

Sewage Treatment Plant



Client: Adeem Al Wataniyah, Head Quarters Business Park

Project Background: Adeem Al Wataniyah as a property developer, developed HQBP a state of the art Building comprising of 2 towers and a podium. West Tower comprises of 54 Storey, East Tower comprises of 16 storey and podium 8 storey. Total Area consists of 245,000 m². It is entirely inhabited by Commercial entities. HQBP was spending 80 m³ per day for irrigating its lovely landscapes and has been contracting company in disposing sewage water. Thus, As a sophisticated establishment, Adeem Al Wataniyah built a standalone sewage treatment plant (STP) and was built mainly for irrigation, as a grey water for cooling tower make-up water and reduce sewage water disposal expences.

Plant Details: 350 CMD MBR (Membrane Bioreactor) Sewage treatment plant will treat all sewage water from HQBP. STP would consist of the following:

1. 5no Membrane Bioreactor module - 350 m³/day capacity.
2. 1no Equalization Tank (Buffer/Holding Tank) – 107 m³ capacity.
3. 1no Anoxic, 1no Aeration and 1no MBR tanks (Treatment Tanks) – 31.5 m³, 33.6 m³ and 54.6 m³ capacity respectively.
4. 1no Product Tank – 128.8 m³ capacity
5. Sludge Holding Tank – 76.5 m³ capacity
6. Various high-end pumps and blowers necessary for driving and treating sewage water.

The Challenges: Adeem Al Wataniyah required a professional and experienced operation and maintenance company to manage and run such intricate STP facility successfully.

Solution Implemented: UTG put experienced chemical Engineers and operators specialized in STP operations and maintenance. A comprehensive 5-years planned maintenance program was put in place to maintain and operate STP to its highest efficiency while maintaining a government approved treated water quality. As part of the operation and maintenance, UTG contracted a PME certified company for sludge disposal. Since STP was in operation a total of 111,429 m³ of water has been treated.

Solution Benefits: For over 3 years of STP operation recycling the building's sewage water, 94,800 m³ out 111, 429 m³ of treated water was used for irrigation. Adeem has saved an estimated amount of 790,000 SAR worth of clean water tanker for irrigation and 742,860 SAR worth of vacuum tanker in disposing HQBP's sewage water.

Plant Commissioning: UTG's Sewage Treatment Plant for HQBP was commissioned in November 2016 and since then has been providing quality water for irrigation and been treating sewage water successfully.