


CONCRETE

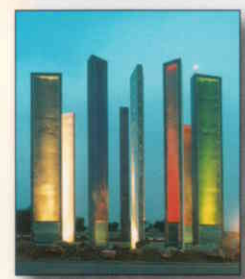
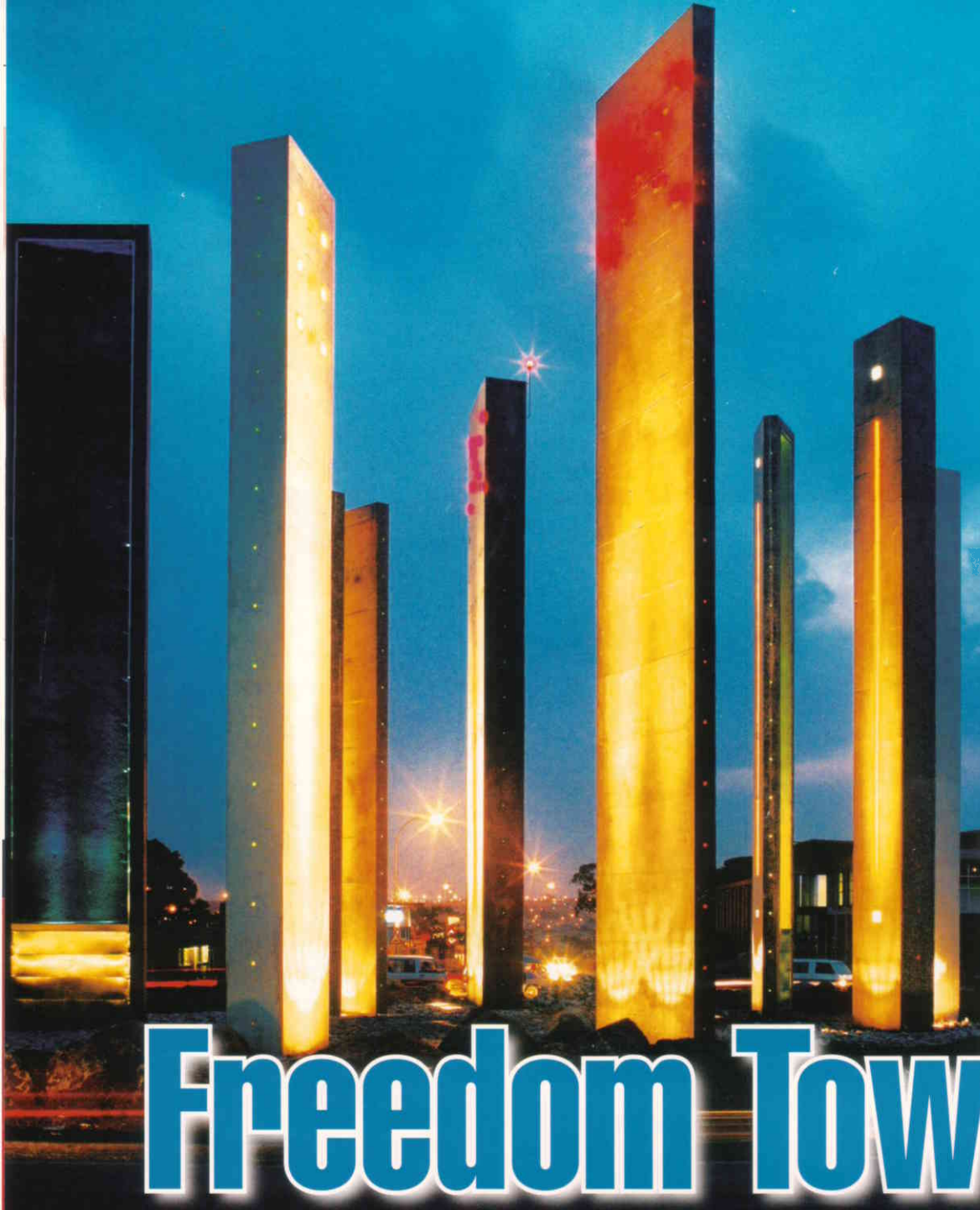
Official Journal of the Cement and Concrete Institute

trends

VOL 8 No 4 NOV 2005

A photograph of the Freedom Towers at dusk. The towers are tall, slender, and illuminated from within, creating a warm glow. The sky is a deep blue, and the towers are set against a dark background. The towers are arranged in a line, and their silhouettes are prominent against the twilight sky. The overall mood is serene and artistic.

**Freedom Towers glow at dusk
When the starting point is the finish
Concrete's silhouette sculptor**



Freedom Towers

glow at dusk

*Large floodlights inside and outside the columns of the Freedom Towers provide a spectacular illumination at night. Lighting inserts in various colours complete the lighting-magic and produce an effect, as a Soweto resident recently told us, "like Phantom of the Opera." **Marc Meire** of Grinaker-LTA Building, Inland, described the project.*

The towering columns of the Freedom Towers form a remarkable landmark in a revitalised Kliptown, and are appropriately positioned on a traffic turning circle next to the newly opened Walter Sisulu Square of Dedication. In recognition of South Africa's 10 years of democracy and to commemorate the signing of the Freedom Charter, the French Embassy with sponsorship and technical support from French corporations – Total, Schneider and Lafarge – sponsored the construction of the Freedom Towers.



Mary Fitzgerald Square in the early evening.



French light sculptor and artist, Patrick Rimoux

The brief from the renowned French designer and lighting sculptor, Patrick Rimoux, was to construct nine columns varying between 3,2 m to 1,6 m wide and 14 m to 18 m high to depict the concept of freedom as embodied by the Freedom Charter. The monoliths, positioned in a circle, represent human figures converging towards the centre; as well as the nine provinces of South Africa.

Rimoux said of his design, "I did not wish to render the design too simplistic, for example, black monoliths facing white monoliths. Rather, I've created a more poetic and sensual work around the skin and texture of the concrete used for the four walls of the monoliths.

"The monoliths serve as gnomons by day; their surfaces changing colour according to the sun. By night, the lighting outside the monoliths highlights their textures while the lighting inside the structures, behind stainless steel mesh, creates a different visual impression. The colour of the external light changes continuously to create a dynamic effect that symbolises South Africa's various cultures."

Rimoux appointed local lighting specialists, Lighting Innovations, to do the installation of the lighting. Rimoux had already worked successfully with the company on a number of projects including the lighting design for Mary Fitzgerald Square in the Newtown Cultural Precinct as well as for the iconic Nelson Mandela Bridge.

Marc Meire explained: "Five of the Freedom Towers columns are made of black concrete with white aggregate and four columns are made of white concrete with black aggregate. They represent the New South Africa – black and white people standing together in harmony on the turning circle.

"The concrete was supplied by Lafarge Readymix and, because the columns had to be smooth, i.e. without construction joints; it was decided to erect the columns using the tilt-up system of construction. This method involved casting the columns in situ



Lighting by Patrick Rimoux and Lighting Innovations at Mary Fitzgerald Square.

on the ground and then lifting them into place by means of a mobile crane.

"This decision was reinforced by the fact that the three larger columns weigh in excess of 50 tons each and it was felt that transporting them would be difficult and would, in all likelihood, damage their smooth surfaces.

"Because we decided to go with tilt-up, the columns were cast in and around the turning circle all within reach of the 400-ton mobile crane. Lifting and erection of the columns was undertaken by Charles van Eck of KwaZulu-Natal based company, Tilt-up Systems CC."

Asked what the most challenging aspect of the project was, Marc Meire replied: "The turning circle that we were working on is by far the busiest in Kliptown. So, as you can just imagine, fitting the casting platforms, the bases for the columns and the dead man anchors for the stays – all in a very small area inundated with underground services – was a serious challenge. Yes, that was our greatest challenge."

The dramatic columns of the Freedom Towers now soar into the Soweto sky bearing witness to a challenge successfully overcome. ■

Client:Johannesburg Development Agency/French Institute of SA

Architect/Light sculptor:... Patrick Rimoux (France)

Engineer:..... Arcus Gibb

Contractor:..... Grinaker-LTA Building Inland

Lighting contractor:..... Lighting Innovations

Concrete Supplier:..... Lafarge South Africa

Size: R 3 million

Completion:..... July 2005

Photographs courtesy Jorg Jung and Lighting Innovations (LI)
Information from Marc Meire, Colin Glenfell, LI, and 'Light in Design'