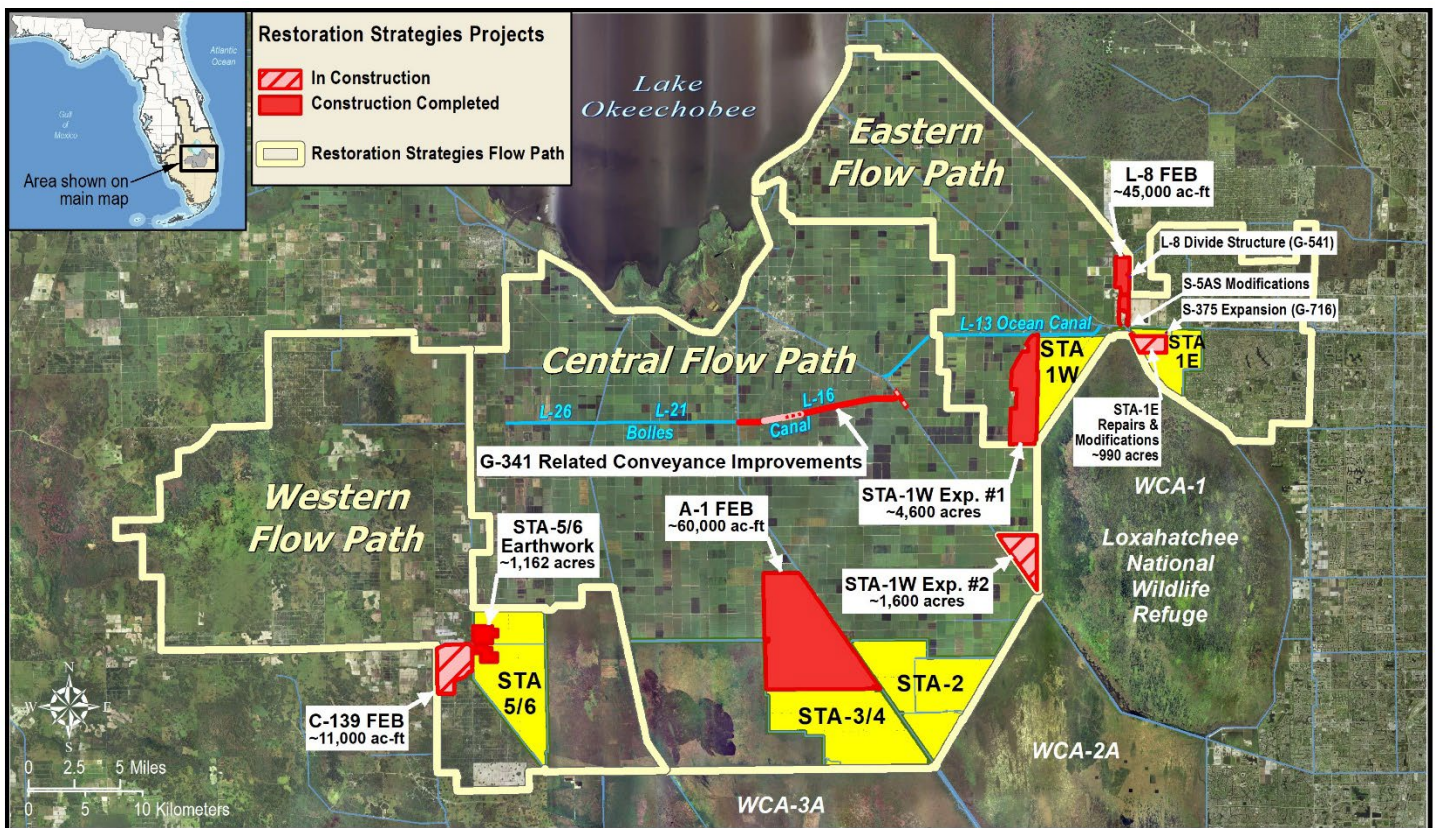


Restoration Strategies Program and Stormwater Treatment Area Enhancement Update November 2021

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 November 2021

Eastern Flow Path

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

Earthwork to regrade Cells 5 to correct topographic deficiencies of the original construction is complete. Vegetation management planting activities are ongoing. Cell 7 regrade is ongoing. Substantial completion is expected by January 2022.

STA-1W Expansion #2

Construction of Civil Works and Inflow Pump Station is ongoing. The lower foundation slabs for G-780 and G-781 pump stations were completed in October. Sheet pile installation for G-782 pump station is ongoing.

G-341 Related Conveyance Improvements

Segment 4 construction is ongoing; concrete work for the Boca Chica bridge deck is complete. Construction is expected to be completed by mid-November 2021. Segment 5 design is ongoing and is expected to be finalized in December 2021.

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. The 2B /4 levee removal is complete. The Cell 3 earthwork is complete and vegetation management activities are ongoing. The levee removal between 5B and 2A levee is near completion. Substantial completion of all STA-1W refurbishments is expected in March 2022.

Central Flow Path

STA-2 Refurbishment

Earthwork to regrade uneven topography is ongoing and includes raising a 500-acre low-lying area in northwest Cell 2. 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 for the G-550 Inflow pump station and G-551 structures are ongoing. ERP Permits for G-552 and G-711E complete.

Connection of STA-5/6 to Lake Okeechobee

Hydraulic Feasibility Study and Conceptual Design have been completed. Phase 1 design will commence in November 2021 to improve conveyance, build a pump station, and rely on temporary facilities to connect the Miami Canal to the inflow of STA-5/6.

Restoration Strategies Program and Stormwater Treatment Area Enhancement Update November 2021

Restoration Strategies Science Plan

Of the fourteen Science Plan studies, eight have been completed and six are in progress. Six additional study proposals have been approved.

<u>Ongoing Science Plan Studies</u>	<u>Completion By</u>
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
<u>Additional Studies</u>	
Biomarker Study.....	Sept 2022
Fauna study	Sept 2023
Ecotopes Study	Sept 2023
P Dynamics Study	Sept 2023
Data Integration Study	Sept 2024
Marl Study	Sept 2024



Construction of the Boca Chica Bridge. Substantial completion is expected by mid November.

Restoration Strategies Program and Stormwater Treatment Area Enhancement Update November 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	✓	COMPLETE	5/31/2014	✓
Initiate design	10/1/2018	✓	Submit state and federal permit applications	8/1/2021	✓	Initial flooding and optimization period 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					COMPLETE	6/30/2014	✓
						Initiate construction	3/1/2015	✓
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	COMPLETE	✓	Operational monitoring and testing period complete	7/29/2018	✓
Submit state and federal permit applications	7/30/2014	✓	Initiate construction	10/1/2016	✓	WESTERN FLOW PATH		
Complete design	7/30/2015	✓	Complete construction	9/30/2018	✓	STA-5/6 Internal Improvements (100868)		
Initiate construction	1/31/2016	✓				Activity	Deadline	
Construction status report	3/1/2017	✓	S-5AS Modifications (100822)			Initiate design	10/31/2019	✓
Construction status report	3/1/2018	✓	Activity	Deadline		Submit state and federal permit applications	8/30/2020	✓
Complete construction	12/31/2018	✓	Initiate design	10/1/2012	✓	Complete design	10/31/2021	✓
Initial flooding and optimization period complete	12/31/2020	✓	Complete design	COMPLETE	✓	Initiate construction	1/31/2022	✓
STA-1E Repairs and Modifications			Initiate construction	10/1/2014	✓	Construction status report	3/1/2023	✓
Activity	Deadline		Complete construction	9/30/2016	✓	Construction status report	3/1/2024	✓
PSTA Decommissioning complete	12/31/2022	✓	S-375 Expansion (100819)			Complete construction	12/31/2024	✓
Culvert repairs complete	12/31/2022	✓	Activity	Deadline		Initial flooding and optimization period complete	12/31/2025	✓
Cell 5 and 7 improvements complete	12/31/2022		Initiate design	9/30/2013	✓	STA-5/6 Expansion: Compartment C		
L-8 FEB (100813)			Complete design	COMPLETE	✓	Activity	Deadline	
Activity	Deadline		Initiate construction	1/31/2016	✓	COMPLETE	5/31/2014	✓
Submit state and federal permit applications	1/31/2014	✓	Complete construction	12/31/2018	✓	C-139 FEB (100867)		
Construction status report	3/1/2014	✓	LEGEND			Activity	Deadline	
Construction status report	3/1/2015	✓	Flow Equalization Basin			Initiate design	10/31/2018	✓
Complete construction (begin multi-purpose ops)	12/31/2016	✓	Stormwater Treatment Area			Submit state and federal permit applications	8/30/2019	✓
Long term operations commence	12/31/2022		Conveyance Improvement			Complete design	10/31/2020	✓
			✓ Complete			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 = 61 of 74
 % Activities Complete = 82 %
 % Time Complete = 68 %

Revised September 17, 2021