Water Lines, Intake & Lift Stations for the New Capital

Client
New Urban Communities Authority (NUCA)

Scope of Work
Schematic Design
Detailed Design
Construction Supervision

Location
Cairo, Egypt

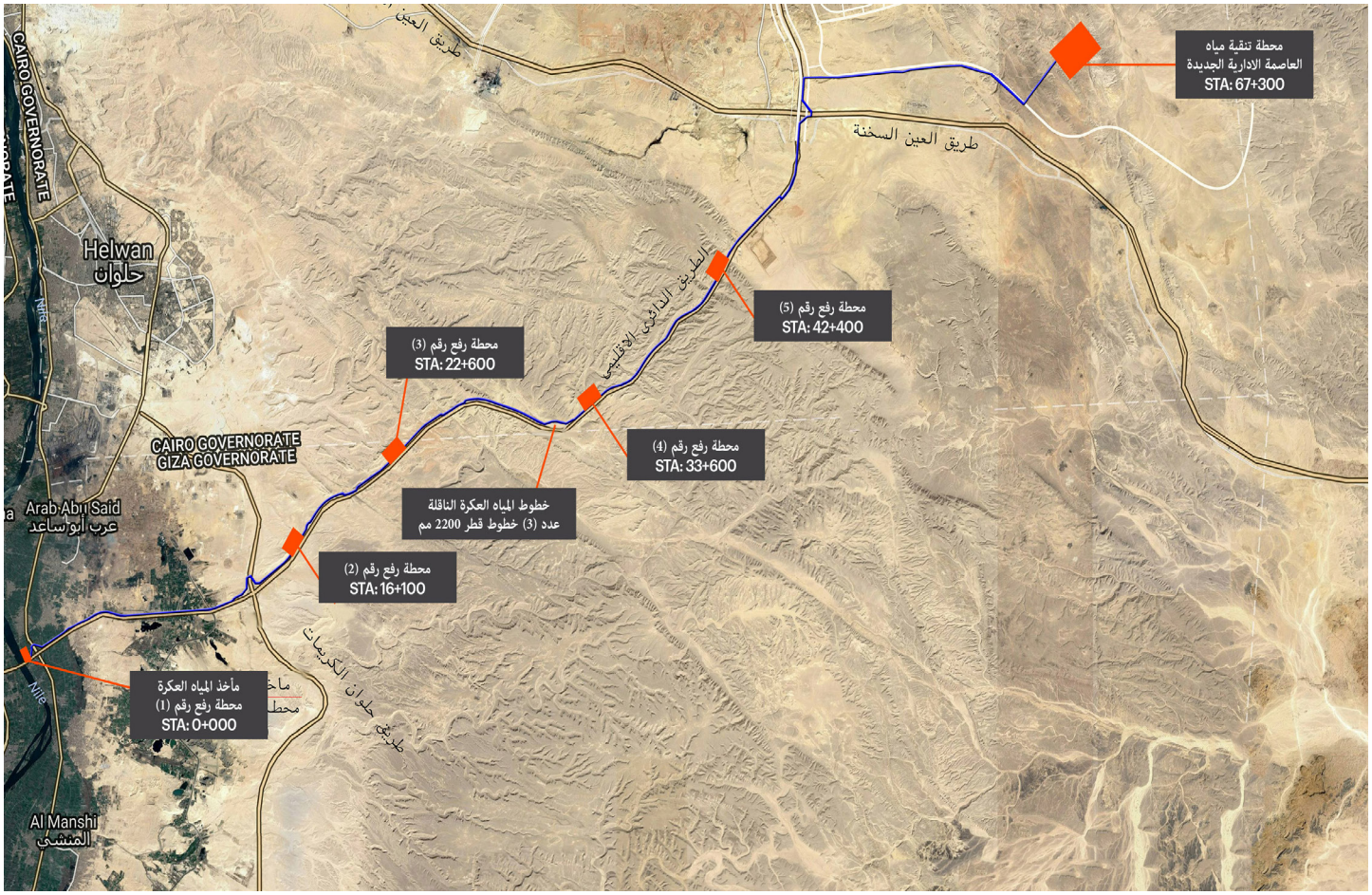
Types of Activities
Civil
Electrical
Instrumentation & Control
Mechanical
Structural

The project aims to transfer raw water (1.5 million m^3/day) from the new water intake at the River Nile bank in South Helwan to the Water Treatment Plant in the New Capital. It comprises the following components:

- Intake: to carry raw water via three pipelines (each 50 km long) from an intake booster pump station that includes pump house, electrical substation, transformer, generator, and service buildings.
- Three Transmission Pipelines: each with a diameter of 2,200 mm and length of 50 km.
- Booster-Pump Station (4 pumps): The station has a capacity of 800,000 m^3/day in Phase 1 and total capacity of 1.5 million m3/day at the end of Phase 2 and comprises underground water tanks (240,000 m^3), pump house, electrical substation, transformer, and a generator; in addition to service buildings (mosque, administration building, store, and workshop).

ECG scope in terms of piping works covers hydraulic calculations, hydraulic profile, study of hydraulic balance of the pipeline, strategic ground tanks, and transmission pipelines & crossing with canals, drains & roads. Additionally, water hammer analysis is administered to protect the pipeline from hammer impact.

ECG scope in terms of booster-pump station works covers hydraulic calculations, plant layout, piping & instrumentation diagram (P&ID), and plant mechanical general arrangements.



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