East
- 3 - Cypress Creek Canal
- 4 - Gulfstream West
- 5 - Palmar East

**Flow Way 2**

- 6 - C-18W Reservoir

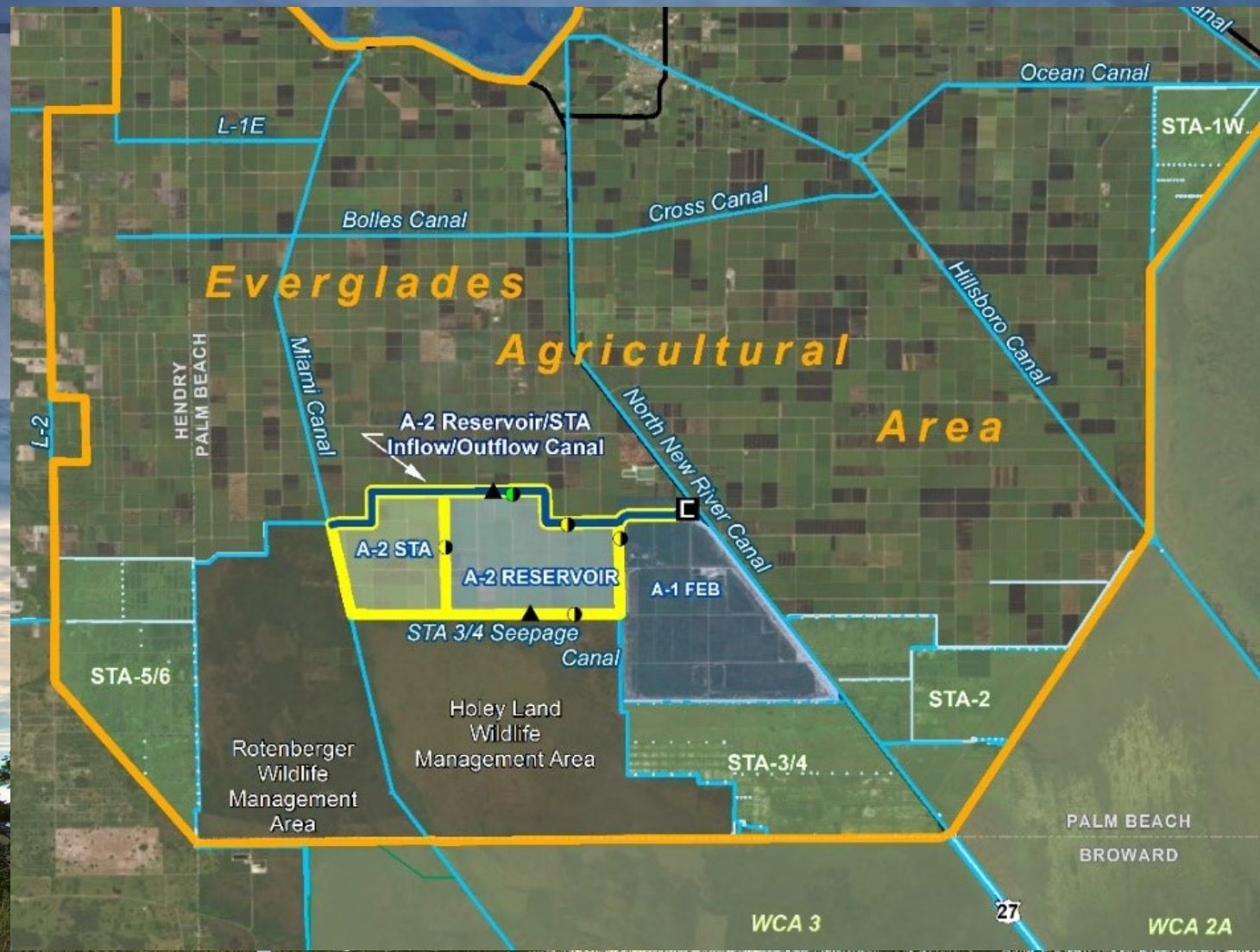
**Flow Way 1**

- 7 - G-160 Structure
- 8 - G-161 Structure
- 9 - Grassy Waters Triangle
- 10 - M-1 Pump Station





# CEPP EAA: A-2 STA



## A-2 STA Construction

- Completion December 2023
- Stormwater Treatment Area (STA) Inflow/Outflow Canal – **nearly Complete**

## Canal Conveyance Improvements Design

- North New River Canal- Construction Award anticipated 2023
- Miami Canal-Construction in 2 phases beginning in 2024



# CEPP EAA: A-2 STA



**Inflow/Outflow Canal and Levee Construction**



**S647 Spillway Structure &  
S648 Seepage Pump Station**



# CEPP EAA: A-2 STA



**A-2 STA Construction**

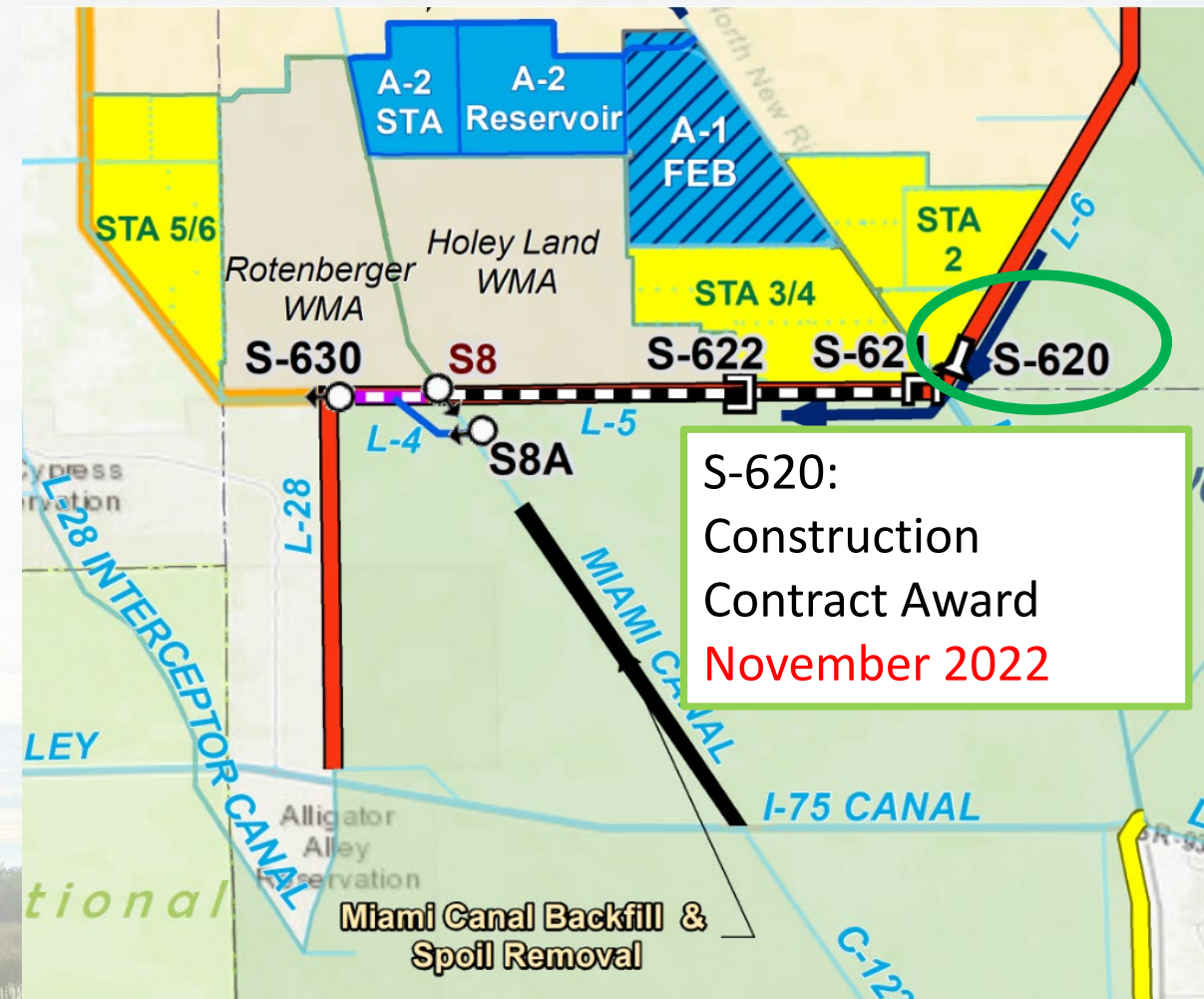


**Inflow/Outflow works**



# CEPP North

- Improves distribution of water to WCA 3A
- Features:
  - **S-620 500 cfs gated culvert**
  - S-621 2500 cfs gated spillway
  - S-622 500 cfs gated spillway
  - S-8A gated culvert and canal
  - S-630 360 cfs pump station
  - L-4 Levee Removal
  - Miami Canal Backfill with Tree Island Mounds
  - L-5 Remnant Canal
  - L-5 Canal





# CEPP New Water Seepage Barrier

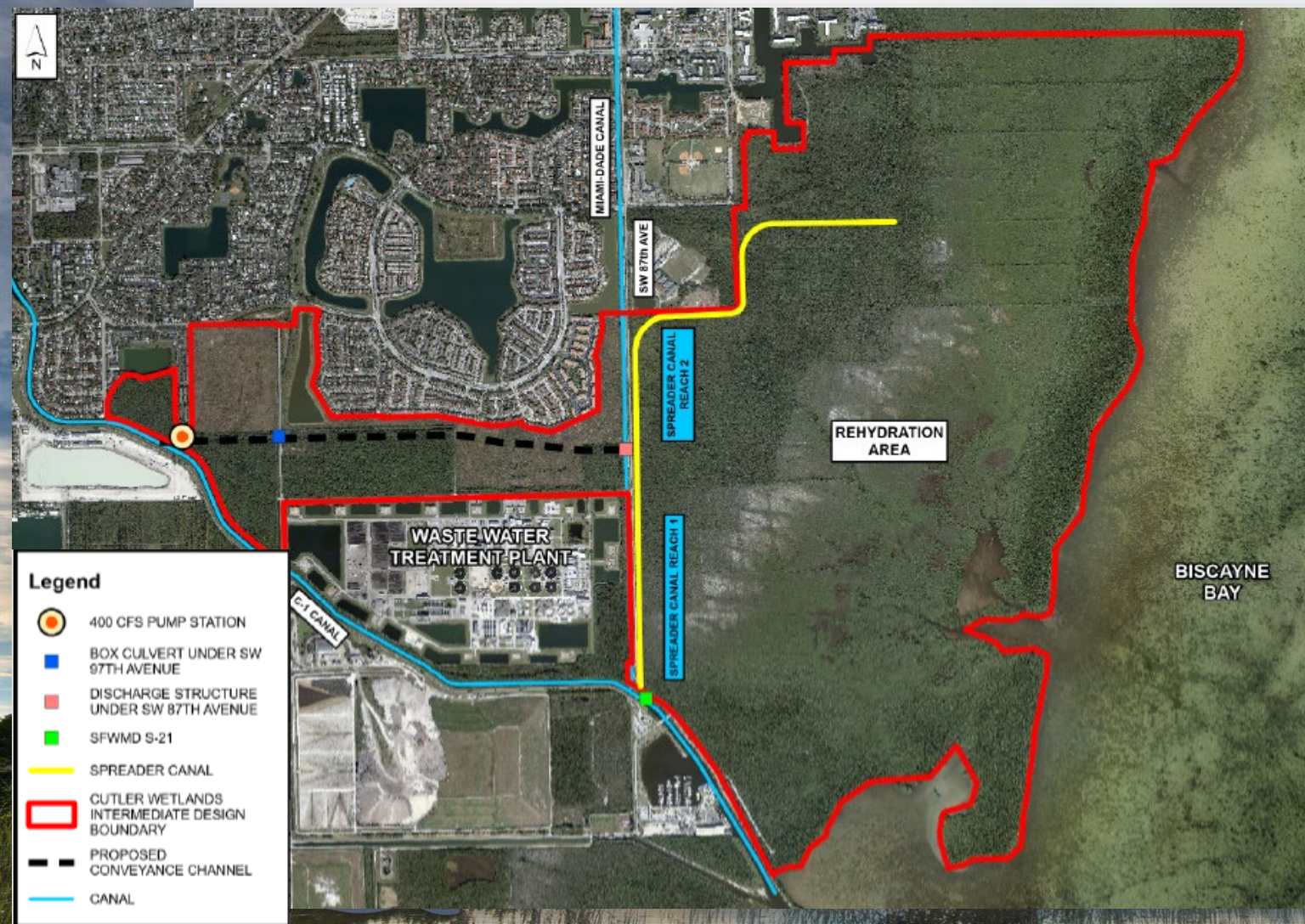
Allows for increased stages in Everglades National Park

- 5 Miles
- August 2022- Governing Board approved contract award





# Biscayne Bay Coastal Wetlands Phase I Cutler Wetlands

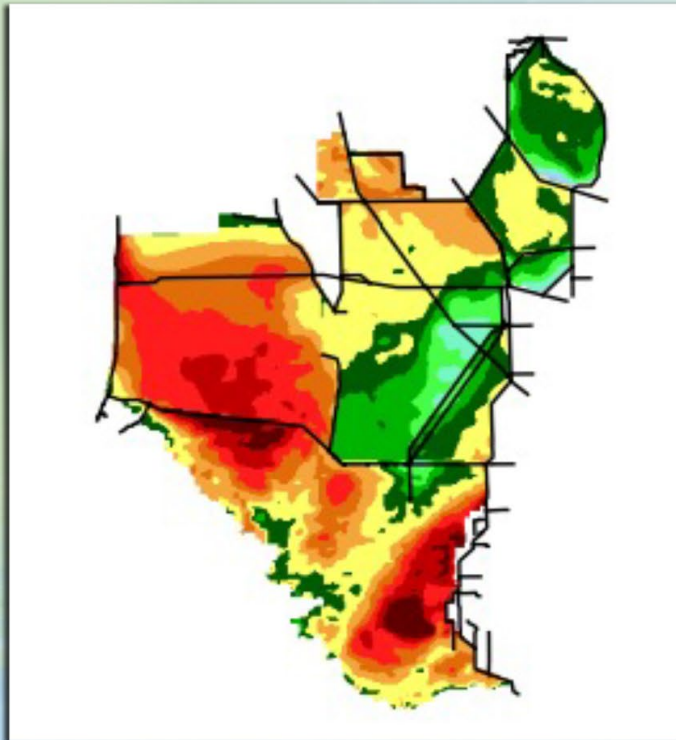


- Contract 6A - **Awarded September 2022**
  - S-701: 400 CFS Pump Station
  
- Contract 6B - 2024 Construction
  - C-701: At-grade, concrete lined channel
  - S-701A: Culvert under SW 97th Ave
  - S-701B: Microtunnel under SW 87th Ave
  - C-702: Spreader canal
  - Berm breaches
  - Drainage ditch blocks
  - Recreation features

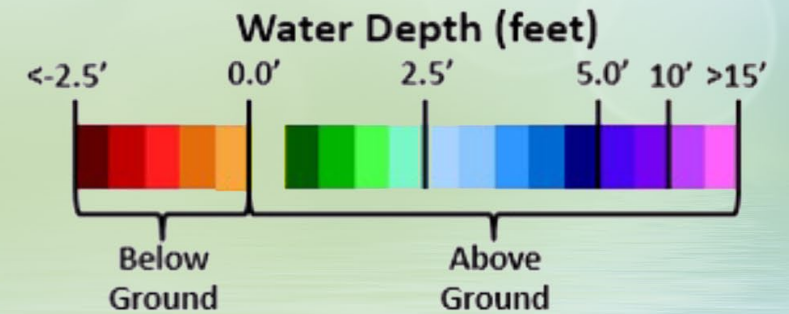
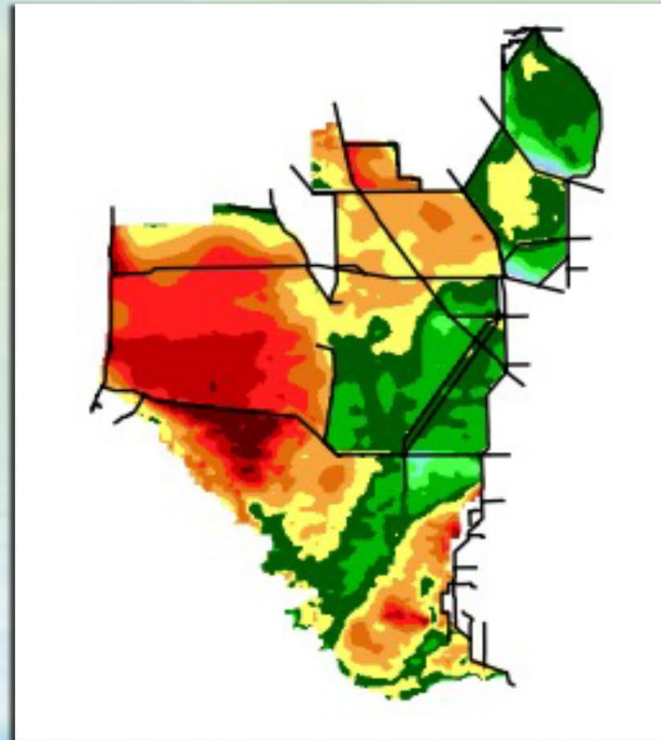


# Recreating the River of Grass

Average water depth on April 11 over the last 20 years



Water depth on April 11, 2022





**Questions?**

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