

Leakage reduction through pressure management in Khayelitsha: Two years down the line

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Abstract

The Khayelitsha Pressure Management Project has been well documented and widely publicised since it was commissioned towards the end of 2001. The project has received numerous national and international awards for technical excellence as well as for environmental awareness and community involvement. The initial water saved by the project was estimated to be in the order of 9 million m³/yr representing approximately 40% of the original 22 million m³/yr supplied to the area.

In many examples of WDM interventions, the initial savings achieved by the project are not always sustainable and the true savings several years later are often significantly lower than those originally achieved. It is for this reason that the project team and the Client responsible for the Khayelitsha pressure management project decided to produce a final paper documenting the results and actual savings two years after the completion of the installation.

The paper presents details of the initial savings suggested by the project team and compares them to the latest savings estimated by the Client. Problems associated with the installation experienced by the Client and consumers are discussed as well as any lessons learned by both the design team and the Client's team. It is through such feedback that future pressure management installations can be designed and commissioned with confidence in areas as large or even larger than Khayelitsha.

Introduction

Khayelitsha is one of the largest townships in South Africa and is located approximately 20 km from Cape Town on the Cape Flats. The area, which was previously a nature reserve, covers approximately 24 km² and now provides housing to approximately 450 000 people. There are approximately 43 000 serviced sites with both internal water supply and water borne sewage while there are a further 27 000 low-cost housing units which are supplied from communal stand-pipes. The area has been expanding continuously since the early 80's when the first settlements were established. The basic water distribution infrastructure is therefore relatively new and is considered to be in generally good condition.

Khayelitsha is supplied with potable water from Blackheath Reservoir situated at an elevation of 110 m through two large water mains supplying the area at an average pressure of approximately 80 m (8 Bar). A 1065 mm main supplies water from the north while a second 450 mm diameter pipe supplies the area from the west as can be seen in Fig. 1.

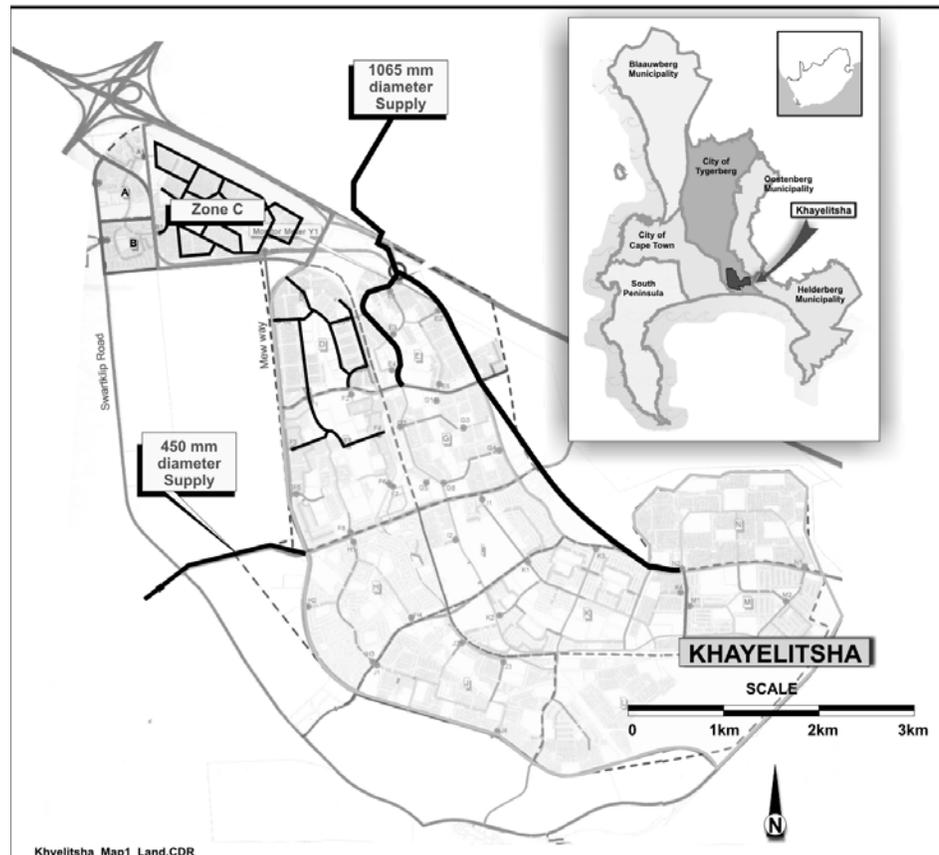


Figure 1
Location map for Khayelitsha

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