

## **Design of Low-Maintenance Sewer Pump Stations with High-Security Measures for Municipal Applications**

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**Abstract :** South African municipalities are dealing with aging and dilapidated infrastructure while faced with challenges in the form of expanding informal settlements, vandalism, theft, and a lack of maintenance which place even more pressure on existing infrastructure. The existing infrastructure was never designed to cater to these challenges, and this becomes evident when evaluating the current state of many municipal sewer pump stations. A need has thus arisen to develop a sewer pump station design concept that will address these challenges and allow for a long-term sustainable solution. This article deals with the design concepts which have been developed for sewer pump stations for an effective reduction in maintenance, improved grit handling, improvement to the operation and maintenance working conditions, and the adoption of high-security design philosophy.

**Keywords :** high security, low maintenance, municipal application, sewer pump station

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