

Greater Cairo Waterworks Master Plan

Client

Ministry of Housing and Reconstruction

Scope of Work

Data collection and certification
Topographic survey
Geotechnical investigations
Leak detection
Groundwater studies
Economic and social studies
Water distribution system design (pipelines, pumping stations and reservoirs)
Water treatment plants design
Master plan
Tender documents

Location

Greater Cairo, Egypt

Types of Activities

Civil works

The objective of the project is to develop a Master Plan for the phased development of the Greater Cairo waterworks from 1977 through the year 2000.

The Master Plan covered domestic, industrial and irrigation needs of the served areas up to the year 2000, when the population was expected to grow from the present level of over 8 million to about 16 million inhabitants. Accordingly, the consumption was expected to increase from the present level of 2 millions m³ / day to 8 millions m³/day. The study also included the development of high priority projects to be implemented immediately as remedial measures to improve the present conditions in areas not adequately served by the existing systems. This system consisted of about 2,500 km of mains and branch lines, and several water treatment plants and pumping stations. The area of the project was largely extended since it covered all suburbs from Helwan in the South to Heliopolis and ElAbour in the North as well as the towns of Giza and Shoubra Elkheima.

The Greater Cairo Waterworks Master Plan study included the following:

- Due to the lack of installed dependable flow measuring equipment, accurate measurement of

water flow and pressure at water production facilities and in several areas of the distribution system were carried out by the Consultant using a Cole pitometer. Also,-24 hour flow measurements were made within each distribution network.

- Inspection and evaluation of the condition of existing water meters installed in-house and other connections. Inspection and evaluation of the meter maintenance, repair and calibration. Recommendations to upgrade water metering system were presented.
- A leakage survey program using sonic leak detection equipment in conjunction with metal detectors for locating leaks in pipes, valves & appurtenances. The survey includes about 180 km of mains 400 mm diameter or larger. Measures for reducing leakage were recommended.
- A water wastage survey showed that the water lost without benefit to the consumer after it has been delivered to him because of defective sanitary fixtures represents an appreciable percentage of the daily production.
- Recommendations for a water conservation program were prepared and presented to the Greater Cairo Water Organization.



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