

TURNKEY PROJECT FOR THE REFURBISHMENT OF EMALAHLENI LOCAL MUNICIPALITY BULK WATER INFRASTRUCTURE PHASE II

Name of Client: Rand Water

Name of Consultant: Tlou Sizatech Joint Venture

Country: South Africa - Mpumalanga

Duration: 8 months

Start Date: 7 September 2012

Completion Date: 30 April 2013

Project Value: R19 906 110.50 (VAT exclusive)

Number of team members: 2 Engineers, 6 Technical Staff

Description of project

The primary objective of Phase 2: Refurbishment of Emalahleni Local Municipality Bulk Water Infrastructure was to improve the performance of the water supply to deliver water of a potable standard to the town and surroundings as well as to determine the extent of water losses (i.e. apparent losses and physical losses) in the bulk water distribution network including implement some of the technical measures to reduce water losses based on the identified intervention measures.

Description of services provided by Tlou Consulting

The Company was intimately involved in the Barberton Water Loss Reduction Programme:

- Data collection and analysis;
- Verification of the water infrastructure network;
- Building of the GIS model of the existing water network;
- Undertaking pressure and flow logging (night flow analysis);
- Setting up the hydraulic model using WaterGEMS;
- Installation of bulk meters at the reservoirs;
- Establishment of the District Meter Areas, including installation of district meters;
- Implementation of an active leakage programme;
- Implementation of consumer education awareness;
- Consumer meter audit and consumer meter replacement programme;
- Undertaking a benefit cost analysis of the water loss control programme.

Knowledge area applied

- Water Conservation and Demand Management
- Infrastructure Asset Management
- Infrastructure Planning, Design and Management
- Financial Analysis
- Project Management
- Research and Development

Benefits to the Client

- A GIS model of the existing water network that can be updated by the Municipality as infrastructure is developed.
- GIS software and training for Municipal officials
- Early warning system for pressure and leak detection
- Implementation of water infrastructure and zoning to enable a comprehensive Water Balance Assessment
- Establishment of a consumer use baseline and water saving targets
- Availability of a detailed water conservation and demand management programme
- Availability of a detailed Water Masterplan

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