



C-51 Reservoir Update

**Governing Board
October 13, 2016**

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C-51 Reservoir – Palm Beach Aggregates and Local Sponsors



➤ Captures and stores excess surface water from the C-51 West Basin

➤ Proposes delivery of water as Alternative Water Supply

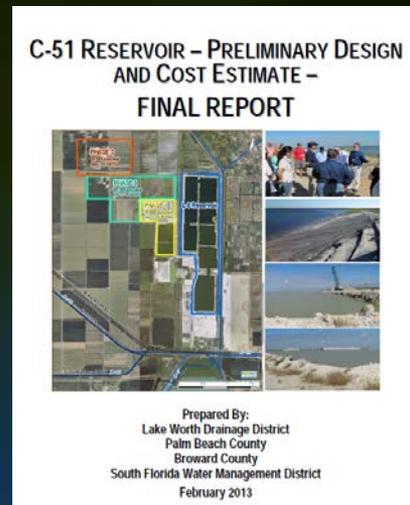
C-51 Reservoir Alternative Water Supply

- Water conveyed through a series of SFWMD, Lake Worth Drainage District, and other integrated canal systems
- No structural improvements necessary to deliver Phase 1 water
- Recharges local wellfields



Project History

- Originally contemplated as part of CERP
- 2006 - Coordination of seven Broward and Palm Beach water utilities and counties
- 2007-2008 - Partners cost-shared in initial preliminary design and cost-benefit analyses with policy and regulatory issues coordinated with SFWMD
- 2009 – 2013 – Regulatory, environmental, geotechnical, conveyance, governance, and financial considerations culminated in the Preliminary Design and Cost Estimate Report



SFWMD/Palm Beach Aggregates 2013 Project MOU Agreement

PBA Responsibilities

- Design, develop, secure permits, financing and construction of Phase I of the C-51 Reservoir
- Solicit and secure sufficient capacity allocation agreements to support construction of Phase I
- Develop and enter into Conveyance System Agreements as necessary with 298 Districts
- Transfer ownership to a not-for-profit corporation upon completion

SFWMD Responsibilities

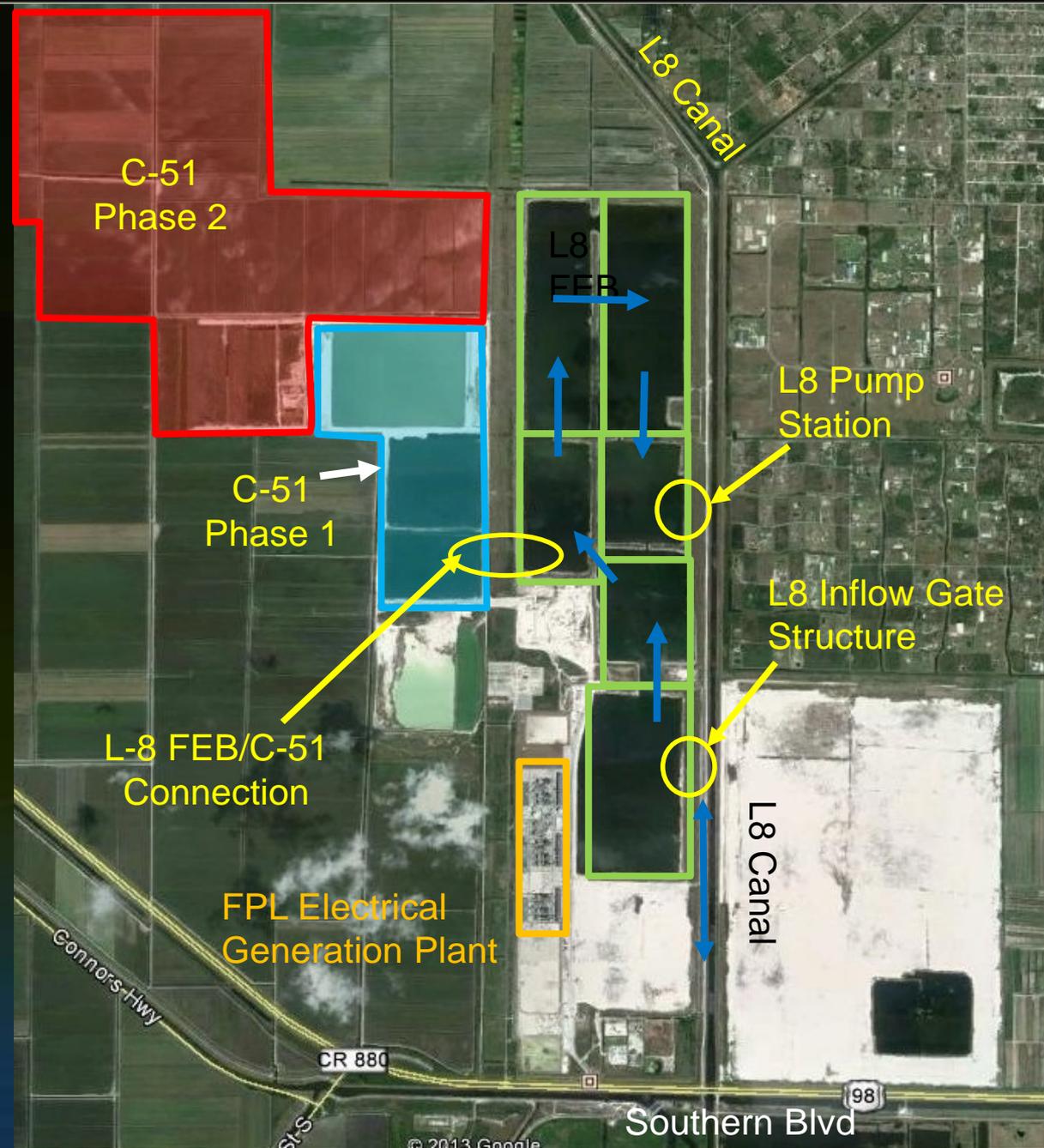
- Provide evaluation of permits, plans, operational analysis and evaluation of the connections between Phase I and the Conveyance Systems to move water into and out of the Reservoir
- Develop O&M Agreement
- Operation and Maintenance of Reservoir after construction is completed with reimbursement cost

Project History

2013 – Present

Governance and Finance Work Group created via resolution and adopted by participants

Broward County	Palm Beach County
Broward WRTF	Palm Beach WRTF
South Broward Drainage Dist.	Lake Worth Drainage District
Hallandale Beach	Boca Raton/Lantana
Coconut Creek	Palm Beach Gardens/Juno Beach
Town of Davie/Cooper City	Jupiter Inlet/Riviera Beach
Fort Lauderdale	Royal Palm Beach/Wellington
South Florida Water Management District	



Phase 1

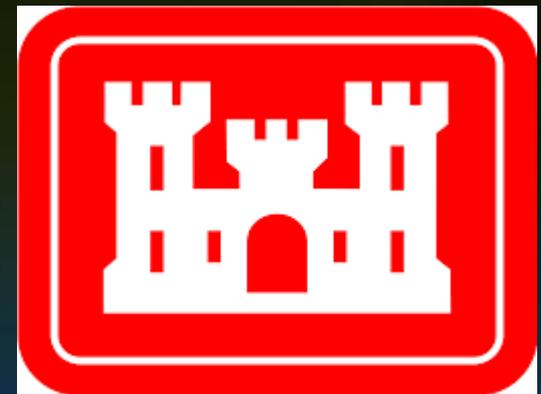
- 14,000 acre-feet of storage
- Approximately 35 million gallons per day (mgd) for water supply
- Majority of excavation complete
- Costs \$161 million

Phase 2

- 46,000 acre-feet storage
- Approximately 120 mgd for water supply
- Seven years to construct
- Cost: \$286 million (excluding excavation)

C-51 Reservoir Progress Update

- Environmental resource and consumptive use permits have been issued to PBA by Florida Department of Environmental Protection
- Under evaluation as a project area component of the U.S. Army Corps of Engineer's Loxahatchee River Watershed Restoration Project



C-51 Reservoir Progress Update

- PBA has entered into conveyance system agreement with Lake Worth Drainage District
- PBA is seeking capacity allocation agreements for Phase I



C-51 Reservoir Site Visit

Proposed Operations and Maintenance Agreement

- SFWMD agrees to operate and maintain the project
- C-51 Reservoir is not owned by SFWMD nor is it considered part of the “Regional System”
- Annual payment for services is made in advance in addition to funding a one-year reserve
- Estimated annual cost for the project is \$1.1 million



C-51 Reservoir Construction

C-51 Participant Costs

➤ Cost Breakdown

- Capital \$4,600,000 per mgd – one time
- O&M \$36,000 per mgd – annually

➤ Alternative Water Supply Cost Comparison

- 30 years at 10 mgd (includes capital costs, debt service, O&M, and treatment)
 - C-51 Reservoir Phase 1 \$214 million
 - New Floridan Reverse Osmosis \$398 million
 - Wastewater Reuse via Aquifer Recharge \$524 million

C-51 Funding Challenges

➤ Option A: Water Utilities will fund 100 percent of storage capacity based on allocations

▪ Current letters of intent

- Broward County 6 mgd
- Sunrise 5 -10 mgd
- Lauderhill 2 mgd
- Dania Beach 2 mgd
- Total: 14-19 mgd
(\$64.4 - \$87.4 million)



C-51 Funding Challenges

- **Option A: Water Utilities will fund 100 percent of storage capacity based on allocations**
 - Additional participants needed:
 - 16 mgd at \$4.6 million capital cost per mgd = \$73.6 million
 - 21 mgd at \$4.6 million capital cost per mgd = \$96.6 million



**C-51 Reservoir to L-8 FEB
Connection Location**

C-51 Funding Challenges

➤ Option B: Water Utility Funding of Storage Capacity Plus a Portion of Alternative Water Supply Funding

- Initial Utilities Fund \$64.4 - \$87.4 million for 14-19 mgd
- Continue Work on Additional Participants
- Funding balance of \$73.6 - \$96.6 million from *a portion of future “alternative water supply” funds allocated by the Legislature, over a 10 year time period*



C-51 Reservoir Construction

C-51 Funding Challenges

➤ Option C: Water Utility Funding of Storage Capacity Plus District Storage Needs

- Initial Utilities Fund \$64.4 - \$87.4 million for 14-19 mgd
- District funds balance of \$73.6 - \$96.6 million for Storage Needs (potential Amendment 1 and/or other available funding sources commensurate with project needs)



C-51 Reservoir construction

Potential Pilot Project Designation

- New program per Senate Bill 552 – the “Water Bill”
- Project Requirements
 - Located within a restricted allocation area as defined in Statute
 - Provides water supply and environmental benefits
 - Reducing damaging discharges to tide; or
 - Part of Minimum Flow Level Prevention and Recovery Strategies
 - Existing Alternative Water Supply Project
 - Identified in Water Supply Plan
 - May provide up to 50% funding assistance
 - Pilot project designation made no later than July 1, 2017



L-8 FEB Site in western Palm Beach County



Discussion