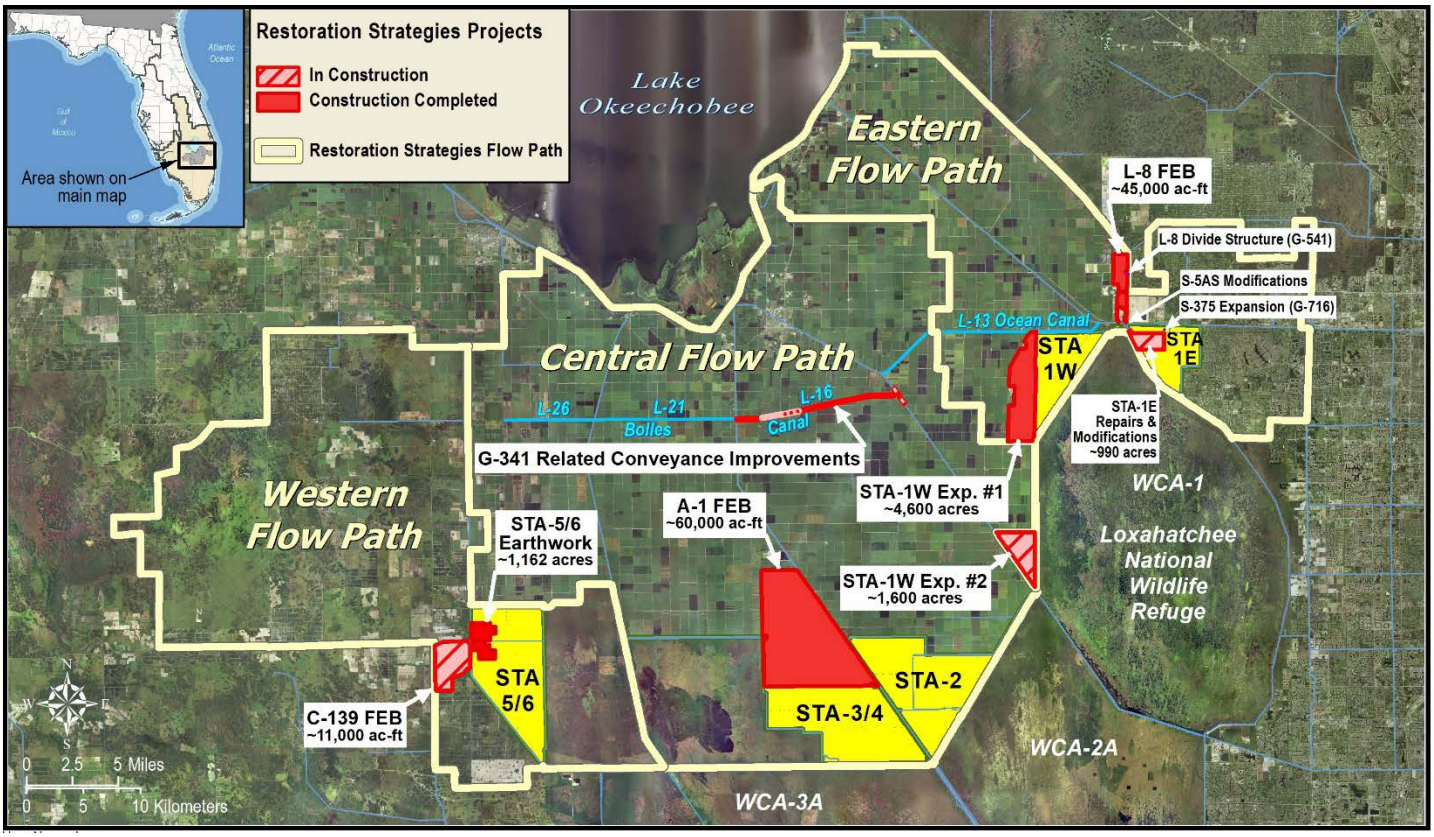
Restoration Strategies Program
and Stormwater Treatment Area Enhancement Update April 2021

The South Florida Water Management District's (District) $880 million Restoration Strategies Program will improve water quality flowing into America's Everglades by implementing a suite of flow equalization basins (FEB's), stormwater treatment area (STA) expansions, and conveyance improvement projects over a 13 year timeline. The program includes a robust Science Plan focused on investigating the critical factors that influence phosphorus reduction and a better understanding of improving treatment performance at low phosphorus concentrations. A third part of the program is investigation of additional sub-regional source controls – where pollution is reduced at the source – in areas where phosphorus levels in stormwater runoff have been historically higher.

In 2012, FDEP issued watershed National Pollutant Discharge Elimination System (NPDES) and Everglades Forever Act (EFA) permits to the District to continue to operate its STAs. At the same time, Consent Orders were issued with these permits that require the District to construct 13 projects on an aggressive timeline to be completed by December 2025 with specific milestone due dates for each project activity. The existing Everglades STAs, an essential component of Restoration Strategies, are unique constructed treatment wetlands designed to improve the quality of water flowing into the Everglades. Upon completion of all Restoration Strategies projects, the permits require each STA to meet the Water Quality Based Effluent Limit (WQBEL), to ensure that the State's water quality standard for the Everglades is achieved.

In addition to the Restoration Strategies projects, the District is enhancing the performance of the existing Everglades STAs through a series of construction projects to refurbish, rehabiliate, and renew large portions of the existing facilities, some of which have been in operation for the last 20 years.



Restoration Strategies Flow Paths and Projects

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Eastern Flow Path

STA-1E Repairs and Modifications (Cells 5 and 7)

Earthwork to regrade Cell 5 and importing of soil in Cell 7 to correct topographic deficiencies in the original construction are ongoing. Soil inversion in Cell 5 is complete and regrade is ongoing. Hydraulic dredge operations in the Western Distribution Cell are expected to be complete by May 2021. Project is on schedule and expected to be completed by October 2022.

STA-1W Expansion #2

Governing Board approval of pump station construction obtained in November. Notice to Proceed was issued in December 2020. Construction of Civil Works and Inflow Pump Station is ongoing

G-341 Related Conveyance Improvements

Construction of Segment 4 is ongoing and expected to be complete by May 2021. Design of Segment 5 is ongoing and construction is expected to start in September 2021.

STA-1E Refurbishment

Earthwork to degrade remnant farm roads and fill ditches in Cell 6 is complete.

STA-1W Refurbishment

Earthwork for various enhancements is ongoing. Work includes 50-acre regrade in Cell 3 to remove finger canals, levee realignment between Cells 5B and 2A for improved flow patterns, removal of levees and structures between Cells 2B and 4, and replacement of structures between Cells 1B and 3.

Central Flow Path

STA-2 Refurbishment

Earthwork to regrade a 500-acre low-lying area, repair plugs in borrow canal, and other enhancements in Cell 2 is ongoing. Earthwork to make 49 cuts through remnant farm berms in Cell 3 is complete.

Western Flow Path

STA-5/6 Internal Improvements

Currently in initial flooding and optimization for Cells 2A and 3A.

C-139 Flow Equalization Basin (FEB)

Notice to proceed issued in February 2021. MCR for Construction Status was submitted in February. Construction activity to remove vegetation is ongoing

Connection of STA-5/6 to Lake Okeechobee

Hydraulic Feasibility Study is completed in January 2021. Conceptual design and options are complete. Review of Technical Report in February 2021.

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Restoration Strategies Science Plan

Of the fourteen Science Plan studies, seven have been completed and seven are in progress. Five additional study proposals have been approved and are in start-up.

Ongoing Science Plan Studies	**Completion By**
Vegetation Inundation Depth and Duration Sustainability	Sept 2021
Factors for Formation of Floating Tussocks in STAs	Sept 2021
L-8 FEB and STA Operational Guidance	Sept 2021
Improving Resilience of Submerged Aquatic Vegetation in STAs	Sept 2022
Effects of Faunal Species on P Cycling in STAs	Sept 2022
Periphyton and Phytoplankton P Uptake and Release	Sept 2023
Soil Amendments to Control P Flux	Sept 2023

Additional Studies	
Biomarker Study	Sept 2022
Fauna study	Sept 2023
Data Integration Study	Sept 2023
P Dynamics Study	Sept 2023
Marl Study	Sept 2024

Earthwork for STA-1E Improvements. Photo illustrates the re-distribution of fill dredged from WDC in Cell 7. The regrade of Cell 5 can be seen in the background

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EASTERN FLOW PATH

STA-1W Expansion #2 (100864)

Activity	Deadline	
Complete land acquisition	3/31/2018	✓
Initiate design	10/1/2018	✓
Submit state and federal permit applications	8/1/2019	✓
Complete design	7/31/2020	✓
Initiate construction	11/30/2020	✓
Construction status report	3/1/2021	✓
Construction status report	3/1/2022	
Complete construction	12/31/2022	
Initial flooding and optimization period complete	12/31/2024	

STA-1W Expansion #1 (100818)

Activity	Deadline	
Complete land acquisition	9/30/2013	✓
Initiate design	9/30/2013	✓
Submit state and federal permit applications	7/30/2014	✓
Complete design	7/30/2015	✓
Initiate construction	1/31/2016	✓
Construction status report	3/1/2017	✓
Construction status report	3/1/2018	✓
Complete construction	12/31/2018	✓
Initial flooding and optimization period complete	12/31/2020	✓

STA-1E Repairs and Modifications

Activity	Deadline	
PSTA Decommissioning complete	12/31/2022	✓
Culvert repairs complete	12/31/2022	✓
Cell 5 and 7 improvements complete	12/31/2022	

L-8 FEB (100813)

Activity	Deadline	
Submit state and federal permit applications	1/31/2014	✓
Construction status report	3/1/2014	✓
Construction status report	3/1/2015	✓
Complete construction (begin multi-purpose ops)	12/31/2016	✓
Long term operations commence	12/31/2022	

G-341 Related Conveyance Improvements (100802)

Activity	Deadline	
Initiate design	10/1/2020	✓
Submit state and federal permit applications	8/1/2021	✓
Complete land acquisition (if required)	9/30/2021	
Complete design	7/31/2022	
Initiate construction	11/30/2022	✓
Construction status report	3/1/2023	
Construction status report	3/1/2024	
Complete construction	12/31/2024	

L-8 Divide Structure (100817)

Activity	Deadline	
Initiate design	10/1/2012	✓
Complete design	9/30/2014	✓
Initiate construction	10/1/2016	✓
Complete construction	9/30/2018	✓

S-5AS Modifications (100822)

Activity	Deadline	
Initiate design	10/1/2012	✓
Complete design	9/30/2014	✓
Initiate construction	10/1/2014	✓
Complete construction	9/30/2016	✓

S-375 Expansion (100819)

Activity	Deadline	
Initiate design	9/30/2013	✓
Complete design	7/30/2015	✓
Initiate construction	1/31/2016	✓
Complete construction	12/31/2018	✓

LEGEND

- Flow Equalization Basin
- Stormwater Treatment Area
- Conveyance Improvement
- ✓ Complete

Projects Complete = 7 of 13
Activities Complete = 59 of 74
% Activities Complete = 80 %
% Time Complete = 64 %

CENTRAL FLOW PATH

STA-2 Expansion: Compartment B

Activity	Deadline	
Initial flooding and optimization period complete	5/31/2014	✓

A-1 FEB (100706)

Activity	Deadline	
Initiate design	4/1/2012	✓
Submit state and federal permit applications	12/1/2012	✓
Design status report	3/1/2013	✓
Complete design	8/1/2013	✓
Initiate construction	6/30/2014	✓
Construction status report	3/1/2015	✓
Construction status report	3/1/2016	✓
Complete construction	7/30/2016	✓
Operational monitoring and testing period complete	7/29/2018	✓

WESTERN FLOW PATH

STA-5/6 Internal Improvements (100868)

Activity	Deadline	
Initiate design	10/31/2019	✓
Submit state and federal permit applications	8/30/2020	✓
Complete design	10/31/2021	✓
Initiate construction	1/31/2022	✓
Construction status report	3/1/2023	✓
Construction status report	3/1/2024	✓
Complete construction	12/31/2024	✓
Initial flooding and optimization period complete	12/31/2025	

STA-5/6 Expansion: Compartment C

Activity	Deadline	
Initial flooding and optimization period complete	5/31/2014	✓

C-139 FEB (100867)

Activity	Deadline	
Initiate design	10/31/2018	✓
Submit state and federal permit applications	8/30/2019	✓
Complete design	10/31/2020	✓
Initiate construction	1/31/2021	✓
Construction status report	3/1/2021	✓
Construction status report	3/1/2022	
Construction status report	3/1/2023	
Complete construction	12/31/2023	
Operational monitoring and testing period complete	12/31/2024	

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