

# An archi-sculpture in concrete

“Architecture is the masterly, correct and magnificent play of volumes brought together in light” Le Corbusier

By Daniel van der Merwe

**Location:** Corner of Muckleneuk and Fehrsen Streets, Nieuw Muckleneuk, Pretoria, South Africa

## Professional team

**Client:** Kee enterprises (Pty) Ltd

**Architects:** Mathews & Associates Architects cc

**Interior design & T.I.:** Mathews & Associates Architects cc

**Quantity surveyor:** Bredell Quantity Surveyors

**Landscape architects:** Landshapes Design

**Structural and Civil engineers:** P - Design

**Contractors:** TF Bornman Construction

**Mechanical and Electrical engineers:** Sebokwa Engineering

**Fire consultants:** Ingplan Consulting

**Photographers:** Paul Evans, Pieter Mathews, Daniel van der Merwe



## Brief

The brief was for a commercial office building in Nieuw Muckleneuk, Pretoria. As a commercial venture, the building had to be feasible, cost-effective and economically viable. The challenge was to create an anti-themed timeless structure, which would be durable and low on maintenance and running costs. Productivity and a pleasant working environment are interrelated, and the objective was to create a constructive working environment, which would suit the businesses of the three tenant firms: attorneys Brink Bonsma and De Bruyn, architects Mathews & Associates Architects and the coal mining company, Injula Universal Coal.

The building is situated on the corner of Muckleneuk and Fehrsen Streets, facing onto the busy Brooklyn Circle. This allows it a strong visual profile, as the traffic circle is the most prominent node in Brooklyn, the adjacent up-market, fast-developing shopping and business area of Pretoria. Unfortunately, Brooklyn is becoming another manifestation of contemporary South African architectural insecurity and its preoccupation with thoughtless and stylistic pastiche to the 'glory' of commercial architecture. As an urban precinct, the built environment lacks references to context and climate, and provides very little in the way of unique public space creation, people-friendly building edges or a sense of common identity and belonging to place. As a new landmark within this context, the building displays a refreshing honesty and sense of generosity in the way it negotiates the public street edges and maintains its own presence.

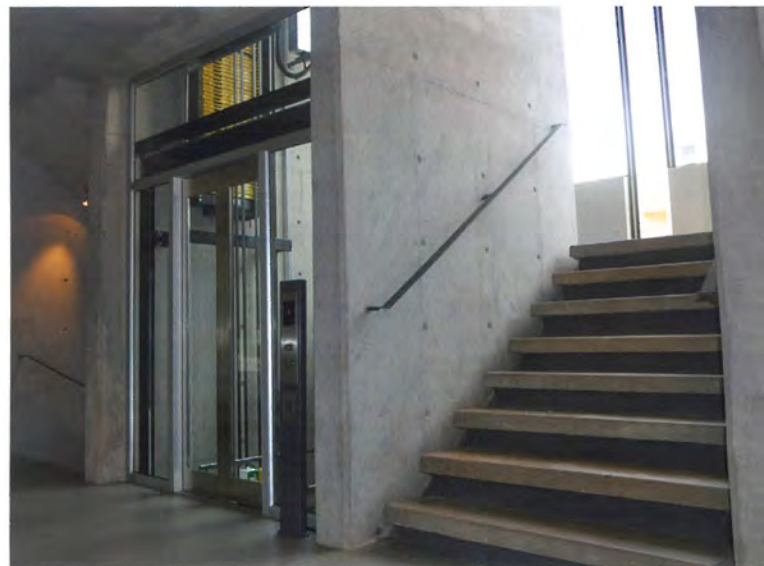
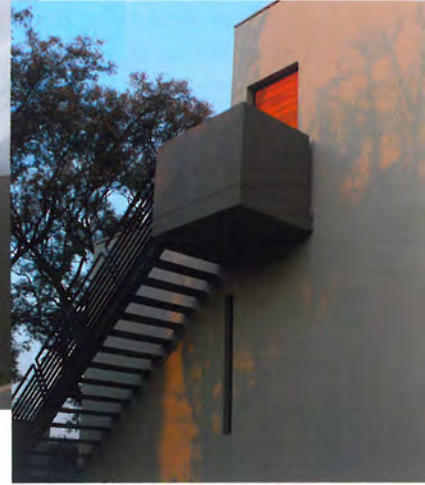
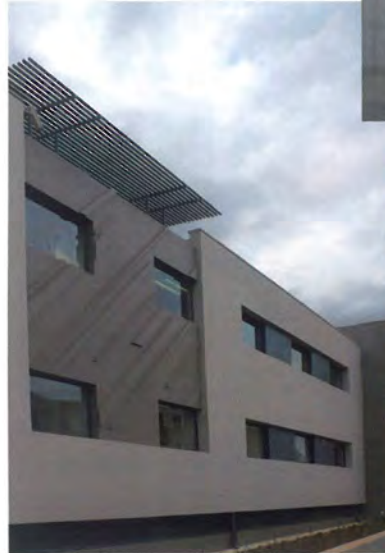




## Zoning

The site tapers to a sharp point, which became the main generator of the building's layout and its resultant triangular form. By positioning the building centrally on the site, a series of outdoor spaces were mediated as support zones to the interior functions. This allows for visual clarity and an uncomplicated spatial organisation, where the vehicular and pedestrian entrance dissects the site – on axis, and in line with the main building entrance. The public space adjacent to the entrance became a hard landscape parking area, with the quieter and more protected northern edge providing a series of private garden courtyards, visually linked to the interior office spaces, and a shaded garden terrace for staff to enjoy. The building's prominent street corner dissolves into a textured landscaped base for the structure's accentuated edge and acts as a passive Zen view garden for people passing by.

The building is designed in two separate wings: the western, more enclosed side houses the private office functions and is concealed from the street view with offices having direct access to a patio lined with large trees retained during the construction process. The eastern wing has a studio space above with boardrooms downstairs, allowing for easy access while opening up to the landscaped gardens. The two wings wrap around the central entrance with its staircase ascending around a glass and concrete lift shaft and the bathroom, kitchen and services core. The plan offers maximum flexibility to accommodate up to three tenants, and permit future layout changes.





## Conceptual thoughts

This office building is unmistakably a contemporary, uncluttered and timeless homage to Modernism; it refers to aspects of Le Corbusier's 'Five Points' and confidently celebrates its concrete materiality with a 'tongue in cheek' approach that is a sure display of a confident designer at the height of his craft.

Salvador Dali is reputed to have said of Le Corbusier that "his heaviness and the heaviness of concrete deserve one another!" In defiant reaction to that remark, the architect – Pieter Matthews – deliberately set out to show that a modernist building could also celebrate its own 'lightness of being'. He achieved this by allowing the main concrete façade to float over the landscape – elevated, and touching the earth lightly only with supporting steel columns. This is a direct reference to Le Corbusier's own device of using piloti to "free the ground plane", which he achieved so successfully at Villa Savoye (1928), and in his later Unite d'Habitation (1946). Matthews has cleverly used the same structural steel columns to double as sleeves for the hidden rainwater pipes and other service conduits.

Le Corbusier's classic concept of the roof garden is referenced here as an open-air space nestling between two adjacent offices and serving as a social area for office workers on the upper floor. Le Corbusier's ribbon window is enacted in punched horizontal slits on the main concrete façade which terminate in an uncharacteristically sharp pointed edge. The form and shape of the building suggests those early ocean liners which the Modernists celebrated in L'Esprit Nouveau, and which Le Corbusier loved as a manifestation of New Age technology – linking machine with building efficiency.

Modernism's commitment to public art and the way that art should be integrated into architecture is certainly celebrated in a bold way in this building. The concept was to begin a series of 'Art Walls' for the city, by designing the

most prominent wall of a building to incorporate art and graphics, thereby transforming the wall into a sculptural and three-dimensional celebration, which is integral to the building. Usually artworks proposed during the building's design process never become a reality due to the economies that are often necessary at the end of the project. However, by integrating art into the building's fabric and structure it can become an integral and guaranteed artwork.

It was decided to approach the design of the main southern façade as a sculptural artwork, giving it a unique identity that was iconic in nature. Toying with the idea of a huge canvas, the words 'Suid Aansig Skaal 1:1' were cast into the concrete façade as an ode to paper architecture. Translated, the inscription reads 'South Elevation Scale 1:1'. The finished, suspended concrete façade started as an artwork done by hand and was then modeled on computer to give it a random artistic feel. (Left hand hatching proves that a human hand was involved.) Diagonal planks were cast into the concrete wall to form the graphic artwork, while on the western side of the building the planks are stuck on the wall to repeat the pattern, but in the positive.

The wall thus becomes a focal point and visually exposes and connects the more public boardrooms on the ground floor with the outside. The concrete Art Wall or Urban Painting, is signed with the Afrikaans building term 'Suid Aansig Skaal 1:1' – a reference to local Afrikaans culture and "a bit of humor cast in concrete."

Vertical circulation becomes accentuated by the concrete fins breaking through the roof, defining the staircase and lift as an expression of a machine aesthetic. A strong vertical element, it also allows the viewer orientation while remaining connected to the views and the outside surrounding fabric.

Internally the various services such as the exposed lighting, sound system, cable trays, and air-conditioning ducts are celebrated and treated as design elements or pieces of machine sculpture. An advantage of this aesthetic approach is ease of access for future maintenance.





The windowsills and view ports are placed higher than usual to allow for workstations and computers to be positioned against the walls, with the windows above providing views of the sky. In the architects' studio the mullions of the sliding doors leading onto the balcony continue the spatial flow of side windows in the concrete wall and, as a clever design ploy, allow an exaggeration of perspective onto the balcony wedged at the building's northern corner.

## Passive Design Principles

Ecological, sensitive design principles are integral components of responsible design, and optimisation of natural light, passive ventilation, proper orientation and heat insulation are issues that must be addressed. The building's western façade has thus been designed to keep out harsh light, and cavity walls were used to limit heat build-up. Existing trees were protected and kept, and to minimise intrusive and expensive earthworks, the ramp was designed to align with the natural sloped topography of the site. Even the lift generates electricity through its movement and by utilising gravity.

One of the great benefits of using concrete extensively as a building skin and structural component is that the thermal mass of the material regulates heat transfer. Workers in the offices observed that the building felt remarkably cool in summer, yet was warm in winter.

## Materials

The predominant materials used were off-shutter concrete, steel painted the same colour as the aluminium, bold wooden screens arranged in random patterns, and epoxy floors, used to simplify the connections where complex plan forms come together. The bathrooms were plastered with a rough bagging technique to offset and juxtapose the smooth bright red colored integrated bathroom units containing mirror, light, splash backs, fixing brackets, basins and taps. Far from being the usual utilitarian afterthought, the male bathroom windows are a feature, merging across the two floors, with the ground floor window on top against the roof slab and the first-floor bathroom window located on the floor. Function and form become one.

## Conclusion

The building is a manifestation of the notion that through clever manipulation of form and proportion, and by using materials in a poetic yet straightforward manner, the timeless lessons of Modernism can be re-interpreted in contemporary architecture. It is also proof that so-called commercial architecture does not have to rely on pastiche and other decorative trickery to be substantive. Instead, using materials such as concrete, brickwork and timber in an honest and stripped manner, it can produce architecture of integrity. ■

**More information from Daniel van der Merwe on  
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## Apology

In the February issue of *Concrete Trends*, Daniel van der Merwe was not acknowledged as the author of the article on the Owl House that appeared on pages 8-11. His too were the excellent photographs that illustrated the article. The editor apologises for the oversight and for any inconvenience caused.