

The challenges of major STRUCTURAL ALTERATIONS



Leading Gauteng building contractors, J.C. van der Linde & Venter Projects, have completed a R21-million contract for extensive refurbishment – involving ‘massive structural alterations’ – to the Mercedes-Benz AMG Driving Academy at the Zwartkops Race Track, near Pretoria.

in all, over 1 200 cubic metres of soil had to be backfilled after the foundations were completed. The excavations and provision of new foundations took about two months to complete.

"Another challenge we had to cope with was restricted working space: the fence of the race track is only a few metres from the Driving Academy building," says Joubert

As part of the refurbishment contract, J.C. van der Linde & Venter Projects had to replaster all the walls that were not demolished, and provide additional new walls, floors, and ceilings, as well as undertake the tiling of the walls. New lifts and lift shafts had to be provided, and – because noisy, high-speed driving regularly takes place on the adjacent track – double glazing had to be installed to improve interior acoustics and audibility, particularly for the safe driving lectures regularly provided within the premises. ➔

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Thomas Joubert, contracts director of J.C. van der Linde & Venter Projects, says the challenging contract called for the demolition of about 40% of an existing upmarket double-storey building overlooking the Zwartkops Race Track, from where the AMG Driving Academy is offered, and other major Mercedes-Benz corporate functions are staged.

"The refurbishment contract awarded to J.C. van der Linde & Venter Projects called for the demolition of the western part of the building, to be replaced by an ultra-modern double-storey structure overlooking the race track. Luxury balconies and a mini-pavillion adjacent to the track also had to be provided," Joubert states.

"The new design included large volumes of open spaces inside the premises so the existing structure had to be strengthened through the installation of steel plates totaling 385 metres in length, and 100 mm by 12 mm in dimension.

In addition, 1 627 chemical steel anchors and several structural steel I-beams, up to 457 mm in depth, were employed to carry the weight. For additional support – and to maximise the interior open spaces – 15 relatively thin steel columns only 10 mm thick with base plates 30 mm thick, were installed instead of conventional bulkier columns."

Total revision

Joubert says a total revision of the refurbishment of the new section of the building followed the appointment of new structural engineers when the project was already underway who felt that the original plans did not provide sufficient support for the upper

levels of the structure. "The new specifications received at that time inevitably posed major time and labour challenges for us as building contractors."

The new plans also called for the redesigning of the foundations for the new section of the building and its heavy roof. Massive excavations – in formidable, exceptionally clay soil – had to be undertaken and,





ABOVE: The Mercedes-Benz AMG Driving Academy prior to refurbishment.

RIGHT: J.C. van der Linde & Venter Projects' demolition of the section to be refurbished; and the structure prepared for rebuilding.



BELOW: The completed refurbished building pictured from the visitors' parking area, and also from the Zwartkops Race Track.



The professional team

- Mercedes-Benz SA project manager: Phil Longbottom
- Architects and principal agents: ARCA Architects and Designers (Faan Nel and Yolandi Smit)
- Quantity surveyor: Taljaard Meyer & Storm (Fred Khors)
- Structural engineer: Delta Built Environment Consultants (Schalk Neethling)
- Electrical engineer: Delta Built Environment Consultants (Malcolm Grift)
- Civil engineer: Delta Built Environment Consultants (Stephan le Roux)
- Mechanical engineer: Delta Built Environment Consultants (Ricardo da Silva)



The impressive new Mercedes-Benz facility is modelled on the motor company's AMG High Performance premises in Affalterbach, Baden-Wurtemberg, in Germany. AMG models are the highest-performing class within the Mercedes-Benz range and hundreds of Gauteng Mercedes owners regularly use the Zwartkops Race Track to fully experience their cars' capabilities.

The completed project.

Work on the contract started in May last year and was scheduled for completion in October 2014 but the building contract's period was extended to March this year to cope with the new structural changes specified by the new consultants.

"In fact, the refurbishment project was so extensive that at times I felt that total demolition and rebuilding might have been a better option – but that's just a personal opinion," Joubert adds.

Faan Nel, of Arca Architects & Designers, comments: "The brief called for a building that would evoke and build passion for the Mercedes-Benz AMG brand, and our design set out to create a memorable and extraordinary experience for all visitors. J.C. van der Linde & Venter Projects' passion, commitment and attention to detail were invaluable to the highly successful end-result."

Pretoria-based J.C. van der Linde & Venter Projects is a member of the Master Builders Association North and company director, Charl Venter, is currently president of MBA North.

The J.C. van der Linde & Venter Projects team that assisted Thomas Joubert on the provision of the new Zwartkops facilities were Johann Walters (contracts manager) and Gerrie Mostert and Dirk Bakker (site foremen).



Interior of the refurbished section of the building, showing one of the 15 thin steel columns used to support the structure; entertainment area leading to the balcony overlooking the race track; and covered pavillion for viewing action on the track.

