



شركة أبوظبي لخدمات الصرف الصحي
Abu Dhabi Sewerage Services Company

SEWAGE TREATMENT PLANT – WADI AL FLAIE

DECENTRAL SEWAGE TREATMENT IN AL AIN AREA

The existing Wadi al Flaie plant was treating twice the flow the original plant was designed for, the need for upgrade was the most urgent here due to expected increased flow in future.

UPGRADE CHALLENGES

Urgent upgrade of treatment capacity by 250%, referenced to original plant size was needed.

This plant had the smallest foot print compared to others and every facility had to be integrated with existing plant facilities as well as the challenges of the existing underground utilities and hard soil affecting excavations.

**UPGRADE
WWTP PLANT
to
250 %**

Installation works included upgrading the existing systems and commissioning equipment partially without disturbing the old treatment process, whole new system had to be commissioned in a phased manner to accomplish treating the whole incoming flow within the upgraded facilities prior to proceeding for refurbishment of existing plant.

UNIQUENESS OF WADI PROCESS

Combined tank with biological gravity flowing treatment was unique to Wadi al Flaie which combined aeration, settling / clarification, RAS recycle, SAS extraction and storage of treated water in single tank called the Biotreator. New chlorine contact tank and TSE tank had to be integrated with existing chlorine contact tank and TSE tank requiring precise hydraulic profiles and site execution. Simultaneous work happened in all three sites saw resources sharing and planning challenges.



Upgrade & Rehabilitation of 3 WWTP Plants in Al Ain	
WWTP Site: Wadi Al Flaie	Upgrade & Rehabilitation to 2090 m ³ /d (enlarged to 249%)
Application	Effect
Inlet Works Lift Station	Tanker Discharge & Site drain
Combined Headwork	Removal of screenings, grit & grease
Biotreator	Biological activated sludge treatment with Settling of sludge and effluent removal
Pressure Media Filters	Filtration of treated water
Chlorine Dosing System & Chlorine Contact Tank	Disinfection of Effluent
Odour Control System	Removing H ₂ S and harmful gases
TSE Storage Tanks and Pump Station	Supplying irrigation network and tanker filling
Lime Dosing and Sludge Drying Beds	pH stabilization & sludge drying
Control Panels / PLC / SCADA	Fully automated control and plant monitoring

