Case Study

Water Resource Management

Drakenstein, South Africa



- ✓ Leakage and burst reduction
- ✓ Rapid return in product investment
- ✓ Improved network efficiency
- ✓ Reduction in operating costs
- ✓ Easy to implement





Project Overview

The Drakenstein Municipality, with a total population of 224, 240, faced an annual growth in water demand of 3.5% and non-revenue water of 33%. Approximately 10% of its water was derived from its own sources with the remaining 90% purchased from the City of Cape Town. The high level of non-revenue water provided a major opportunity to decrease the municipality's water bill and at the same time reduce wastage. Interventions were wide-ranging, with the introduction of advanced pressure management throughout the system providing the backbone to a comprehensive water demand management programme. Over a period of approximately 12 years, Drakenstein Municipality lowered the non-revenue water to under 11% and currently ranks amongst the best municipalities in South Africa with regards to water use efficiency.

Key Elements

- Hydraulic modelling of the reticulation network to optimise design and performance
- Metering of all abstraction points
- Tiered block tariff structure supplying essential water at a low cost and penalising heavy users
- Increased public awareness, including promotion of water saving devices
- Refurbishment of network infrastructure, leak detection and repair
- Construction and implementation of a pressure management system

Key Outcomes

- **A Technolog PRV Controller provided a reduction in water demand from 17,800,000m3/year to 11,900,000m3/year, representing major savings on water purchases from the bulk water supplier**
- **Non-revenue water reduced to 11%, resulting in increased revenue for the municipality**
- **The performance indicator for physical leakage (ILI) is one of the lowest (best) in South Africa**
- **Value of water savings calculated to be $85m over 12 years**

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