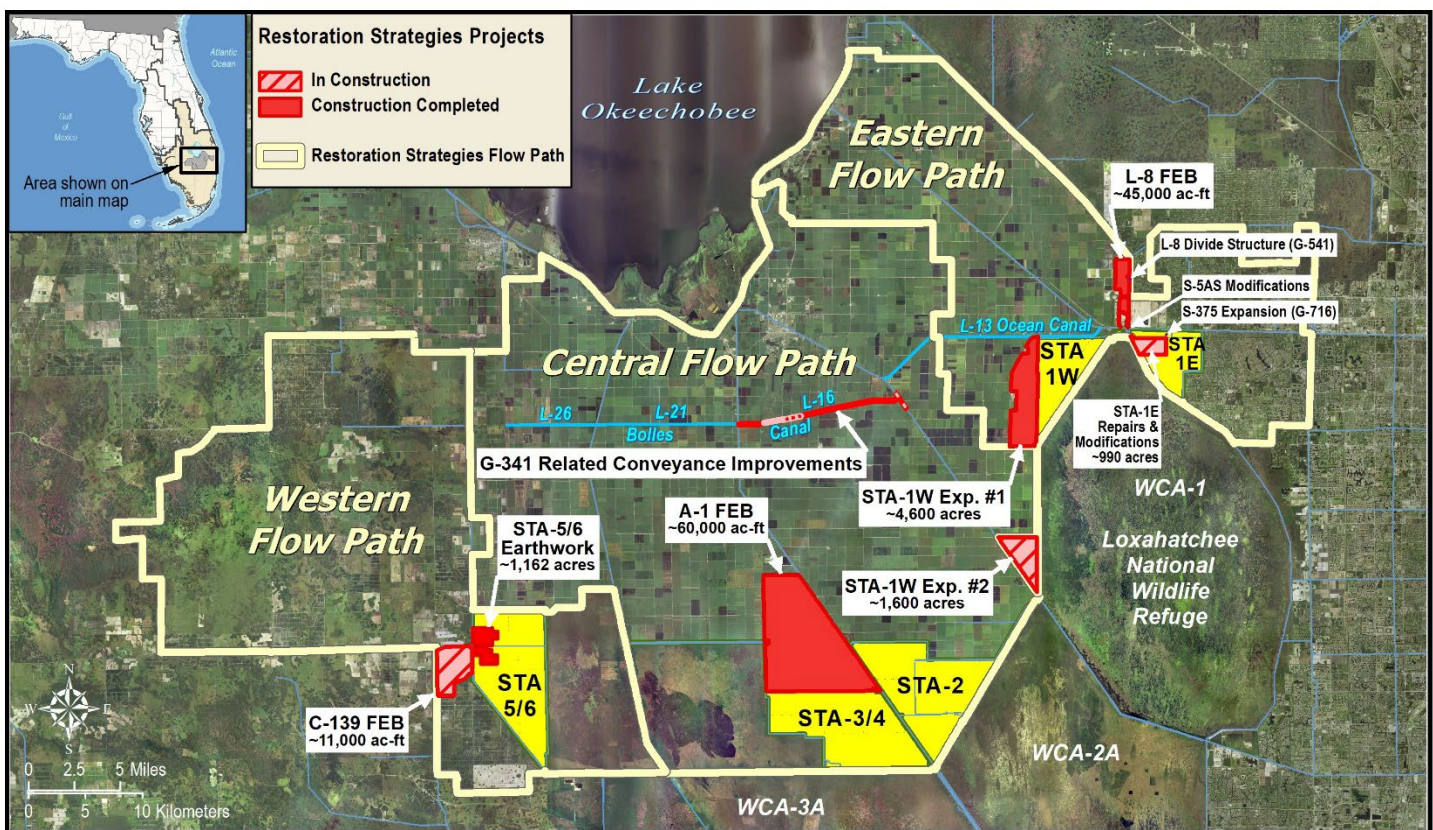


Restoration Strategies Program and Stormwater Treatment Area Enhancement Update June 2021

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, rehabilitate, 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

Restoration Strategies Program and Stormwater Treatment Area Enhancement Update June 2021

Eastern Flow Path

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

Earthwork to regrade Cells 5 and 7 to correct topographic deficiencies of the original construction is ongoing. Import of fill material is complete. Soil inversion in Cell 5 is complete. Distribution and grading is ongoing in both cells. Project is on schedule and expected to be completed by October 2022.

STA-1W Expansion #2

Construction of Civil Works and Inflow Pump Station is ongoing

G-341 Related Conveyance Improvements

Boca Chica bridge has been added to the ongoing Segment 4 contract; completion is expected by January 2022. Segment 5 design is ongoing; Final design is expected by July 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. Cell 3 earthwork is complete.

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

Cells 2A and 3A are currently in the initial flooding and optimization period.

C-139 Flow Equalization Basin (FEB)

Construction activity to remove vegetation is ongoing.

Connection of STA-5/6 to Lake Okeechobee

Hydraulic Feasibility Study and Conceptual Design have been completed. Implementation of project is being considered in phases. Phase 1 is underway and will improve conveyance in the western reach and connect it to the L-3 canal.

Restoration Strategies Program and Stormwater Treatment Area Enhancement Update June 2021

Restoration Strategies Science Plan

Of the fourteen Science Plan studies, seven have been completed and seven are in progress. Six 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
Ecotopes Study	TBD



Aerial view of the south end of STA-1W, looking north. In the center right, the removal of finger canals and regrade of 50 acres in Cell 3. In the center left, the ongoing construction of G-780 pump station for Expansion No. 2.

Restoration Strategies Program and Stormwater Treatment Area Enhancement Update June 2021

EASTERN FLOW PATH			CENTRAL FLOW PATH							
STA-1W Expansion #2 (100864)			G-341 Related Conveyance Improvements (100802)			STA-2 Expansion: Compartment B				
Activity	Deadline		Activity	Deadline		Activity	Deadline			
Complete land acquisition	3/31/2018	✓	Initiate design	10/1/2020	✓	Initial flooding and optimization period complete	5/31/2014	✓		
Initiate design	10/1/2018	✓	Submit state and federal permit applications	8/1/2021	✓	COMPLETE				
Submit state and federal permit applications	8/1/2019	✓	Complete land acquisition (if required)	9/30/2021		A-1 FEB (100706)				
Complete design	7/31/2020	✓	Complete design	7/31/2022		Activity	Deadline			
Initiate construction	11/30/2020	✓	Initiate construction	11/30/2022	✓	Initiate design	4/1/2012	✓		
Construction status report	3/1/2021	✓	Construction status report	3/1/2023	✓	Submit state and federal permit applications	12/1/2012	✓		
Construction status report	3/1/2022		Construction status report	3/1/2024		Design status report	3/1/2013	✓		
Complete construction	12/31/2022		Complete construction	12/31/2024		Complete design	8/1/2013	✓		
Initial flooding and optimization period complete	12/31/2024					Initiate construction	COMPLETE	6/30/2014	✓	
STA-1W Expansion #1 (100818)			L-8 Divide Structure (100817)			Construction status report			3/1/2015	✓
Activity	Deadline		Activity	Deadline		Construction status report	3/1/2016	✓		
Complete land acquisition	9/30/2013	✓	Initiate design	10/1/2012	✓	Complete construction	7/30/2016	✓		
Initiate design	9/30/2013	✓	Complete design	9/30/2014	✓	Operational monitoring and testing period complete	7/29/2018	✓		
Submit state and federal permit applications	7/30/2014	✓	Initiate construction	10/1/2016	✓	COMPLETE				
Complete design	7/30/2015	✓	Complete construction	9/30/2018	✓	WESTERN FLOW PATH				
Initiate construction	1/31/2016	✓	S-5AS Modifications (100822)			STA-5/6 Internal Improvements (100868)				
Construction status report	3/1/2017	✓	Activity	Deadline		Activity	Deadline			
Construction status report	3/1/2018	✓	Initiate design	10/1/2012	✓	Initiate design	10/31/2019	✓		
Complete construction	12/31/2018	✓	Complete design	9/30/2014	✓	Submit state and federal permit applications	8/30/2020	✓		
Initial flooding and optimization period complete	12/31/2020	✓	Initiate construction	10/1/2014	✓	Complete design	10/31/2021	✓		
STA-1E Repairs and Modifications			Complete construction	9/30/2016	✓	Initiate construction	1/31/2022	✓		
Activity	Deadline		S-375 Expansion (100819)			Construction status report	3/1/2023	✓		
PSTA Decommissioning complete	12/31/2022	✓	Activity	Deadline		Construction status report	3/1/2024	✓		
Culvert repairs complete	12/31/2022	✓	Initiate design	9/30/2013	✓	Complete construction	12/31/2024	✓		
Cell 5 and 7 improvements complete	12/31/2022	✓	Complete design	7/30/2015	✓	Initial flooding and optimization period complete	12/31/2025	✓		
L-8 FEB (100813)			Initiate construction	1/31/2016	✓	STA-5/6 Expansion: Compartment C				
Activity	Deadline		Complete construction	12/31/2018	✓	Activity	Deadline			
Submit state and federal permit applications	1/31/2014	✓	LEGEND			Initial flooding and optimization period complete	5/31/2014	✓		
Construction status report	3/1/2014	✓	Flow Equalization Basin			C-139 FEB (100867)				
Construction status report	3/1/2015	✓	Stormwater Treatment Area			Activity	Deadline			
Complete construction (begin multi-purpose ops)	12/31/2016	✓	Conveyance Improvement			Initiate design	10/31/2018	✓		
Long term operations commence	12/31/2022	✓	Complete			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	✓		

Projects Complete = 7 of 13
Activities Complete = 60 of 74
% Activities Complete = 81 %
% Time Complete = 65 %