PROJECT SHEET

C-43 Reservoir

2025

ABOUT THIS PROJECT:

Market Segment:
Water Holding Structures

Engineer:
Jacobs, Tetra Tech, Black & Veatch

Products Used:
Xypex Admix C-500

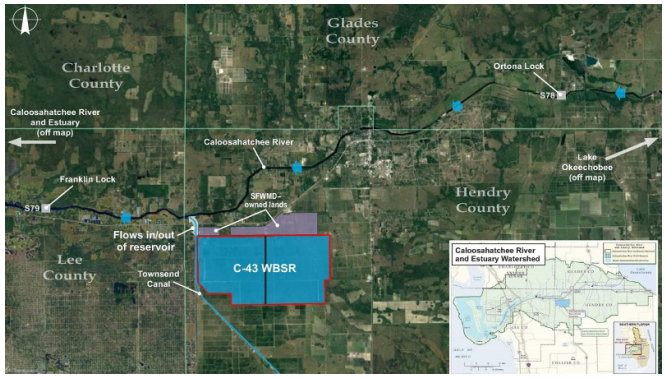
Location:
Hendry County, Florida, USA

Owner:
South Florida Water Management District

The C-43 Reservoir is a large-scale water management project developed to support flood control, water storage, and water quality objectives within the Caloosahatchee River watershed. The project forms part of South Florida's broader water management and resilience initiatives and includes numerous reinforced concrete hydraulic structures designed for long-term service.

The project required concrete structures capable of withstanding aggressive conditions. These conditions include high chloride concentrations, chemically aggressive and acidic groundwater, elevated groundwater tables, sustained hydrostatic pressure, and frequent wet-dry cycling. With those conditions combined with extreme precipitation further increased the risk of permeability, deterioration and reinforcing steel corrosion.

To address these durability challenges, Xypex Admix C-500 crystalline waterproofing admixture was selected as an integral component of the concrete mix design for critical hydraulic and structural elements.



Xypex Admix C-500 was incorporated into concrete during batching and used in approximately 15 reinforced concrete structures, including spillways, bridges, discharge structures, pump stations, and associated hydraulic infrastructure.

Thousands of cubic yards were treated as part of the overall durability strategy.

The crystalline admixture reacts with moisture and unhydrated cementitious materials to form insoluble crystalline structures throughout the concrete matrix. This reaction reduces permeability and limits water ingress, chlorides, and other aggressive ions, providing through section protection that is not dependent on surface-applied systems.

The integral approach minimized long-term maintenance risks and supported the owner's service life expectations for critical water management infrastructure operating under sustained hydrostatic and environmental exposure.