

Assignment Name: Itare Dam – Water Treatment Plant (WTP)		ID#: 7
Country: Kenya Location within Country: Nakuru County	Approx. value of the contract: US\$200-million.	
Name of Client: CMC di Ravenna (Design-Build Contractor).	Duration of assignment (months): 21	
Address:	Total No. of staff-months of the assignment: 85.	
Start date (month/year): January 2017 Completion date (month/year): August 2018	Approx. value of the services provided by your firm under the contract: US\$1.0 million.	
Name of associated Consultants, if any:	No. of professional staff-months provided by associated Consultants:	
<p><u>Narrative description of Project:</u> The Itare Dam Water Supply Project was conceived to improve potable water supply to the Nakuru County located in the Republic of Kenya. The towns to be supplied with potable water include Nakuru, Molo, Elburgon, Njoro and Salгаа. Additional supply points will be provided along the bulk supply pipeline to service the towns of Chepsir, Chepseon, and Kedowa. One of the main components of the Itare Dam Water Supply Project includes a new raw Water Treatment Plant (WTP). The WTP plant shall produce potable water in excess of 98 000 m³/d. The project owner is the Rift Valley Water Services Board (RVWSB) of Kenya.</p>		
<p><u>Description of actual services provided by professional engineering staff within assignment:</u> The Preliminary Process Design Report for the WTP was submitted to review the data gathered and alternatives available to meet the objectives and make firm recommendations with respect to the WTP. The Tender Design was updated and modified to suit the actual physical constraints identified in the Detailed Design investigations. The requirements for the new WTP design requirements were as follows:</p> <ul style="list-style-type: none"> • The capacity of the WTP shall be to treat 105 000 m³/d (average supply per day under normal operating conditions) to the requirements of WHO • The time period to supply the 105 000 m³/d is 24 hours. • No WTP automation is required. The entire system shall be manually controlled by either labour or physical start / stop push buttons where mechanised assistance is provided. • A System Control and Data Acquisition (SCADA) monitoring system is required to display operating conditions. The SCADA system shall be located at the WTP and shall display combined information as sensed and transmitted from the following project components: <ul style="list-style-type: none"> • WTP, • dam, • bulk transfer pipeline and tunnel, and • end reservoirs. 		



Description of Activities provided by RWI

Preliminary and detailed design of the civil earthworks and platform design for the WTP facilities and associated supporting infrastructure on an 11ha site in a remote location, with slopes of between 10% and 17%.

Integrating the WTP elevation and location controls with inlet controls from the Dam (TWL and head-loss on inlet raw water supply) and outlet controls related to end-point supply elevation of the treated water line.

Design integration between process design, structures and internal WTP hydraulics.

Solution development for sludge handling and drying bed design.

Access road design and associated infrastructure (stormwater drainage).

