

New Capital City

Client

New Urban Communities Authorities NUCA,
Egypt

Scope of Work

Schematic Design
Detailed Design
Tender Documents

Location

New Capital, Egypt

Types of Activities

Communications and Security Systems
Electrical
Infrastructure

The project covers the strategic plan and development strategy of the New Admin Capital, incorporating the latest Smart Cities solutions in the infrastructure. ECG's scope of work includes preparing detailed design for the following components:

Combined Potable water and Firefighting networks located under main city streets.

Different source facilities supplying the New Capital as follows:

- Water treatment plant (new), feeding 1,500,000 m³/day on two phases, 800,000 m³ each, to a storage tank located inside the border of the New Capital.
- Water treatment plant (existing) at 10th of Ramadan City, feeding 180,000 m³/day to a 100,000 m³-ground storage tank, located inside the border of the New Capital.
- Water treatment plant (existing) at New Cairo City, feeding 125,000 m³/day to a 80,000 m³-ground storage tank located inside the border of the New Capital.

Irrigation network, to feed the different project areas (Parcels) with required amount of irrigation water and spray heads.

Different irrigation sources of supply as follows:

- New Capital Main Wastewater Treatment Plant (new), supplies 200,000 m³/day via 3 transmission lines.
- Existing wastewater treatment plant, supplies 100,000 m³/day
- New Cairo water treatment plant (existing), supplies 30,000 m³/day by filter backwash to tanks of capacity 42,000 m³.



Combined sewage and storm water network discharging into the New Capital sewage treatment plant through a main gravity pipeline. The design of the network is done on storm water management basis.

Main power network with total loads for phase (1) equal to almost (8.3) GVA, which are supplied by 19 main HV substations, categorized as follows:

- (3) main HV substations (existing or under construction)
- 16 future substations to feed the needed electrical loads through the distributors.

All the and connection points between loads / parcels and substations, and/or distributors are through Aluminum MV cables with a suitable cross section.

Street lighting network for all New Capital's main and lateral roads. Being a city that features Smart tech, there are two types of lighting poles in the New Capital: normal and smart lighting poles.

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Telecom Network of the New Capital - Phase (1) will be served by (7) Network Nodes (N.Ns), which will accommodate the main Transmission, Optical Transport Network (OTN) in addition to N.N equipment.

Infrastructure is designed to cover all outdoor areas of the city with Smart and security services. The design of Telecom and Smart networks is based on utilizing the technology of Air Blown Fiber System (ABF), to realize the following applications: Smart pole service; Facility management systems such as Advertising, Power, Water, Parking, Lighting, and Waste; Environmental Monitoring Stations; and ITS Intelligent Transportation.