

Cape Building division constructs yet another **Woolworths distribution centre**

Source: Chao Song, Stefanutti Stocks Building Western Cape site agent

Stefanutti Stocks Building Western Cape completed the Woolworths Communications Park Distribution Centre in Montague Gardens, Cape Town on 7 September 2017.

The scope of work on the distribution centre entailed the construction of:

- 32 000m² warehouse (the size of 4.5 soccer fields) with a 3 100m² cold room. This included:
 - 131 tilt up columns,
 - 12.2-metre high cold room ceiling, and
 - 26 dock levellers, eight dummy docks and one scissor lift.
- Two-storey, concrete and brick wall structure main office building with toilet facilities including:
 - Steel structure roof,
 - Main sub-station, and
 - Concrete water tank and pump room.
- 33 330m² concrete hardstand (the size of 4.7 soccer fields), including:
 - 8 500 HDG diamond dowels.
- One-storey entrance building, with:
 - Timber structure roof,
 - Security rooms, and
 - Equipment room and lockers.
- One-storey dispatch office, with:
 - Steel structure roof
- Gate house.
- Concrete water tank.
- Staff parking.
- Three substations.



In order to work efficiently and effectively, Stefanutti Stocks Building Western Cape divided the entire site into three teams that traded as three separate projects. Each team, namely the Warehouse Team, Ancillary Building Team and the External & Hardstand Concrete Team, prepared its own short-term programme and was responsible for the complete management of the respective area. "The process sounds complex, but it actually made a large project much more manageable, with each team leader taking ownership of their own project (Section and Area) and receiving information only pertaining to their section," explains Stefanutti Stocks Building Western Cape site agent Chao Song.

All section supervisors/managers, including quantity surveyors and safety officers, would attend morning meetings to discuss health and safety, daily tasks, challenges and resources, as well as to share information and address any queries. All general foremen attended weekly sub-contractor meetings to plan and discuss sub-contractors' progress and work.

There were a number of unusual aspects on the project, including the measures implemented to minimise potential disruptions. These included the design of an acoustic wall to block the noise on the site boundaries as well as only casting the surface bed during the night, to avoid traffic and ensure a continuous concrete supply. One of the biggest challenges was casting the 32 000m² of concrete to the internal warehouse surface bed floor, which was done over sixteen days during a night shift," says contracts manager Winslow Hare. "We invited the south-side neighbors to site, where I explained the casting process and potential noise to them, and they were very understanding and pleased to have been consulted."

The surface bed was cast using a special Cosinus Slide Joint - a method designed for big area concrete panels and implemented for only the second time in South Africa.

The concrete mix design needed to be tested (compression, shrinkage and flexure) and approved for the hardstand, Xypex and surface bed concrete, by the engineer.

"Further unusual aspects included the wind load design to the cold room panel layout and its fixing method, as well as the roof sheets fixing method, with the roofing material supplier (SAFINTRA) conducting monthly inspections of the roof sheeting," says Song. "We also had the additional challenge of a serious water shortage in Cape Town, which necessitated changes to the engineer's design, and has seen us collecting 75% of the total hard stand surface water to the water pond for irrigation purposes."

The tight programme also required high production rates. This included having to cast a daily minimum of four, in excess of 15-metre high tilt-up concrete columns with off-shutter concrete finishes from Monday to Saturday. The columns were cast on the ground and tilted up using a 220 ton mobile crane. "This

tilt-up method has been successfully used at several of our warehouse projects in the Western Cape and saves a great deal of time," says Song.

The tight programme extended to the external hardstand concrete. "We only received the accelerated shrinkage result on the concrete beam from the University of Cape Town lab 28 days after the mix design was completed," says Song. The engineer would only allow the hardstand concrete to be cast after they had checked and approved the shrinkage result. Coupled with sixteen days of rain, and the casting team found themselves short of almost a month and a half of their original hardstand concrete programme. "Our hardstand concrete team doubled its casting team, as well as increasing the daily cast area, and managed to finish the hardstand concrete on time!"

All three internally allocated projects of the contract were completed on time, within budget, and with a zero Lost Time Injury Frequency Rate (LTIFR), achieving 562 915 injury free man hours after practical completion.



Westgate Social Housing development receives **Govan Mbeki Award**

In September 2017 the Pietermaritzburg-based Westgate Alice Ridge housing development, constructed by Stefanutti Stocks for Capital City Housing, received the prestigious Govan Mbeki Award for Best Social Housing Project. The social housing project covers an area of 40 000m², comprises of 952 residential flats, and has been constructed to provide the very low income groups that are residing in the Pietermaritzburg area with access to rental units.