

Uhambiso Consult (Pty) Inc.

Customer Success Story

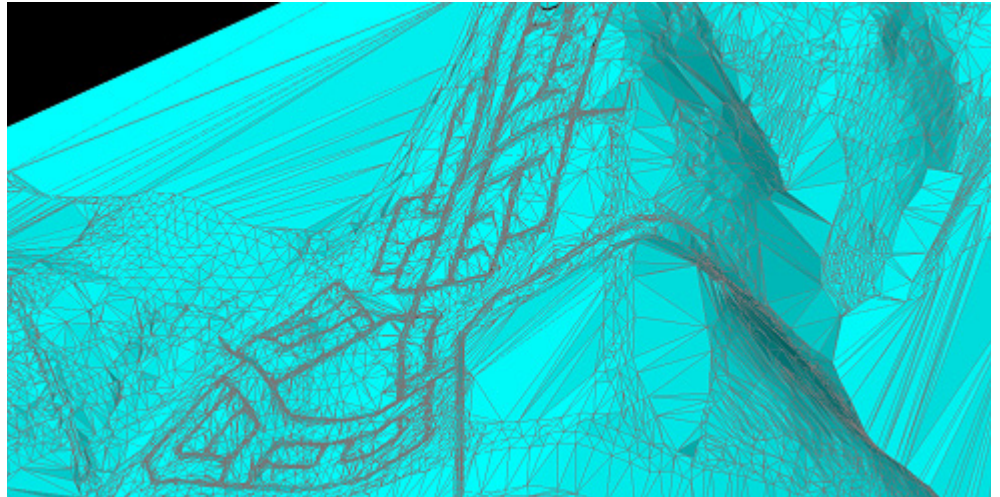
AutoCAD Civil 3D

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—Jacques Gerber
Civil Engineer
Uhambiso Consult (Pty) Inc.

Performance driven.

Uhambiso uses AutoCAD Civil 3D to heighten its reputation for project excellence.



The Firm

Uhambiso Consult (Pty) Ltd was established almost 10 years ago – the result of a merger between Liebenberg & Stander East and South Cape and Uhambiso Development Consulting Services.

Today, with four offices – three in the Eastern Cape and one in the Western Cape – the company is led by senior professionals with more than 30 years' experience, some of whom were involved in iconic African civil engineering projects, such as Mossgas and Bloukrans Bridge.

Focused on providing a full range of infrastructural engineering services to the public sector, Uhambiso also has private sector clients, like the Coega Development Corporation, for which it is currently doing a multi-million Rand industrial building project that is being developed at a cost of R200-m and consists of 16 000m² under roof on two levels.

The Challenge

The Eastern Cape is the hub of government Regional development activities, including a 2010 Budget allocation of R1.2-billion for water and sanitation. Nonetheless, new business development is one of the biggest obstacles facing Uhambiso.

The Solution

The company avoids compiling bids based on price, preferring to allow its reputation for project excellence to help it win new work and has implemented a performance-focused new business strategy, including ISO9001 certification as well as the adoption of AutoCAD Civil 3D software – an investment that has improved quality and productivity, paying handsome performance dividends.

One of the four projects undertaken so far is an infrastructure project, providing roads, stormwater and water reticulation systems and sewer networks for close to 10 000 erven in Khayamandi (Areas A and B), which is located between Port Elizabeth and Uitenhage. The site is a green field area of 874 ha, which is intersected by a number of valleys providing pockets of land where slopes are suitable for the development of low cost housing.



Uhambiso Consult

Autodesk®

It's an extremely valuable design tool, particularly where large earthworks volumes must be managed.

However, the segmented erf layouts and the steep topography over large parts of the site posed a big challenge to the design team, which had to minimise road earthworks and also position pipes at levels and slopes meeting municipal standards, such as flow rates.

With the aid of AutoCAD Civil 3D, Uhambiso experienced a significant improvement in both the quality of its designs as well as its pace of delivery.

"A project like the Khayamnandi project has about 2000 plus drawings for all the roads and services required, production of which is normally a mammoth task."

"AutoCAD Civil 3D made a big difference by providing high quality draughting at high speed. We estimate that we achieved time-savings of at least 40% and are confident that we can improve on this by growing our knowledge of the program," says Civil Engineer, Jacques Gerber.

He says AutoCAD Civil 3D has proved to be extremely valuable as a design tool for large-scale complicated infrastructural projects, particularly where large earthworks volumes need to be managed.

Dynamic modelling and the integration between AutoCAD Civil 3D and AutoCAD contributed to the significant time-savings achieved on the Khayamnandi project. Integrating design and draughting means that whilst designers work on models, drawings are created concurrently.

"We have been able to consolidate two specialist software applications into AutoCAD Civil 3D," says Gerber. "Now, the one software application is used by engineers, designers, draughters and surveyors."

Meanwhile, capability such as data short cuts linking stormwater design networks and road design surfaces speed design and draughting further and dynamic modelling means that a change from suvey/cut or fill of a slope not only updates quantities or volumes, but also updates drawing files.

Gerber says he found analysis capability, such as Waterdrop, particularly useful. The feature provides a quick way for designers to make more informed decisions about the location of low points and other design features that result from slopes on a site.

Local Content

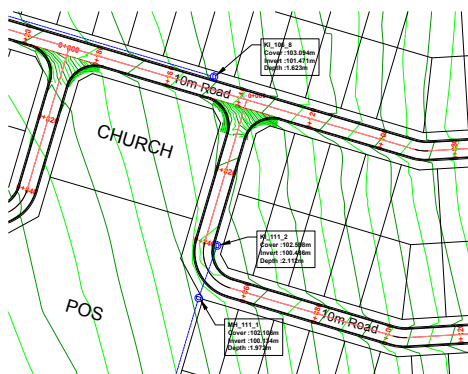
Uhambiso made extensive use of AutoCAD Civil 3D's South African-specific content pack, which streamlined stormwater, sewer and water network analysis with the EPANET and EPASMM analysis programs.

"AutoCAD Civil 3D is very friendly for the South African market with local standards, sizes and principles adopted within the programme."

Also contributing to the success of the software, was the implementation programme established by Autodesk Reseller and mentor, Devotech. It played a key role in providing training, assistance with design features and setting up of styles and standards within AutoCAD Civil 3D.

"The implementation was not an overnight process. It took time and dedication to learn, but the benefits are worth every minute spent getting to know the program."

To learn more visit www.autodesk.co.za/civil3d.



In Khayamnandi we provided roads, stormwater and water reticulation systems and sewer networks for close to 10 000 erven on an 874 hectare green field site. We had to produce about 2 000 plus drawings.

—Jacques Gerber (B Eng)
Civil Engineer
Uhambiso Consult (Pty) Ltd.