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KHANSAHEB SYKES

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CASE STUDY

Deep Well Dewatering Supports a 41.2 m Excavation for a Sewerage Lifting Station

CASE STUDY

Groundwater Control for a Deep Sewerage Lifting Station in Al Qusais, Dubai

Khansaheb Sykes is providing deep well dewatering for the construction of a sewerage lifting station in Al Qusais, Dubai, as part of a project connecting new developments to the sewerage system.

The planned excavation level is 41.2 metres below the existing ground level (-30.70 DMD against +10.5 DMD), with secant piles supporting the excavation.

Our engineers designed a bespoke groundwater control system to support the ongoing construction works under challenging ground conditions.

1 CHALLENGE

The ground comprises permeable sand over moderately permeable sandstone, with highly permeable layers of weak, weathered and fractured sandstone.

With a planned excavation depth of 41.2 metres, groundwater levels had to be lowered both inside and outside the secant pile wall to reduce water pressure and minimise seepage.





2 SOLUTION

Khansaheb Sykes engineers designed a bespoke deep well dewatering system comprising:

- 15 x deep wells: 7 inside and 8 outside the secant pile wall
- 15 x **high-capacity multistage electric submersible borehole pumps**, rated up to 5.5 kW
- A dedicated groundwater discharge system

This configuration enables groundwater control on both sides of the secant pile wall.

3 OUTCOME

As of November 2026, the project remains ongoing.

A dry working platform has been maintained throughout the excavation works to date, with no reported site issues.

The system continues to operate as originally designed, without requiring any adjustments since start-up, reinforcing Khansaheb Sykes' specialist expertise in infrastructure dewatering.



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Need help with temporary dewatering or groundwater control?

Khansaheb Sykes delivers rapid, reliable water management solutions across the region. Speak to our team today!

Learn more



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