

115 West Street: "most challenging contract ever"

"The most challenging contract we have ever handled," is how José Correia, director of Tiber Bonvec Construction, describes the new Sandton iconic building, 115 West Street, which Tiber and WBHO have now completed in a R550 million joint venture.

Both companies are long-standing and eminent members of Master Builders Association North (formerly Gauteng Master Builders Association). The striking seven-storey building, located in Africa's most affluent economic node directly opposite the Sandton Gautrain station, is the new head office of financial services provider, Alexander Forbes.

Correia said Tiber Bonvec had decided, particularly in view of the severely challenging 18-month period allowed for the construction of this complex structure, that a JV would be essential. "WBHO is vastly experienced in joint ventures, and has a corporate culture and management style that we respect, so the 50/50 JV agreed upon seemed the sensible solution. It was decided that Tiber would handle the building operations and WBHO, the commercial aspects of the contract," he explained.

The 37 000 m² office block boasts ultra-"green" design features from Paragon Architects and accommodates most of Alexander Forbes' 2 200 Gauteng staff. Despite the massive construction challenges, the WBHO-Tiber JV managed to complete the bulk of the contract in September 2012.



115 West Street's sharply curved spiral glass-walled steel staircase features an exceptionally tight internal glass radius



Twenty 9 metre high, sloping, tapering concrete columns – weighing 16 tons each – had to be secured in place for two weeks before the concrete slab on top could be cast and the formwork released. Six of the columns have a side protruding bridge support column

For the contracting team, it was a project never to be forgotten. Correia says there were, at peak times, up to 1 600 people on site, including 30 of the JV management team. Apart from the challenging time restraint imposed by Alexander Forbes requiring to take occupation by October 2012, some of the other major obstacles that had to be overcome included:

- unforeseen strike action by metal workers which brought steel deliveries to a halt for almost a month;
- deployment of a massive 650 ton crane operating from Rivonia Road and Katherine Street for the north and south atriums, respectively – for the placement of the structural steel atrium roof;
- the installation of the atrium's M1 resin-based cones, weighing a staggering 1,2 tons each, employed as skylight feature in the design of the atrium. The cones, supplied segmentally by Dudley & Sons, had to be assembled on site on a bird cage scaffold platform before they were jacked into place and attached to the steel structure;
- the special technique and formwork devised in consultation with PERI for the construction of the S-shaped scallop concrete walls which called for around the clock application to achieve the accurate symmetries and finishes required;
- the special texture required on some of the concrete façades which called for a timber plank finish; and
- self-compacting concrete from AfriSam was used for all the vertical walls. As SCC tends to put high pressure on the formwork at window box-outs, PERI had to design and produce special high tolerance tie rods to strengthen the structure.

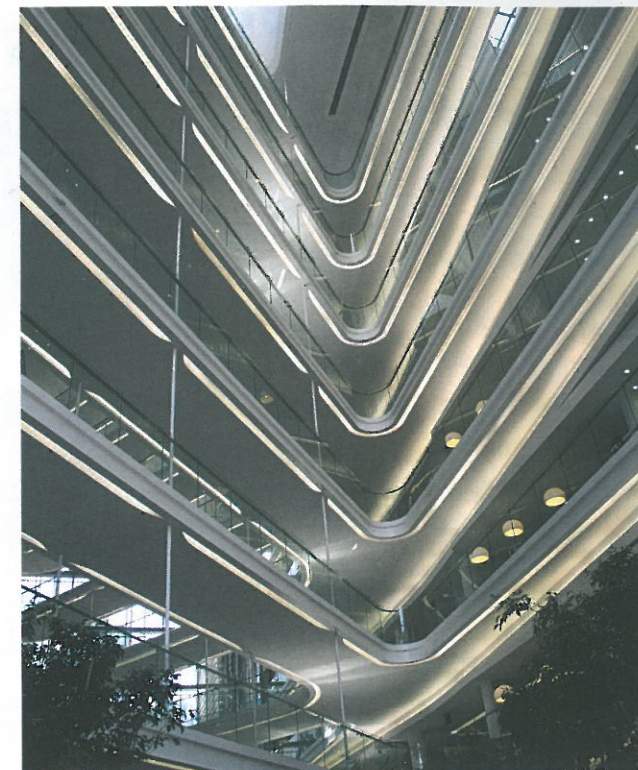
Correia says the building's imposing curved glass façades called for months of planning of the concept and final design by the professional and installation teams, which included Geustyn & Horak for the unitised glazed façades, and L&D Façades for conventional glazing. "The façades feature 8 metre high retractable fabric blinds, controlled by sun and wind sensors, to provide comfortable interior working temperatures," Correia explained.

Other construction challenges include:

- The intricate installation of 20 nine metre high, sloping, tapering concrete columns (weighing 16 tons each) which had to be secured in place for two weeks before the concrete slab on top could be cast and the formwork released. Six of the columns have a side protruding bridge support column;
- The simultaneous installation of link bridges by Nancy Engineering in both atriums required temporary support until the atrium roof structure was completed. "The bridges are supported from the roof structure by steel rods, providing a column-free space below the bridges. They were supported during construction on temporary columns, and jacks were installed to monitor any movement in the steel structure. After the temporary steel structure support was removed, the jacks were decompressed, leaving the bridges 'hanging' in their permanent state from the roof steel structure," Correia explained.

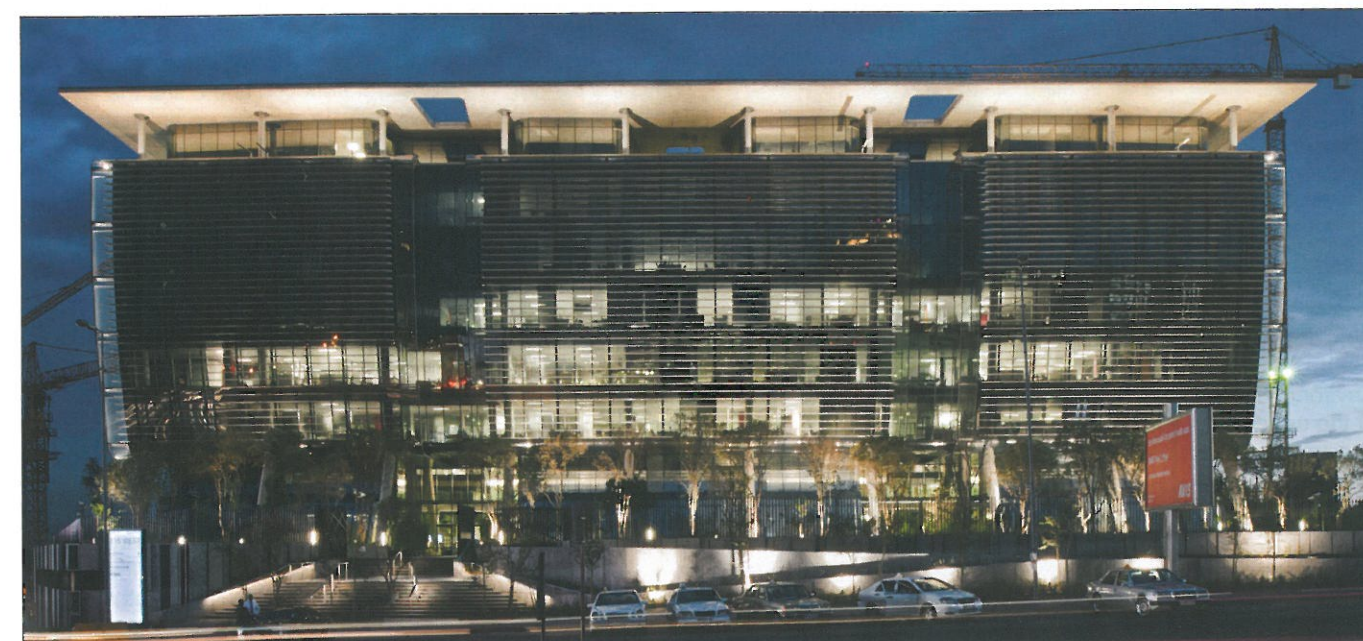
The building conforms to high environmental standards and is accredited with a GBCSA four star "Green Star" rating. Included in its design are plant-filled outdoor areas, natural light, energy-efficient lighting, high speed lifts, and modern auditoriums. Staff benefits include an in-house gym, coffee shop, health spa, convenience centre, and large canteen.

"Perhaps the most gratifying aspect for the two members of the JV was the tremendous relationship and the exceptional teamwork it produced. Tiber Bonvec and WBHO proved a great combination. We are also very proud of the safety achievements on the site which have won top Master Builders South Africa awards on both



The building's impressive north atrium is a showcase of the application of natural illumination

regional and national levels. This is a significant achievement with so many people on site – all working against the clock," Correia added. ■



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