

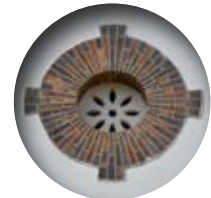


BUILDING TECHNOLOGY

CALEDON PRISON RENOVATION

ENGINEERING PERSPECTIVE

From a practical point of view, civilization developed around the organization of human needs. The most basic of needs are shared across the animal kingdom and include air, food, water, warmth and security. Humankind's first dwellings catered for these needs and yet, the rock art of early shelters suggests that spiritual and aesthetic needs were of equal primal importance. Building Technology must optimise the utilisation of complex systems that are fit for purpose in incarceration and healing, worship and learning, habitation, work and industry. Ultimately, Green Buildings must blend with their environment to meet the imperatives of ecological upkeep and design.



PROFESSIONAL SERVICES

Virtual Consulting Engineers follows a pragmatic approach to the repair, renovation and maintenance of buildings. Our architectural technologists and quantity surveyors are proficient with SANS 10400: Code of Practice for the Application of the National Building Regulations, including Part X: Environmental sustainability, as well as SANS 204: Energy efficiency in buildings, Part XA: Energy usage in buildings. Our multidisciplinary team introduces the following best practice to building projects:

- Structural elements and materials (timber, stone, masonry, concrete, metals, modern synthetics and non-traditional construction materials)
- Roofing, flooring and wall solutions with thermal insulation
- Fresh air, natural light and climate control (heating and cooling)
- Wet services (drinking water, rain water and sanitation)
- Alternative energy and building electrical services
- Flow of people, goods and commercial services
- Wayfinding and signage in public buildings



We have successfully implemented projects under different contract conditions, including that of the Joint Building Contracts Committee (JBCC) the General Conditions of Contract for Construction Works (GCC) as well as the New Engineering Contract (NEC).

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PROJECTS



George, Knysna, Ladismith and Uniondale Prisons (2015)

Department of Public Works / Correctional Services

Virtual Consulting Engineers planned and supervised the renovation of multiple buildings, including prison facilities, administration centres and wardens' residences. The services improved the building conditions and included repairs and upgrades to building structural elements, kitchen equipment, laundries, firefighting, Heating Ventilation and Air Conditioning and heat pumps for hot water supply.



Knysna Paediatric Hospital (2017)

National Department of Health / Western Cape Province

Through National Department of Health funding, the Knysna Hospital was upgraded to include a state-of-the-art Paediatric ward. Material covering floors was replaced with vinyl sheeting, ventilation was improved, ceilings replaced, windows were repaired for improved natural lighting, medical gas and wet services were upgraded to comply with requirements. Emergency Covid-19 wards were erected at Mosselbay and Harry Comay Hospitals.



Goodwood Prison (2019)

Department of Public Works / Correctional Services

In response to the persistent drought in the Western Cape, water saving devices were fitted to showers, taps and toilets, in cells and in all service areas. A standby reservoir was disinfected and recommissioned without any water loss. The work also included general renovation of building elements and services.



De Rust and Pacaltsdorp Clinics (2019)

National Department of Health / Western Cape Province

The National Health Insurance maintenance and upgrade programme, funded by the National Department of Health, resulted in Clinics in Western Cape Province obtaining "Ideal Clinic Platinum Status". The work included improvement of user flows, upgrade of the clinic's waiting area, dispensaries, consultation rooms, including implementing a new fresh air policy.



UCT Upper Campus / Forest Hill (2023)

University of Cape Town

Nolitha in collaboration with VCE was appointed as Management Contractor for Deferred Maintenance Projects at UCT. The Upper Campus hosts heritage residences, where electrical and mechanical services were in bad condition. Forest Hill residences was in poor/fair condition, and required work to return infrastructure to full functionality. Through meticulous planning, all work was completed over the December holidays, ready for occupation at the start of the new academic year.



Erica student residence (2023)

University of Pretoria (UP)

UP was established in 1908 and ranks within the top 2% of universities in the world. The university has seven campuses today, with 10,000 students accommodated in several residences. Erica was designed by architect Brian Sandrock and built in 1968. While the building structure was still in good condition, the whole building was renovated and modernised with VCE appointed as structural and civil engineers.