OSMOSYS

PROJECT REFERENCE
OS-PR-KSP

Municipal · King Salman Park, Riyadh, Saudi Arabia

King Salman Park: zero liquid discharge at municipal scale

10,800 m³/day of reject brine concentrated to more than 200,000 mg/L, in an underground plant for the world's largest urban park.

10,800 m³/day	82 %	70 %	50 %
Treatment capacity	Water recovery	Footprint reduction	Energy reduction

CHALLENGE

King Salman Park, a 16 km² development in Riyadh, is designed as the largest urban park in the world. Its treated sewage effluent system generates 10,800 m³/day of reject brine at approximately 36,772 mg/L TDS, which must be treated to irrigation quality with near-zero liquid discharge in an underground facility.

SOLUTION

Osmosys, with Power Line Solutions, is delivering an integrated treatment train for the Wetico & Albawani Joint Venture: pretreatment, single-stage SAMRO concentration to 100,000 mg/L TDS, and MemBrine Concentrator concentration to more than 200,000 mg/L TDS ahead of crystallization.

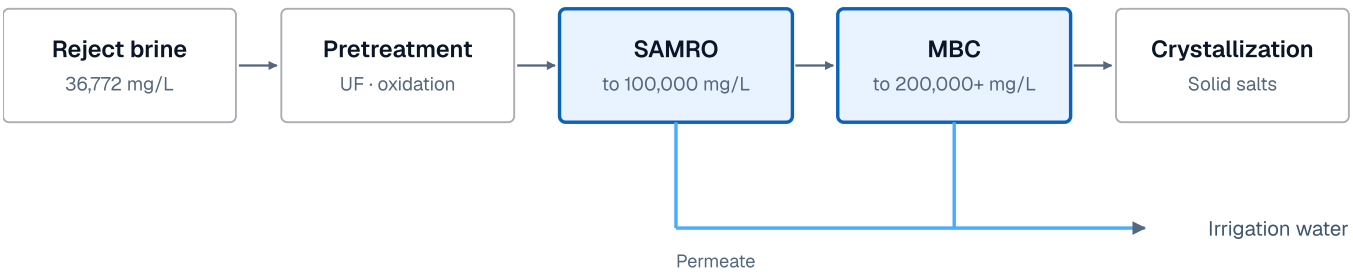
PROJECT DATA

Client	Wetico & Albawani Joint Venture (WBJV)
Feed	Reject brine, 36,772 mg/L TDS
Capacity	10,800 m³/day
Concentrate	> 200,000 mg/L TDS
Technology	SAMRO, MBC
Status	In execution

DESIGN REQUIREMENTS

- Variable feed chemistry: Ca 1,414, Mg 1,211, Cl 15,867 mg/L; BOD 400, COD 800 mg/L
- Irrigation-grade product water
- Near-zero liquid discharge
- Compact plant footprint for underground installation

TREATMENT TRAIN



Values are typical. Performance for each project is established by bench and pilot testing on the customer's water and confirmed in the design basis. Specifications are subject to change without notice. SEBRO, SAMRO, and MemBrine Concentrator are trademarks of Osmosys Technologies.