



N4 DIAMOND HILL TOLL PLAZA, GAUTENG

Architects: Mathews & Associates Architects in association with Karlien Thomashoff Argitek | Project Managers: Tolplan Consulting | Structural and Transport Engineers: Tolplan Consulting | Mechanical Engineers: JH System | Electrical Engineers: Tolplan Consulting in association with Lebone | Environment and Landscaping: Frans van Wyk | Contractors: Fikile & Gio Construction & Concor Holdings | Service Engineers: Van Rensen & Fortuin | Operator: Trac Photographers: Franci Cronje, Liam Purnell

The toll plaza is situated 40km east of Pretoria on the N4. The architects' aim was to create an original example of South African transport architecture. The first impression, and apparently the biggest talking point, as one approaches the main plaza are the angled light masts which lead one up to the booths. These masts tower above the plaza and, from a distance, give the plaza a real presence in the landscape, becoming landmarks in themselves. The plaza thus enforces the idea of it being a kinetic or videotic building, set against the surrounding landscape of undulating agricultural fields.

As you near the plaza, you experience a feeling of awe and of having arrived. This was essential for establishing the sense of passing through a gateway (between two provinces and two countries). The detailing increases as you approach the plaza, beginning from afar with the light masts which allude to the electrical pylons in the distance, and becoming more intricate as you reach the booth.

The design was inspired by an 'agricultural modern vernacular'. The detached light roof structure above the booths and the use of corrugated steel roof sheeting on the control building are direct references to the pre-manufactured agricultural sheds in the surrounding landscape. In addition, the corrugated steel water tanks, which serve a practical and aesthetic purpose, refer to the ubiquitous water tanks on the surrounding farms. This contextually inspired design approach is carried through to the choice of building materials for the building and structures. The bricks and steelwork were locally sourced, while the stone used at the base of the control building, water tank towers and

landscaping design comes directly from boulders on the site, which were blasted for the construction of the roads. External detailing concentrated on ensuring that security concerns did not destroy the aesthetic of the building with various after-fixes, which are usually added directly after the successfully appointed operator has moved in. Therefore, continuing the idea of dual functionality of elements, metal screens were fixed in front of windows on the exterior steel structure of the building. This layering of the façade provides an attractive external solar filter, while also providing effective security for the spaces within. To the same end, concealed gutters were incorporated into the design, with down pipes forming an integral part of the external fenestration.

The control building is positioned on the crest of a soil platform for aesthetic and practical reasons. From the road, the building has an impressive stance as it looks directly down the central line of toll booths, while from this elevated viewing point visibility from the building is improved and both directions of traffic flow are clearly visible.

The water tanks positioned at the control building serve as sculptural elements, forming part of water features, while being functional at the same time: they provide water for irrigation, sanitation and cleaning purposes. At the ramp plazas, or smaller secondary plazas, these tanks form towers that create landmarks, which provide scale and contribute to the local spirit of place.

This project was honoured as the prestigious SA Institute of Steel Construction Overall National Winner for 2005 and received a regional PIA Merit Award. ■





HOUSE MILLAR, NELSPRUIT

Architects: Mathews & Associates Architects | Structural Engineer: Janti van Zyl | Landscaping: Kingfisher | Quantity Surveyors: Mathews & Associates Quantity Surveyors | Contractors: Nelspruit Construction | Interior Designers: Nicole Hemphill and owner | Other Specialists: Designex (kitchen) Photographer: Pieter Mathews

The house is situated in Noordsig, a nature security estate in Nelspruit. The brief was for a simple, graphically strong, contemporary design anchored in the African landscape. The client is a mechanical engineer with his own plant hire business, including branches in Nelspruit, Maputo and Swaziland. The clients are young and very design-conscious. The client's wife has a Bachelor of Music (performing) degree and the piano had to form the central pivot of the house. The piano is raised on a stage to reflect the drama of a recital; this stage has floating, circular, concrete steps with concealed lighting that makes the piano appear elevated in the air. A half-circle wall forms the backdrop or backstage of the piano. It also doubles up as roof support and to screen off the stairs. The double volume allows awareness of this feature throughout the house.

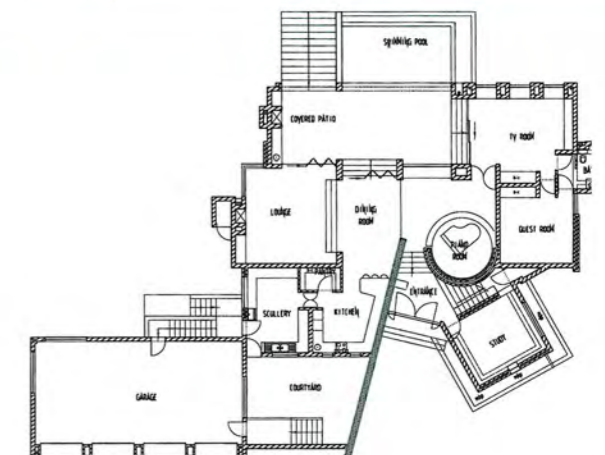
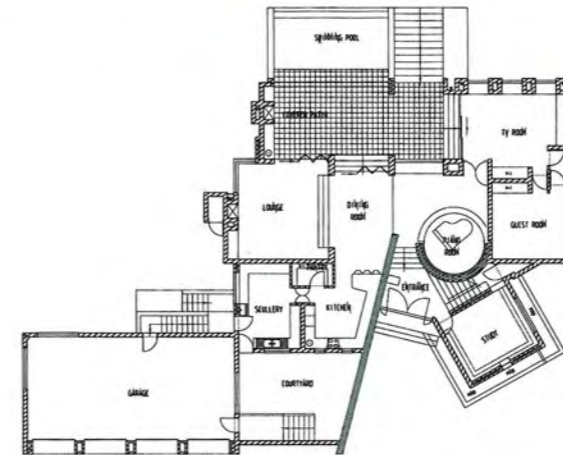
What the piano stand does from the southern side of the house, the pool does for the northern side. It becomes the binding element of the design, with all the living areas opening

up onto the covered patio and pool.

The signage is the word 'eight', cast in concrete at the entrance to form part of the design and not be an after-fix. The entrance wall, as an element, had to be a dominant feature. Dry-stacked rock from the region was used, which welcomes the visitor and leads the eye over a reflecting pool towards the view.

The dry-packed wall also screens off the kitchen and forms a backdrop off which the kitchen cupboards cantilever in a staggered arrangement.

The clients wanted a quiet house set in the scenic natural surroundings, without the roof disturbing the skyline. This was a major reason for choosing a flat concrete roof with double Isoboard insulation for the hot climate. The concrete roof over the main house floats and cantilevers to keep the Lowveld sun from the glass. These clerestory windows make the otherwise heavy concrete roof appear to float lightly above the house's solid street elevation.



The study at the front door was treated as a separate element to establish a landmark and to distinguish between home and work. The main feature of the study is the skylight, which transforms into a vertical slit window and dissolves into the floor, slicing into the platonic block and creating a deep-set window that provides a complete view of the outside world, while making it hard for anyone outside to see into the room.

The balustrades of galvanised steel mesh were chosen because they provided a solution which gives unobstructed views, needs no cleaning and maintenance, solves the safety problem of climbing toddlers, and forms an additional layer of detail on the elevation, which visually enhances the façade and becomes a subtle linking element.

MATERIALS

Raw off-shutter *in situ* concrete was used for the roof, TV units, cantilever stairs, stage, stepping stones and signage.

Dry-packed stone from the area not only anchors the house to nature, but juxtaposes in texture the smooth painted surfaces against it. Natural stone floors and galvanised steel balustrades extend further on the theme of down-to-earth, humble and honest materials. Dark powder-coated aluminium window frames were chosen to disappear into the shadows and for the practical advantages of aluminium. All of the colours were chosen to complement the natural environment: savannah greens, concrete, stone, galvanised steel and natural wood.

A palette of more than 11 colours was used in this house. An abundance of skylights was used to enhance the various shapes, volumes, spaces and platonic forms with a wash of natural light. Again, this breaks up the solidity of the strong concrete roofs and stone walls and gives the house a sculptural, evolved quality that fits in perfectly with its raw natural surroundings. ■