

Erbil Potable Water Treatment Plant Case Study

CURRENT SITUATION ANALYSIS

To meet Erbil's growing drinking water demand reliably and continuously, the project aimed to treat surface water drawn from the Greater Zab River at a high capacity.

Since raw water turbidity can increase significantly during rainy periods, the plant was designed to operate reliably under changing conditions, based on design parameters of 1,000 NTU turbidity and 100 mg/L suspended solids.



PROJECT INFORMATION



Erbil Potable Water
Treatment Plant



500.000 m³/day



Erbil



Municipal Drinking Water
Infrastructure

TECHNICAL SOLUTION APPROACH

Vatek Environmental Technologies carried out the mechanical manufacturing, equipment supply, instrumentation, and commissioning processes through an integrated engineering approach.

The total capacity of 21,000 m³/hour was distributed between two independent process lines. This configuration provides flexibility in operation and maintenance while also strengthening the plant's continuity.

The conventional process includes raw water intake and cascade aeration, pre-sedimentation, chemical coagulation and flocculation, clarification, rapid sand filtration, disinfection, and treated water pumping.

Two Independent Lines · Automatic Dosing · Online Monitoring · Centralised Control



High Capacity
Treatment



Flexible Dual Line
Operation



Adaptability to Variable
Raw Water Conditions



Online Monitoring



Backwash Water Recycling

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ACHIEVED RESULTS

Commissioned in late 2025, the Erbil Drinking Water Treatment Plant began providing an uninterrupted supply of drinking water to the city's distribution network.

While the pre-sedimentation and clarification units control high turbidity loads, the rapid sand filters and disinfection stage ensure the targeted drinking water quality.

Recycling filter backwash water into the process supports plant efficiency. Automatic measurement, dosing, and centralised control enhance operational stability.



KEY RESULTS



500,000 m³/day

Nominal Treatment Capacity



2

Independent Process Lines



4

Pre-Sedimentation Basins



16

Clariflocculator Units



28

Rapid Sand Filters



≤ 1 NTU

Filter Outlet Monitoring Target

PROCESS FLOW

