ASH RESOURCES

MATERIALS FOR TODAY AND THE FUTURE

The new campus for the Department of Trade and Industries, presently under construction in Sunnyside, Pretoria, is a fascinating project from a number of angles. Being developed by a partnership between the city of Tshwane and the private sector, It is one of the first and the largest private/public partnership projects in South Africa. The formula for the partnership will also be a strong spur for all of Nelson Mandela Drive Development Initiatives, as well as being an important catalyst for Tshwane's inner city renewal programmes.

The fundamental project aims to bring the presently dispersed office of the Department of Trade and Industries (DTI) together on one easily accessible campus. It reflects the Department's mission to be a more outward focused and customer oriented organization .The attractive campus with its truly African theme will showcase products made in the country and be a drawcard that not only brings business visitors to Tshwane,but also tourists and the South African public.

While catalyzing the first public private partnership (PPP) in the country where the private sector is funding a public sector building, the DTI also ensures that the project and procurement processes complied with their Black Economic Empowerment guidelines .Standard Corporate & Merchant Bank is the concession financier and the concession holder is Rain prop special Purpose Vehicle Entity (RSPV). RSPV was formulated to carry out the design and construction of the project in addition to having the twenty-five year contract to manage the facilities. RSPV's sub-contractor Rain prop Design & Construct Company, awarded the R3.50Million construction, contract to the Rain prop Construction Joint Venture (JV). The JV is formed from Rainbow Construction, WBHO Construction and Zwelinzima Construction, an Empowerment company based in KwaZulu-Natal. Initially created and trained by WBHO, Rainbow Construction is now a respected stand-alone construction company that has worked successfully with WBHO on wide range of projects. The value of the DTI Campus Development project includes managing some of the direct sub-contractors where the JV has a time control risk but does not involve taking financial responsibility for the sub-contractors.

"This has turned out to be an extremely fast project," comments WBHO director, Peter Ransome, who is the project's site Director. "We had partial access to the site on 10 February 2003 and full access on 17 February. We took over from Grinaker LTA Concession who had done the bulk excavation and the anchor retaining walls. The complex will consist of seven 3-storey buildings with a total footprint of 23 000m square. Office floor area will be approximately 50 000m square on top of a total basement area of about 40 000m square .The first two building (A+B) have to be completed, furnished and in a functional state by the 23 April 2004 so that Minister Alec Erwin, his Deputy Minister, Mrs Lindiwe Hendricks and the ministerial staff can occupy Building A. Other DTI internal staff will take over Building B. Building C+ D Have to be completed by the end of May, Building E and F by 30 June and the remaining work also by 30 June. This is a demanding schedule considering the amount of detailing work involved in the campus and the extent of the 'non-standard' theme architecture". Buildings through to G will house what are referred to as the COTII, the chamber of Trade and Industry Institutions. These are entities such as the South African Bureau of Standards and the Competitions Commission, which are linked to the DTI but presently scattered throughout Gauteng.

Four architectural companies from different regions of South Africa have been brought together for the DTI Campus project to form the Rain prop Architects Consortium (RAC). Leading the team is Pretoria based studio 3. The Architectural theme conjures up pride in our African heritage while

expressing continual improvement and development for the future. The heritage aspects draws on the superb craftsmanship found in the ruins of the old Mapungubwe trading area, discovered in 1932, in what is now Northern Limpopo. The site, on a flat-topped sandstone hill where the Shashi River joins the Limpopo, contains dry stone walling of similar style and remarkable craftsmanship to the Zimbabwe ruins. It was also the site of the first in South Africa of wrought gold. Although an expensive and specialist form of construction these days, rock is being brought from various quarries around the country, hand crafted and laid to form feature walls in keys areas of the campus. The walls provide a rustic Mapungubwe feel emphasizing durability and craftsmanship.

Progressing from the South side of the campus up the north facing slope, the architecture will become increasingly more modernistic, conveying confidence in the future while being based on quality and inherited skills. Some key features of the campus are the covered internal street with its informal feel of walking through the African veld; the Promotional court where the DTI intends staging promotional events that are open to the public and the ceremonial Entrance which is dominated by an 18metre high roof feature symbolizing an old Mozambican fish catching basket. Linking all aspects of the campus is a ribbon-like pathway which simulates part of the DTI's branding concepts: threading its way to success through the African landscape.

In order to fast track the construction, the JV developed a building technique based on precast wall panel. "We needed to get to the transition slab completed, on top of which the seven buildings were to be constructed, as quickly as possible," says Ransome. "The transition slab was at ground floor level on top of a two level super basement. Instead of the conventional wall-slab-wall-slab step construction, we constructed only the columns and slabs level. This work went very quickly and then we retrofit the precast wall panels between the existing gunite wall and structure. Each of the 500 wall panels weighed around 6ton and were 8.5long and 105m wide. Unlike the normal tilt-up technique of casting at the tilt position, the panels were manufactured in a precasting yard on the site. We believe this may be the first time this method has been used."

The project requires 47 000cubic metres of concrete is supplied from two on-site batch plants and the balance from local ready mix supplier, Pronto. Using six tower cranes and two concrete pumps the average daily pour rate is 250-300cubic metres with peaks of around 450cubic metres/day. It is something of a tradition where WBHO are involve that a great deal of effort is put into achieving excellent concrete finishes. In this instance, the mix design was based on the one that WBHO developed for the much - complimented concrete work in the successful Nestle Distribution centre. The base mix is 70/30 OPC/ fly ash, which translates to a contract requirement for 9700ton cement and 3760ton of the reliable quality Dura-Pozz® supplied by Ash Resources. "Our mix proposal was approved by the Pretoria based structural engineers, Dekker Gelderblom,"says Ransome. "It was good decision to use this mix. Once again, the of-shutter finishes have been exceptional. Visiting DTI officials have said that they cannot believe it is concrete. The soffets actually look like ceiling panels! From a construction point of view, the pumpable mix achieved with Dura Pozz® expedites job progress. For large areas of slab, the workability of the mix aids productivity and the production of good finishes."

At a recent ribbon cutting ceremony to signify the unveiling of the new campus project, finishes took a different form! Approximately fifty top level officials in the DTI each signed a brick which will be incorporated into one of the facades of a building on the perimeter of the campus. The idea is to have all 2000 of the sign brick for this wall.

The DTI campus project is already arousing interest both internationally and locally. Engineers and architects from the EU, who are world-renowned in space planning, have been highly complimentary and said that what is happening in Sunnyside would probably never be achieved anywhere else in the world. For a PPP project the level of information that the contractors have and how closely the construction process is following the design in the time frame is really exceptional. Local residents recognize that the DTI project is part of the Mandela Development Corridor which will benefit Them in the longer term by uplifting a large east to west strip of land

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"From our side, it is Has been tremendous to play a part in making history," adds Ransome. "With using Dura Pozz® and our attention to producing superb durable finishes, we will be leaving our stamp of craftsmanaship on the project.