



## Project Sheet

### Tshwane Water Loss Project

**LOCATION:** Gauteng Province, South Africa

**PROJECT TITLE:** Tshwane Water Loss Project

**CUSTOMER:** Tshwane Municipality (Formerly known as Pretoria)

Physical Address: City of Tshwane, Capital Towers North, 225 Madiba St. Pretoria, South Africa

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**STATUS:** Ongoing since November 2005 **DURATION TO DATE:** 84 months to date, 30 months to completion

**OBJECTIVE:** To reduce water leakage and levels of wastage in the water distribution system

**CHALLENGE:** Tshwane supplies approximately 320 million m<sup>3</sup> per annum to a population of 2.5 million residents. The municipality appointed WRP to develop and support the implementation of a WDM strategy encompassing a wide range of WDM interventions.

#### DESCRIPTION

The City of Tshwane has been involved with various initiatives over the years to quantify and reduce water losses. Tshwane required assistance on the investigation and implementation of certain specialised Water Demand Management activities.

WRP was appointed by Tshwane for the Water Loss Project which focused on selective initiatives where the most impact could be achieved. These initiatives included:

- Preparation of WDM a Strategy;
- Selective Pressure Management. (Mostly refurbishment of malfunctioning PRV's and fitting of controllers on existing PRV's);
- Meter Audits in industrial and residential areas with subsequent meter installations on un-metered connections and meter replacements for broken meters;
- Providing training on a range of WDM tasks and interventions;
- Investigating network problems as identified by Tshwane. The investigations included fieldwork, logging, analysis and provision of recommendations to rectify the network problems;
- Implementation of a web-based flow and pressure monitoring system (Zednet).

#### RESULTS

##### Benefits to the Municipality - Water, Wastewater and Energy Savings:

- Pressure Management and Leak Repair Initiatives: Water Savings of 1.8 million m<sup>3</sup>/yr. Reduced Water Purchases: R9mil/year.

Total Cost : R6 million (0.75 million USD). Payback Period: 8 months

- Meter Audits in industrial areas: Increase in metered consumption after metering anomalies were corrected for 15 areas where audits were undertaken: 0.6 million kl/yr. Total Cost: R6 million (0.75 million USD). Increase in Revenue: R4.2 million/yr. Payback < 2 years.

##### Other Benefits to the Municipality:

- WRP has provided specialised training to Tshwane on the following topics: PRV maintenance, General Water Demand Management and the preparation of a WDM Strategy.

##### Expanding the Lifespan of the network:

- In Valhalla (suburb) the City of Tshwane started with a pipe replacement project due to the high number and frequency of pipe bursts. WRP investigated the problem and found that the PRV to that area was malfunctioning at night. Repair of the PRV resulted in a drop in the number of pipe bursts and subsequently Tshwane stopped the pipe replacement program in Valhalla.

