Drill-And-Cast Option For Gauteng Piling To Cope With Underground Water

Gauteng Piling provided the foundation auger piles for the latest extension to the Cresta Shopping Centre on the border of Northcliff and Cresta in Johannesburg.

Auger piles are deep foundation elements that are cast-in-place using flights of various diameters. The process is carried out by auger drills that excavate the piling holes drilled into the soil to pre-designed depths. After reaching the required depths, the auger hole is cleaned, and concrete is placed into the hole from a ready mix truck. Reinforcing steel is then lowered into the wet concrete. The technique is globally popular and used to support a wide spectrum of structures, from towering buildings, tanks, towers and bridges.

Martin Eygelaar, Contracts Manager of MBA North member, Gauteng Piling, said the Cresta contract called for 113 auger piles, ranging from 250mm to 1 050mm in diameter, and depths that varied from 6 to 7.5 metres. Gauteng Piling employed a Williams LDH digger with 5.5t-m torque; and a Soilmec RTAH hydraulic drilling rig.

A high level of underground moisture, discovered after the piling operations had penetrated the first layer of rock, posed an unexpected challenge for Gauteng Piling at Cresta. "This meant we had to revert to the 'drill-and-cast' piling method which substantially speeds up routine auger piling operations to cope with the fact that the pile bore cannot be sealed against water ingress. For our 'drill-and-cast' operations, a concrete truck was on standby right next to the drill rig. When the flight had reached the required depth, the operator immediately lifted the extracted soil to the surface, and concrete was then hastily cast - within seconds, in fact - to prevent water ingress and the piles from collapsing," Eygelaar explained.

The main contractor for the Cresta extensions is the NMC Group, a company which has employed Gauteng Piling's foundation services for various other contracts in the past, including the Peglerae Hospital in Rustenburg, and the extensions to the East Rand Mall in Boksburg, which NMC is currently constructing.

Gauteng Piling was established in 1996 by former Master Builders South Africa president, Nico Maas, and is now led by MD Hennie Bester, a former president of Master Builders Association North. The company has handled the foundations for some major building contracts in its 19-year history. Among major recent contracts was the provision of over 500 piles for the construction of southern African's largest single-phase retail centre, Mall of Africa in Midrand. Other recent foundations provided by Gauteng Piling included the piling for a new City Lodge Hotel in Newtown, as well as for extensions to the Market Theatre complex also in Newtown, the large-scaled Value Logistics warehouse in Kempton Park, the Fire & Ice Hotel in Pretoria, The Grove Shopping Centre in Pretoria, and the Bon Accord Police Station, also in Pretoria. The company also handled the piling requirements for a new FAW auto dealership in Croydon in Ekurhuleni, as well as the I'langa Mall in Mbombela (Nelspruit), to name just a few recent projects.

The piling company also provided foundations for previous extensions to the Cresta shopping complex.
Ends
Caption:
Gauteng Piling pictured in action providing the foundations for extensions to the Cresta Shopping Centre.
ends
Issued for Gauteng Piling, Fourways/Further info: Hennie Bester, tel 082 651 8184 / www.gautengpiling.co.za