

Fortress Pump Stations

The Platform Door is manufactured and installed by [Concrete Doors and Vaults \(Pty\) Ltd](#). Please direct enquiries to [Dr Nicholas Papenfus](#) at nicholas@damsforafrica.com, or 011 472 1520/8, or 082 416 8958.

A variety of other concrete products such as vaults and lockable lids also offer extreme protection to for example valve chambers, sub-stations, borehole installations, stand alone control panels, etc. These products may be viewed at www.concretedoorsandvaults.com.



Pump stations are increasingly being built like fortresses (see [figs 1 to 4](#)), complete with thick reinforced concrete walls and roofs, and with small ventilation holes in the walls instead of steel louvres (which are vulnerable to attack by angle grinders and oxy-acetylene torches). Consistent with these measures heavy sliding concrete doors ([SA Patent 2008/06587](#)) are now being specified, made from 60MPa concrete, and with extremely robust locking mechanisms. The concrete is completely immune to attack by oxy-acetylene torch, and the steel reinforcing in the doors is too dense (see [fig 5](#)) for chisels to penetrate. The pump station in [fig1](#) was built in 2012 after vandals had stripped the previous structure twice at a cost of several R100 000s. The new structure remains secure to this day.

Such 'fortress' pump houses do not require perimeter fencing. Nor do they require 24 hr security which saves the client at least R15 000 per month – and clearly this accumulates to a very substantial saving over the life of the pump station. Depending on the size of the doorway, the additional expense of installing a sliding concrete door will typically be paid by the first three to four months of not having to pay for security guards. Thereafter the owner, such as for example a municipality, will be able to use the monthly R15000 saving more productively to fund water infrastructure, roads, etc. – and in the process create meaningful jobs and skills. Guards are in any case not always effective - [fig 6](#) shows two security guards at a construction site in Mogale City that were found in the morning tied up in an excavator bucket – meanwhile the thieves had made off with R400 000 of equipment.

[Fig 7 to 10](#) are views inside two typical pump stations equipped with sliding concrete doors. The cost of replacing such mechanical and electrical equipment in the event that it is vandalised is several times the cost of the door! It therefore does not pay to economise by using a cheap door that is easily cut up with an angle grinder or oxy-acetylene torch – and then sold for scrap!

Finally a pump house that is stripped clean will take several months to recommission. In the interim water must be brought to the community by tankers at great expense! To conclude: If vandalism is a concern, then 'fortress' pump stations equipped with sliding concrete doors are a wise investment.



Fig 4

Fig 5

Fig 10

Fig 9

Fig 8

Fig 7

Fig 6

Fig 1

Fig 2

Fig 3