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Creating Concrete Possibilities



LEFIKA VILLAS AT SUN CITY

WBHO was contracted by Sun International to build a new development called the Lefika Villas (Lefika) in the picturesque hills surrounding the existing Vacation Club complex at Sun City.

This is the first phase a of a larger development planned by Sun International. The second phase will comprise approximately another 200 units, referred to as Sun Central. This phase is likely to start later in 2023.

The start date for Lefika was 29 September 2022 with a completion date of 12 December 2024.

Lefika comprises 56 units. There are 23 clusters with adjoining 3-bedroom units and then a further 10 free standing 4-bedroom units. Each unit is constructed on a prepared platform. Each platform is formed by either cutting and breaking into the rocky slopes or importing fill to create a level working space. The meandering access roads and restricted laydown areas due to the sloping site posed many logistical challenges.

Due to the severe slopes on portions of the site, seven of the four bed units are partly built on "stilts". This was achieved by mechanically and manually exposing existing boulders in the natural landscape.

All villas are equipped with a closed combustion fireplace, an outdoor entertainment deck with a braai and an entertainment area, and magnificent views overlooking the Pilanesberg mountain range. The designers' integration with the natural environment is further enhanced by softening harsh structural building edges by strategically placed planters on the building edges. The interior design is distinguished through a collection of materials and textures which reference natural forms, with colour palettes that draw inspiration from the surrounding fauna and flora. Numerous green design principles have been implemented to achieve optimal interior comfort and energy efficiency.

Using natural energy efficient design principles reduces heat gain in summer and minimises heat loss in winter.



Large glazed areas allow for ideal natural lighting levels, while strategically placed windows ensure that effective cross ventilation creates the ideal level of comfort for the guest. Water saving sanitary fittings with energy efficient cold start taps, heat pumps for effective water heating and the use of LED lightings all contribute to the energy efficiency of the unit.

Sun International has enlisted the assistance of leading archaeological and heritage experts, including Wits Archaeology Professor Mandy Esterhuyzen, who is also the Director of the Origins Centre at Wits. Professor Esterhuyzen will assist with the management and preservation of this and surrounding historical heritage sites. The designers have perfectly captured the brief, to minimise intrusion into the landscape.

WBHO was requested by Sun International to complete a 3-bedroom mock-up unit by 12 December 2022. This allowed WBHO a mere 10 week construction time from breaking ground to completion of all construction work and snags to provide Sun International with enough time to fit the units out in line with its quality standards. ■

PROJECT INFORMATION

- **Company entering:** WBHO Construction
- **Client:** Sun International (South Africa) Limited
- **Main Contractor:** WBHO Construction
- **Architect:** Boogertman + Partners
- **Principal Agent:** Betts Townsend
- **Project Manager:** Betts Townsend
- **Quantity Surveyor:** MLC Quantity Surveyors SA
- **Consulting Engineer:** Struxit Projects



SUN CITY NEW BUILD VACATION CLUB EXTENSION & RECEPTION

Experience unparalleled project management excellence with Betts Townsend Taylor! As the Lead Project Managers for the sensational new vacation club extension and reception, we take pride in the successful completion of forty-eight luxurious 3-bed villas, ten spacious 4-bed villas, the Recreational and Reception areas. Betts Townsend Taylor is proud to be a driving force for local business upliftment and skills transfer, providing a platform for construction companies based on invaluable lessons learned and experience gained. Join us, Betts Townsend Taylor, in shaping the future of construction projects, where excellence meets community empowerment.

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VARSITY COLLEGE, PRETORIA CAMPUS

Nestled at the intersection of Clearwater Road and Glenwood Road in Lynwood Glen, Pretoria, the Varsity College Pretoria campus emerges as a distinctive beacon of education.

The campus consisted of an existing facebrick lecture building, admin block, canteen and temporary classrooms to accommodate the demand for additional seats.

Historically, vehicular access predominantly flowed from Clearwater Road, while pedestrians entered the campus via Glenwood Road. However, a pivotal transformation was introduced to enhance accessibility. The new wing of the campus boasts a library, computer labs, and intimate study spaces. On the ground floor, two lecture venues each accommodating forty-five students and a library offer a break out space.

The campus was transformed with an architectural touch that's both contemporary and timeless. The latest additions showcase A-framed steel structures with face brick infill "bookends".

For ease and speed of construction, post-tensioned slabs were introduced for all floor plates. Side cladding was used as an extension of the roof sheeting creating cavities for a ventilated façade.

In the pursuit of a design that considers the potential for future renovations to the existing buildings, materiality choices had to consider specific applications of materials and cladding.

Drawing inspiration from the lush natural surroundings and the nearby spruets, our landscaping design was conceived not only to enhance the beauty of the environment but also to seamlessly connect the landscaped courtyard with the building itself.

Student well-being and safety are paramount to our client, and this is reflected in the design's thoughtful considerations.

The floor plan has been designed with flexibility in mind, allowing for potential future rearrangements.

A range of eco-conscious solutions were implemented that not only reduce the environmental



JC van der Linde & Venter Projects is a reputable construction company, structured to be competitive in all types of construction with work ranging from large to medium sized contracts to minor works, alterations and additions.

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impact but also enhance the functionality of the respective spaces. Solar panels were introduced to supplement electricity usage and all the common spaces and ablution lights are connected to motion sensors to reduce electrical consumption. Waterwise sanitary fixtures were specified for implementation.

The façade treatments are strategically designed for optimal orientation responses. With the building positioned in a north/south orientation, the southern façade is open to allow natural light and ventilation of the walkways. Meanwhile, the northern side is designed with smaller deeper recessed openings and screening, while the eastern and western ends are free of openings.

In a groundbreaking departure from traditional clinical education, the new approach to the campus building is nothing short of revolutionary. Gone are the sterile, cold environments of the past, replaced by a warm and inviting atmosphere that encourages learning like never before.

One of the standout features of this campus is its breathtaking landscaping. Positioned alongside picturesque spruets and lush greenery, it is a sight to behold. The landscaped areas incorporate planter walls that double as seating, inviting students to embrace the great outdoors.

Preservation was at the heart of the design process, as every effort was made to save and relocate as many of the established trees as possible. This not only ensures the continuity of the campus's green

legacy but also demonstrates a strong commitment to responsibility.

An emphasis on waterwise plant selection adds an eco-friendly touch to the landscape, promoting responsible water usage. For those seeking a mental challenge, a strategically placed chess board awaits enthusiasts, offering a cerebral break.

In addition to these innovative features, the campus also boasts quiet nooks thoughtfully designed for students to study outdoors. These serene spots provide the perfect environment for focused learning, away from the typical classroom hustle and bustle. ■

PROJECT INFORMATION

- **Company entering:** Boogertman + Partners
- **Client:** Independent Institute of Education [IIE]
- **Architect & Landscape Architect:** Boogertman + Partners
- **Contractor:** JC Van der Linde & Venter
- **Quantity surveyor:** Rider Levett Bucknall
- **Project Manager:** Origin
- **Consulting Engineer:** CKR Consulting Engineers
- **Electrical Engineer:** Plantech Consulting Engineers
- **Mechanical Engineer:** Plantech Consulting Engineers
- **Wet Services Consultant:** CKR Consulting Engineers

PROJECT INFORMATION

- **Company entering:** Boogertman + Partners
- **Client:** Balwin Properties
- **Architect and interior:** Boogertman + Partners
- **Main Contractor:** Balwin Properties
- **Project Manager:** Balwin Properties
- **Civil Engineer:** Kantey & Templer Consulting Engineers

SPECIAL MENTION

THABA ECO VILLAGE – LIFESTYLE CENTRE

Nestled at the base of the Klipriviersberg Nature Reserve, Thaba-Eco Village is an innovative residential community that harmoniously blends nature, sustainability, and modern living. Spread across 300 hectares of pristine wilderness, it offers homeowners and visitors an exceptional opportunity to connect with the environment through hiking, running, and cycling. One of the hallmarks of Thaba-Eco Village is its commitment to minimizing its carbon footprint. The residential blocks, comprising 1, 2, and 3-bedroom units, are thoughtfully designed to optimize human-scale living while prioritizing eco-friendly principles. The integration of extensive

glazing in each apartment maximizes natural light and ventilation, creating a sense of spaciousness and connection to the outdoors, further enhanced by large private balconies or gardens.

Boogertman and Partners Architects were tasked with designing a four-storey walk-up residential block catering to the upper-middle-class market. The design needed to accommodate a specific apartment mix, catering to various needs: 1-bedroom, 1-bathroom apartments, 2-bedroom, 2-bathroom apartments, and 3-bedroom, 2-bathroom apartments. The ground floor apartments are primarily 3-bedroom apartments on either side of the 1-bedroom

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Rider Levett Bucknall (RLB) is a leading international Construction Cost Consulting and Project Management firm. The global Rider Levett Bucknall group has 4,300 people, working across 40 countries. With registered offices in South Africa, Botswana, Kenya, DRC, and along with formalised partnerships in Angola, Namibia and Nigeria, we are well positioned to provide services to a diverse selection of clients across the continent. By fostering confidence in our clients, we empower them to bring their imagination to life, to shape the future of the built environment, and to create a better tomorrow.

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apartments, each featuring its private gardens.

On the first and second floors, the plan was to house the 1 and 2-bedroom apartments, while the top floor would be reserved for luxurious penthouse apartments.

The architectural vision for the blocks aimed to incorporate elements of the old farm-style architecture of the region's heritage. This would involve the use of red face-brick, vertical sheeting, expansive shaded balconies, and pitched roofs, all in line with the desired aesthetics. A strong emphasis is placed on ensuring the application of eco-friendly and sustainable building methods and materials are incorporated to ensure an eco-friendly development.

The arrangement of these blocks across the site would follow an organic, site-responsive approach, conforming to the natural contours of the land and taking neighbouring properties into account. The landscaping design would play a crucial role in seamlessly integrating the architectural structures and softening the overall design.

In addition to the residential blocks, the development would feature essential amenities such as a lifestyle centre, a Montessori school, and a sculpture park, enriching the community's experience across the proposed site.

Balwin as the contractor, client, quantity surveyor and procurement manager, have the luxury of procuring products aligned with their ultra-green vision for these structures. Building materials are carefully selected to ensure high-quality content,

with Balwin committing to using steel with over 90% recycled content and more than 1% of their contract value is made up of materials with recycled content. During construction, project-specific environmental and waste management plans have been developed to minimise the environmental impact and contribution of waste to landfills through the construction process.

By exposing every green intervention and making it part of the aesthetic, as opposed to submerging it in the fabric of the building and surrounding landscape, its value and importance are shared within the community. The concept forefronts green design as a living principle that will influence greater awareness and ultimately change behaviour.

Targeting EDGE advanced apartments and GBCSA 6 Star Green Star New Build and Net Zero Carbon ratings for their lifestyle centres and Montessori's.

Sustainability hinges as much on how a building operates as the design and materials used in its construction and, to this end, sophisticated systems are in place to ensure maximum efficiency across the board. The energy efficiency of the building is achieved by applying various Greenstar measures as well as the extensive solar array installed on-site. An energy model of the building was generated in the design stage which showed that the overall building design had an overall improvement of 100% over a SANS 10400 notional building.

These measures have resulted in the base building operating at net-zero carbon emissions. ■



THABA ECO VILLAGE LIFESTYLE CENTRE

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ARCHITECTS



DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

Eleven years in the making, the new home of the Department of Agriculture, Land Reform and Rural Development (DALRRD) in South Africa's capital city, Pretoria, adds a glittering landmark to the city's (and the country's) tradition of civic architecture.

The central design concept was inspired by the land itself, which lies at the very heart of the department's activities: agriculture, forestry, rural development, and land reform. The curved, organic shapes of the building and its low-slung form take their cue from shapes moulded by nature itself. The architecture literally hugs the ground rather than towering vertically over it, almost as a refined or abstracted landform. Its edges rise and fall like curves and carved hollows sculpted by natural forces. Its dimensions and scale, too, are intentionally respectful of its context, with the city and the Magaliesberg mountain range forming its backdrop.

The distinctive identity of the building, however, is most emphatically defined by its shimmering façade, which is essentially an artwork in its own right: a complex unitised façade system of individually machined aluminium and glass panels etched with a powerfully symbolic design.

The façade concept aims to create an artwork that visualises the various focuses of the department: agriculture, forestry, rural development and land reform. Profiles of the most iconic mountain peaks from each of the country's nine provinces are fused together to create an image of a unified landscape that encompasses the whole country. This hand drawn artwork was transposed into a digital array of pointillist and linear patterns to be laser cut into the aluminium facade panels and glazing systems. The use of a vertical line work pattern on the glazed panels references South Africa's urban landscapes, whereas the pointillist approach on the metallic sections signifies rural South African landscapes. This glass surface slips behind the skirts of the golden façade as it rises and falls, as a symbolic depiction of South Africa's urban and rural landscapes intercepting each other.

The DALRRD office building was awarded a GBCSA 4 STAR Green Star rating for its sustainable design features. The building's complex facade system was designed to minimize internal glare, with specialized

vision glazing portions and blinds on all external windows. The office area and floor plan were optimized to ensure that 60% of the floor area is within 8 m of an external facade, window, or atrium. This provides ample natural light, reducing the need for artificial lighting and cooling. All lights in the building are activated by motion sensors to ensure they only operate when required.

The building's materials were also carefully selected to reduce its environmental impact. Carpets, paints, and all interior adhesives and sealants are low-VOC emitting. Fuel-efficient transport is encouraged with 5% of all parking spaces labelled for fuel-efficient cars and carpools. Dedicated recycling and waste storage facilities are provided for separation and collection. All external and atrium lighting is designed to keep light pollution to the minimum. The building consists of five nodes or wings leading off a central spine that bends along a curve in the Apies River, which runs along the edge of the site. This long, low form creates the wide floorplates that facilitate a light, open, friendly, hospitable and spatially connected environment in line with the department's values of inclusivity and progressive organisational culture. Overall, the DALRRD office building is a well-designed and sustainable building that sets a high standard for other office buildings in South Africa. ■

PROJECT INFORMATION

- **Company entering:** Boogertman + Partners
- **Client:** WBHO
- **Main Contractor:** DRD D&C Joint Venture (JV between WBHO and Mhlaba Properties)
- **Project Manager:** DRD D&C Joint Venture (JV between WBHO and Mhlaba Properties)
- **Landscape Architect:** The Landscape Studio
- **Quantity Surveyor:** AECOM
- **Structural Engineer:** PURE Consulting
- **Civil Engineer:** PURE Consulting



GREENBAY RESIDENTIAL ESTATE

Architecture has the unique potential to positively impact society at various scales. The careful application of numerous design principles such as an appropriate architectural response, environmental sensitivity, urban design and space planning principles, landscaping, and water-sensitive design, all contribute to a high-density housing solution that aims to enhance the well-being of the residents and the context and environment.

Greenbay is a high-density secure living residential estate and is part of the Green property portfolio developed by Balwin Properties situated in Gordon's Bay, Western Cape.

Each of this portfolio's developments provides

a healthy family lifestyle offering that includes landscaped running trails and parkland that promotes walking within the estate. Its communal core features a Green Barn Lifestyle Centre with an indoor gym, green café, multi-purpose sports field, and more.

As the functional quality of the development is enhanced, a variety of separate pedestrian, vehicular and cycling routes and travel options further allow for easy accessibility throughout the development. Efficient travel routes and improved accessibility aid in preventing negative spaces and further activate public space, in turn enhancing community building and interaction. ■



PROJECT INFORMATION

- **Company entering:** Boogertman + Partners
- **Client:** Balwin Properties
- **Architect and interiors:** Boogertman + Partners
- **Main Contractor:** Balwin Properties
- **Quantity Surveyor:** Balwin Properties
- **Civil Engineer:** KCE Consulting

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