

# *C-51 Reservoir Project*

*Regional Collaboration Creating a Sustainable  
Alternative Water Supply for South Florida*

Joint Palm Beach County Water Resources Task Force and  
Broward County Water Advisory Board Workshop

June 2, 2021

**Ernie Cox**  
*Project Manager*



# Project History

Year	Action
2006	Growing Water Demands coupled with Significant Changes in Regional Water Policy Limiting Utility Groundwater Withdrawals
	Demand Projected to Increase to 40% over the next 20 years – Deficit of over 100 million gallons per day predicted
	Initial Coordination – 7 Broward and Palm Beach Water Utilities – Begin Exploration of C-51 Reservoir as a Regional Alternative Water Supply
2007	Partners Share Costs for Project Feasibility and Technical Analysis including: Utility Water Demands, Water Availability, Conveyance Options, Project Cost Estimates, Economic Analysis
2008	Establishment of Water Resources Task Forces (Palm Beach & Broward)
2009	Initial Findings of Project Feasibility: Adequate Water Available to Offset Demand and it would be a Cost-Competitive Water Source
	Phase II Analysis to include Regulatory and Environmental Considerations, Conveyance Strategies and Options, Governance and Full Cost Accounting
	Phase II Scope for additional analysis Provides the Impetus for Formal Joint Convenings with Palm Beach and Broward Leadership
2010	C-51 Partnership Memorandum of Understanding (MOU)
	Phase II Scope of Work Findings: Updated Water Demand Projections, Process for Water Supply Certification, Analysis of Water Conveyance Options and Hydrologic and Geotechnical Conditions, Cost-Effectives Analysis

# Project History

Year	Action
2011	Lake Worth Drainage District Facilitation SFWMD Modeling Task Force Meetings and Public Discussions
2012	Preliminary Design and Cost Estimate Report Task Force Meetings and Public Discussions
2013	Governance and Finance Work Group Created Via Resolution and Adopted by Counties and Participants (Broward County, Palm Beach County, Broward County Water Resources Task Force, Palm Beach County Water Resources Task Force, South Broward Drainage District, Lake Worth Drainage District, Hallandale Beach, Boca Raton, Lantana, Coconut Creek, Palm Beach Gardens, Juno Beach, Town of Davie, Cooper City, Jupiter Inlet Colony, Riviera Beach, Fort Lauderdale, Royal Palm Beach, Wellington, SFWMD) Task Force Meetings and Public Discussions
2014	Work Group Cost Share – Design, Costing, Governance; Project Permitting Analysis Department of Environmental Protection (DEP) Issues Environmental Resource Permit for C-51 Reservoir

# Project History

Year	Action
2015	<p>Governance and Finance Work Group Final Report and Resolutions                      Recommended: Phase 1 Focus: 14,000 acre-feet of Storage and 35 MGD; Phase 2 Potential in future: 46,000 acre-feet of Storage and 115 MGD</p> <p>DEP issues 50-Year Consumptive Use Permit for C-51 Reservoir</p>
2016	<p>Florida Legislature creates Pilot Project Program for Alternative Water Supply Development in Restricted Allocation Areas                      SB 552 Amending 373.036.F.S.</p> <p>SFWMD Discussion of SB 552 with C-51 Reservoir Presentation to the Governing Board and Pilot Alternative Water Supply Option Survey</p> <p>Coordinated Submittal by Broward County, Palm Beach Aggregates, Lauderdale, Dania Beach and Sunrise</p>
2017	<p>C-51 Reservoir Designated as Pilot Alternative Water Supply project by SFWMD</p> <p>SFWMD and PBA enter into Operations and Maintenance Agreement</p> <p>Florida Legislature adopts Senate Bill 10 including \$30 million Loan for C-51 Reservoir Phase I Construction, Funding for Phase Evaluation, Everglades Restoration</p> <p>Broward County Secures 6 MGD C-51 Alternative Water Supply Allocation</p>

# Project History

Year	Action
2018	Sunrise Secures 5 MGD C-51 Alternative Water Supply Allocation Hallandale Beach Secures 1 MGD C-51 Alternative Water Supply Allocation Dania Beach Secures 1 MGD C-51 Alternative Water Supply Allocation Utility Consumptive Use Permitting
2019	Margate Secures 2 MGD C-51 Alternative Water Supply Allocation Ft. Lauderdale Secures 3 MGD C-51 Alternative Water Supply Allocation Utility Consumptive Use Permitting
2020	Pompano Beach Secures 2 MGD C-51 Alternative Water Supply Allocation Miami-Dade County Secures 15 MGD C-51 Alternative Water Supply Allocation Utility Consumptive Use Permitting
2021	Closing on Construction Financing C-51 Reservoir Groundbreaking – Phase I

# Project Participants



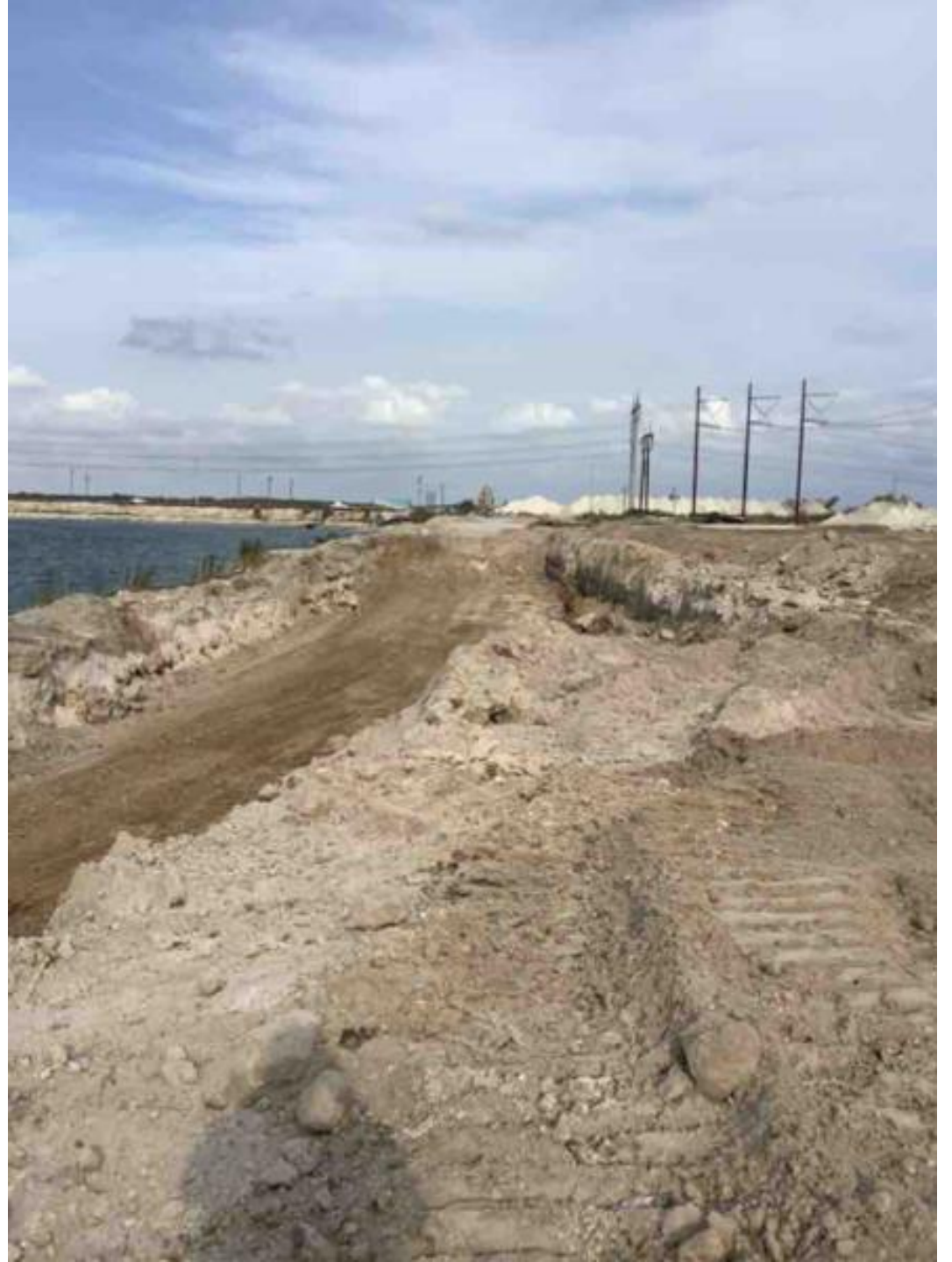
# Key Partners



An underwater photograph showing sunlight filtering through the surface of the water, creating a shimmering, dappled light effect. The water is a deep teal color, and the light rays are visible as bright, vertical streaks. The overall mood is serene and natural.

# *Construction Photos*

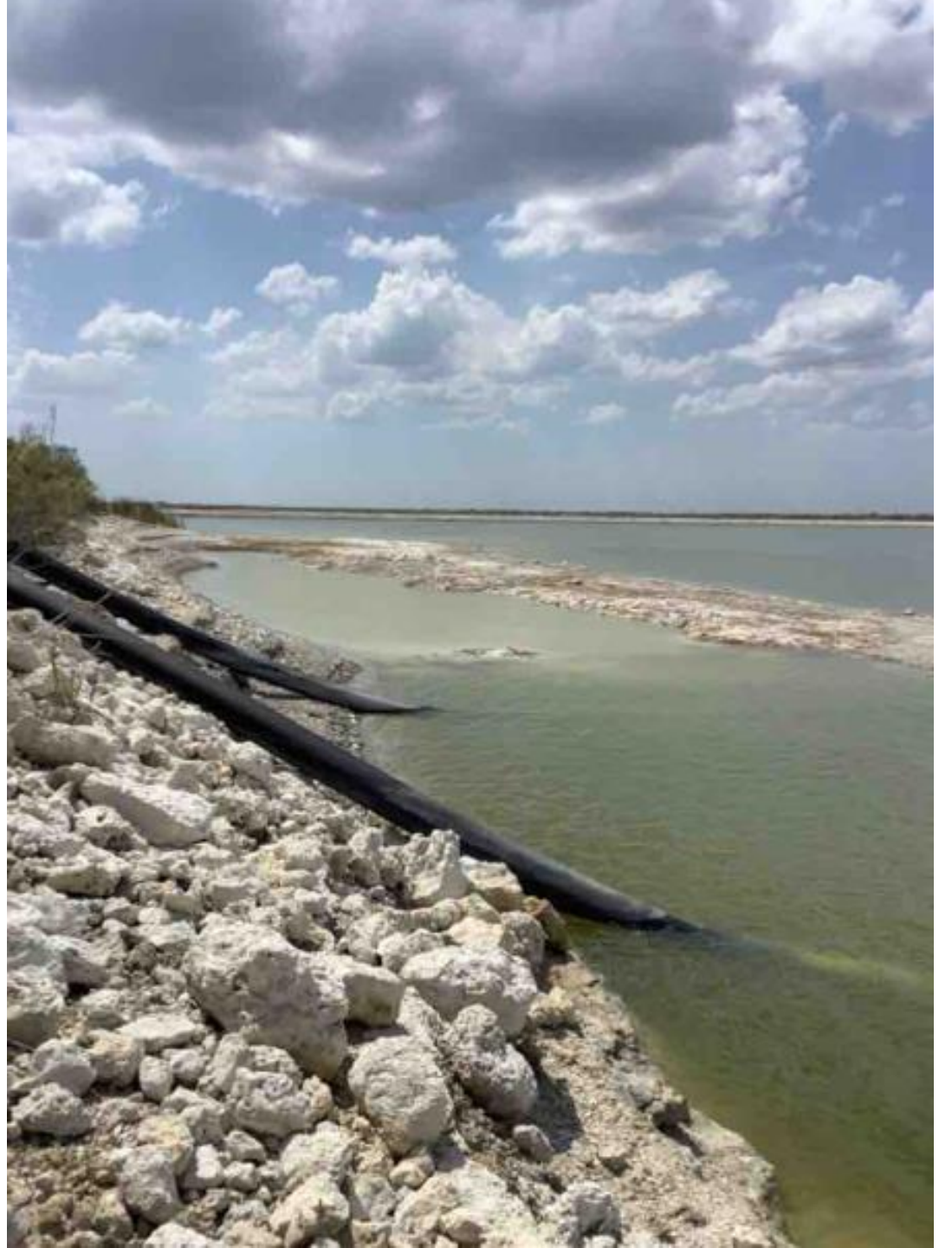






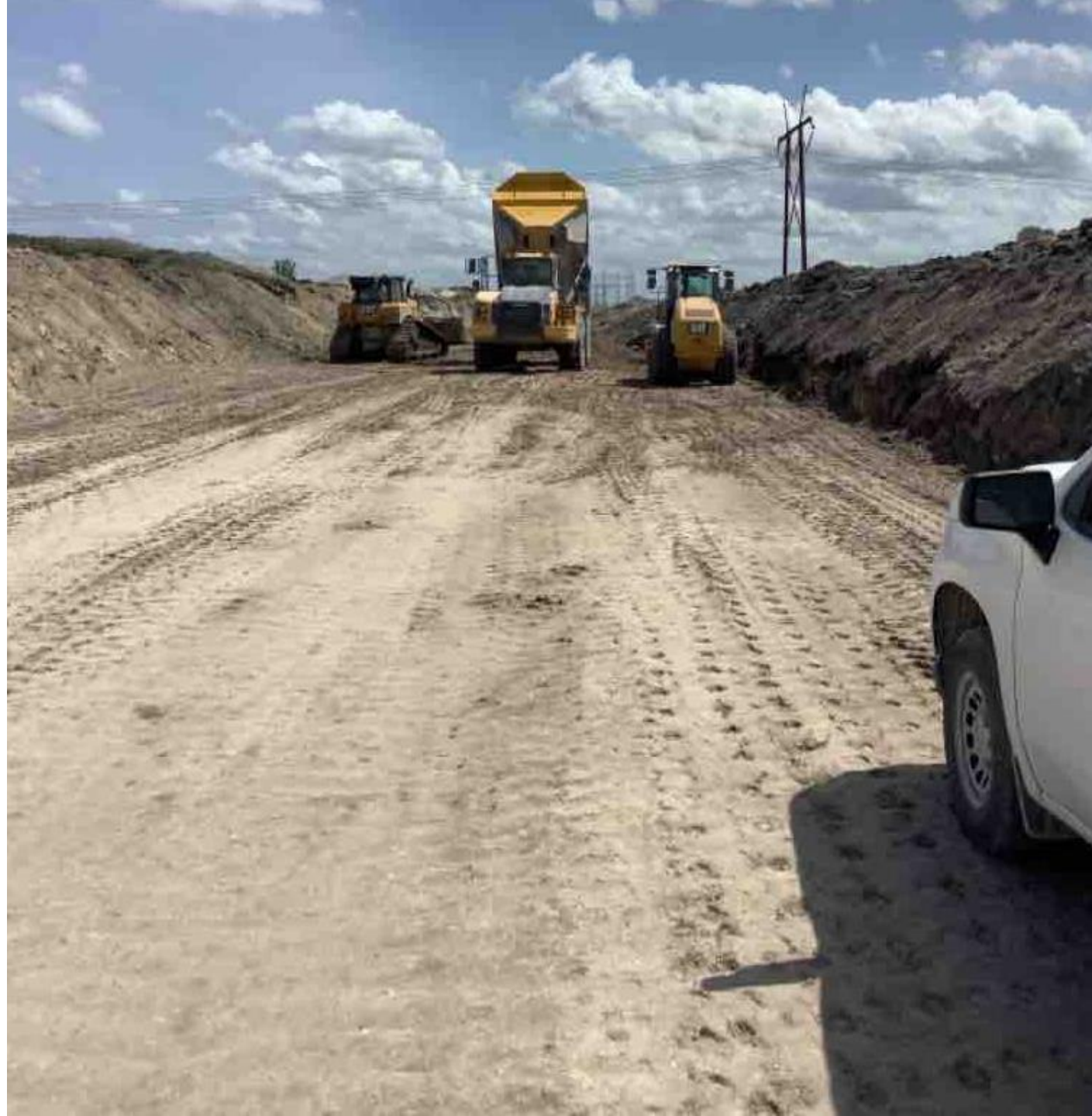












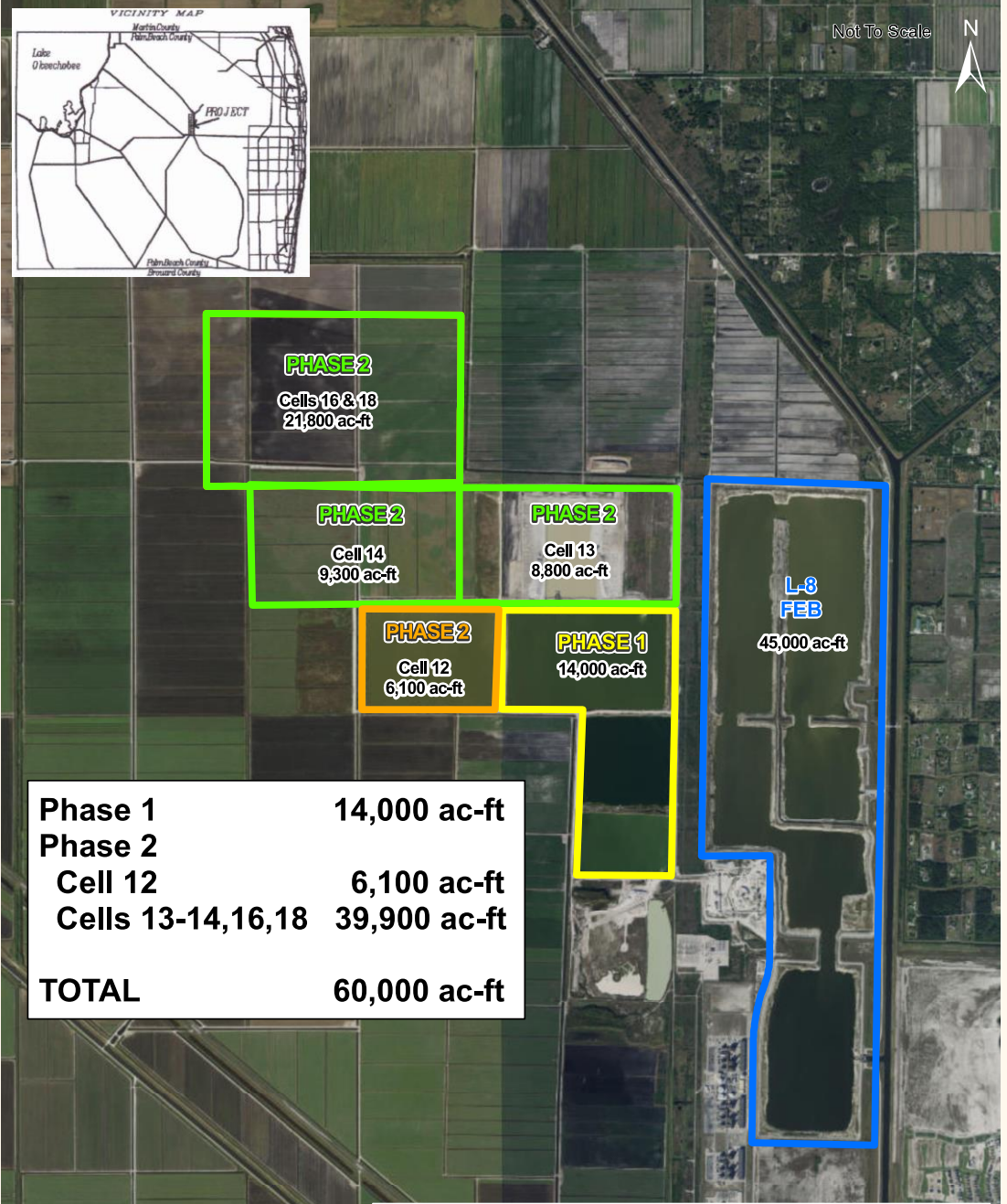
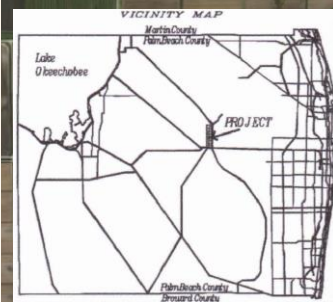






# Phases and Permits

- Phase 1: Environmental Resource Permit (ERP) for Construction & Operation: Water Use Permit (WUP) for Participant WUPs (UNDER CONSTRUCTION NOW)
- Phase 2 Cell 12: ERP for Construction & Operation (C&O Permit)(add 6,100 acre-feet)
- Phase 2 Cells 13 & 14: ERP for Conceptual Approval – to file for C&O Permit this month (add 8,800 acre-feet & 9,300 acre-feet)
- Phase 2 Cells 16 and 18 – future C&O Permit (add 21,800 acre-feet combined)
- North Conveyance Improvements for direct connection to L-8 Canal – later this year



Phase 1	14,000 ac-ft
Phase 2	
Cell 12	6,100 ac-ft
Cells 13-14,16,18	39,900 ac-ft
<b>TOTAL</b>	<b>60,000 ac-ft</b>

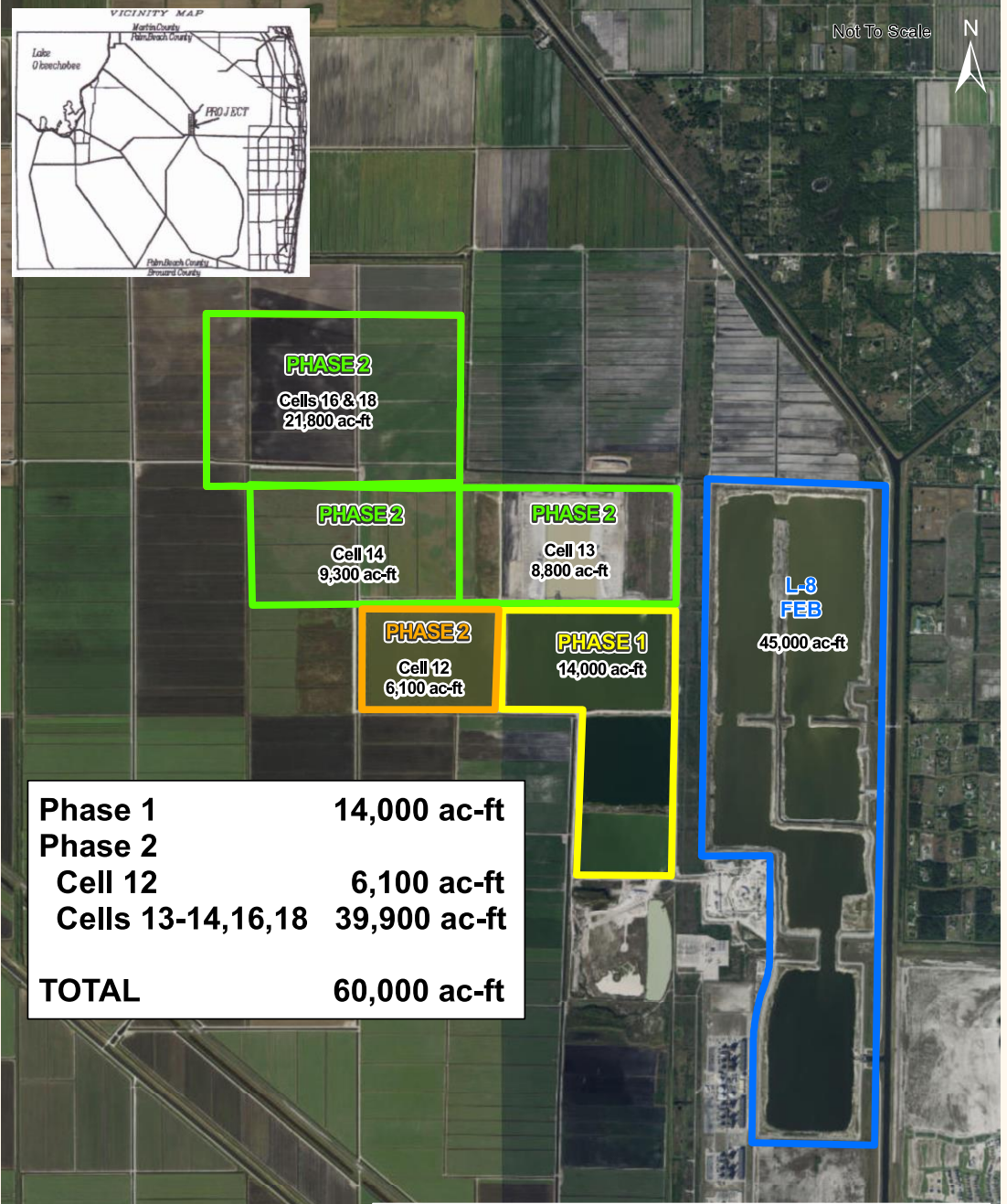
C-51 Reservoir Revised Project Phasing





# Potential Opportunities

- Delivery of additional storage can be done in sub-phases to support incremental improvements and multiple benefits
  - Reduce discharges to Lake Worth Lagoon
  - Support Loxahatchee River Restoration
  - Additional Alternative Water Supply
  - Help to combat saltwater intrusion
  - Assist with flood control
  - Operational flexibility
  - TBD
- Ultimately 105,000 acre-feet of storage at key intersection of water management system
- Partnership efforts and regional collaboration to address other issues and implement solutions



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## Discussion

