

# Water Lines, Intake & Lift Stations for the New Capital Water Treatment Plant

## Client

New Urban Communities Authority - NUCA

## Scope of Work

### For Pipes:

Hydraulic calculation, hydraulic profile, study of hydraulic balance of the pipeline with a length of 70 km, strategic ground tanks (total capacity of 240,000 m<sup>3</sup> for each pump station), detailed designs for transmission pipelines & crossing with (canals, drains & roads), technical specifications, and bills of quantities for all units.

### For Boosters Pump Stations:

Hydraulic calculation, plant layout, piping & instrumentation diagram, plant mechanical general arrangement, P&I diagram, mechanical drawings, electrical drawings, SLD, instrumentation drawings, interconnecting pipes, civil and architectural drawings, technical specifications, data sheets, mechanical equipment submittals, inspection procedures, and bills of quantities for all units.

## Location

Cairo, Egypt

## Types of Activities

Civil works  
Electrical  
Instrumentation & Control  
Mechanical  
Structural

The project aims to transfer raw water (1.5 million m<sup>3</sup>/day) from the new water intake at the south Helwan Nile to the location of the WTP in the New Capital.

The project comprises the following Components:

**Intake:** to carry raw water via three pipelines with a length of 70 km per pipeline from an intake booster pump station (capacity of 800,000 m<sup>3</sup>/day) for phase (1) and total volume of 1.5 million m<sup>3</sup>/day at the end of phase(2). The design includes the pump house, pipe intake on bridge, electrical substation, transformer, generator and service buildings.

**Three Transmission Pipelines:** with a diameter of 2,200 mm and a length of 70 km per pipeline, the design includes the profiles and layout for the pipeline along the routing from the intake to the WTP in the New Capital. Water Hammer Analysis: to protect the pipeline from the hammer impact.

**Four-Booster Pump Station:** with capacity of 800,000 m<sup>3</sup>/day for phase (1) and a total capacity of 1.5 million m<sup>3</sup>/day at the end of phase (2), the design includes underground water tanks (240,000 m<sup>3</sup>), pump house, electrical substation, transformer, and a generator, in addition to service buildings, such as a mosque, administration building, and a workshop.

