



Brandvlei Correctional Farm: Hot Water Reticulation System

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Summary

The Brandvlei correctional farm currently houses approximately 4500 inmates, administrators and wardens. The Facility is unique in that all of its potable water is sourced directly from the natural, free-flowing hot spring from which it gets its name.

Previously however, an enormous amount of electrical energy was being wasted by the re-heating of cold water for end-use in the Facility's calorifiers and geysers.

In 2004 it was finally proposed that an independent hot water reticulation system be installed feed the 64°C hot spring water directly into all of the existing correctional facilities.

This project is therefore a prime example of how engineering ingenuity can be used to sustainably bring progress, nature and people together.

Keywords: Brandvlei, South Africa, hot water spring, sustainable infrastructure development.

1. Introduction

This paper introduces and discusses the Brandvlei correctional farm's hot water reticulation system.

It provides a brief background to the Brandvlei hot spring, the Brandvlei correctional farm and the general state of correctional facilities in South Africa. A problem statement is then defined, before focussing on the design, construction and operation phases of the project. Finally, conclusions are drawn and discussed.

A site location map is included for information.