

Year Book
2008

Mackenzie Hoy Consulting Acoustics Engineers



Kolping Meditation Centre

This was a particular challenge.

Mark
Rosenbaum
of KMH
Architects
(pictured)
called us in
and told



us that they proposed to build a
meditation centre.

It was going to be 9 metres in
diameter and completely
circular. The client had
requested that there be no
carpets on the floor, no
wood paneling on the walls
and essentially this provided
us with big challenge as far
as acoustic finishes were
concerned.

To avoid wall reflections, we
had the wall clad with a
specially designed diffuser.
The diffuser was made by
Plaster Art. In theory diffusers
which are no more than 60mm
from the wall can't work – but
we tested them in a water tank,
and they did work. We also
made the ceiling slightly uneven
and stuffed the space above
with a lot of absorbent
material. The result is gentle,
peaceful, and most of all not
noisy, meditation centre.





Direct Access Call Centre
BMD Knitting
was a large factory premises
in Wynberg which, after the
collapse of the textile
industry, had to change.
This old, vaulted building with
its beautiful arches and large
spaces lit by natural light is an
ideal place for the new Direct
Access Call Centre in all
respects except acoustically



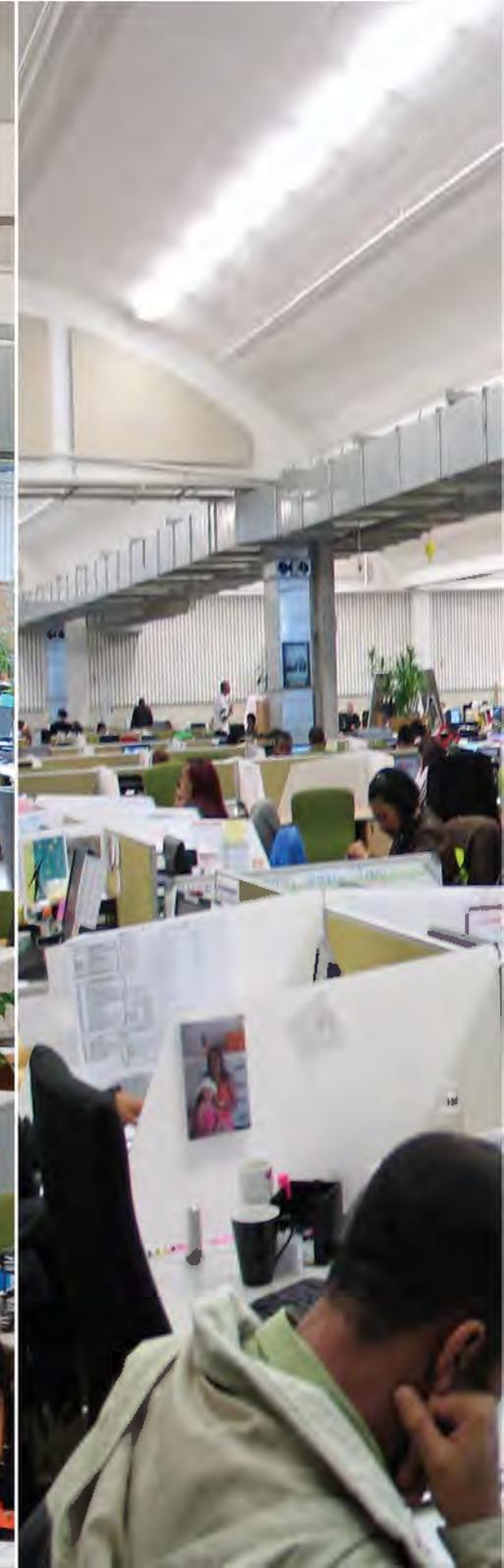
*Guido Tagge,
Interior designer*

The challenges were to get the
reverberation time down and
eliminate the flutter echoes in
the domed ceiling. Without
acoustic treatment, the nine
hundred odd people in the call
centre would be completely
unable to communicate, but we
sorted it out.

A very interesting project.



*Tarryn Boyd,
Peerutin Architects*







Cape Town International Football Stadium

Well, of all the stadiums built for the 2010 World Cup, We didn't get the acoustics design or the sound proofing design for a single one. Competition was, I think, too hard and too politicized, but whatever.

We did get a morsel. We were asked by the contractors if it was possible to turn a portion of old stadium, using the old stadium seating, into a small theatre, which could be used for induction talks and as a visitor centre. So we worked away on this and produced, We believe, a very lovely little theatre, which is called "The Greenhouse." Well, We suppose it will be demolished when the stadium is finally built but it was a great job at the time.

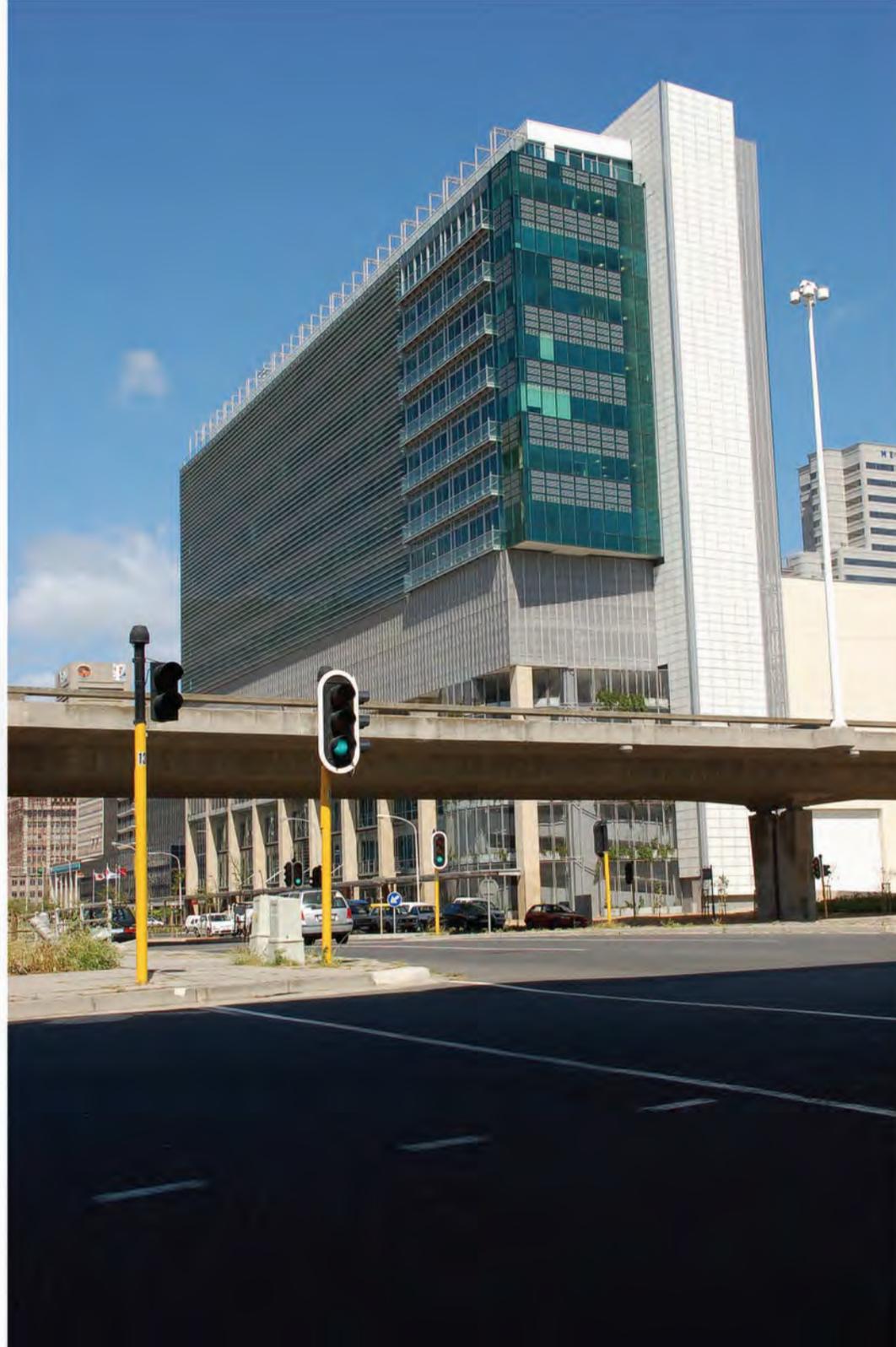


Convention Tower

The client here was Spearhead Properties and the architect Dennis Fabian.

Our main input was to give recommendations to prevent the noise from the parking garage and more particularly from the rain from affecting the interior of the Convention Centre.

We came up with some clever ideas and were involved in the selection of the glass façade so that the noise from the nearby N2 Freeway cannot be heard in the offices.







Wembley Square

A Peerutin Architects/Faircape project with Johan Moolman from Peerutin.

At a late stage the fire engineer said they had to have smoke shutters. So they put them in and the noise from the venue poured out, disturbing the people in apartments above. So we designed some acoustic louvres and added some flying carpets to get the reverberation times down. It's one of our favourite venues.







Harbour Bridge Hotel

This is a development by Faircape and others. This is a beautiful site **but** being in a city it has its own noise challenges.

How do you build a hotel over a canal and, in the city, preserve a feeling of tranquility?

Good noise control is the answer. Apart from special glazing, a special roof treatment was designed. It's a great place.

The architects were GAPP Architects, James Finney and Kobus van Wyk (pictured below).





City of Cape Town International Airport

Rod Stevens asked us if we would like to do the acoustic design for the City of Cape Town International Airport. Would we ever! We met with Jed Kritzinger from Blue Print Architects, (pictured) and for some months batted around what to do about the ceiling.

There are a number of problems. The air volume of the place is huge. We didn't want to put in something that would absorb sound but would require maintenance. At the same time we wanted to put in something that was beautiful and something that would work acoustically. Sitting in his office, Jed looked across the road and saw a parking pole. "Could you use tubes?" he said. I thought



(Terry Mackenzie-Hoy conducting tests in the gun pit of the old Scala Battery.)

quickly and then realized that we had hit on it. If we made a ceiling entirely out of tubes or pipes, and at the one of the pipe stoppered, but with a small hole in it, we could effectively create a bass trap and by changing the position of absorption, or the stopper inside the pipe, we could vary the absorption of the bass trap over a number of frequencies. We would have a ceiling



Rod Stevens

(Continued on next page)





There was only one problem. Would it work? We had to do a test. We planned to do the test in the University of Cape Town reverberation chamber, but the University, in a stunning display of forward thinking, demolished the reverberation chamber just as we were about to use it. We had another thought. We asked Admiral Louw of the South African Navy Dockyard (he is the commanding officer of the Simonstown Naval Base, pictured below) if we could do the tests in the gun pit of the old Scala Battery.



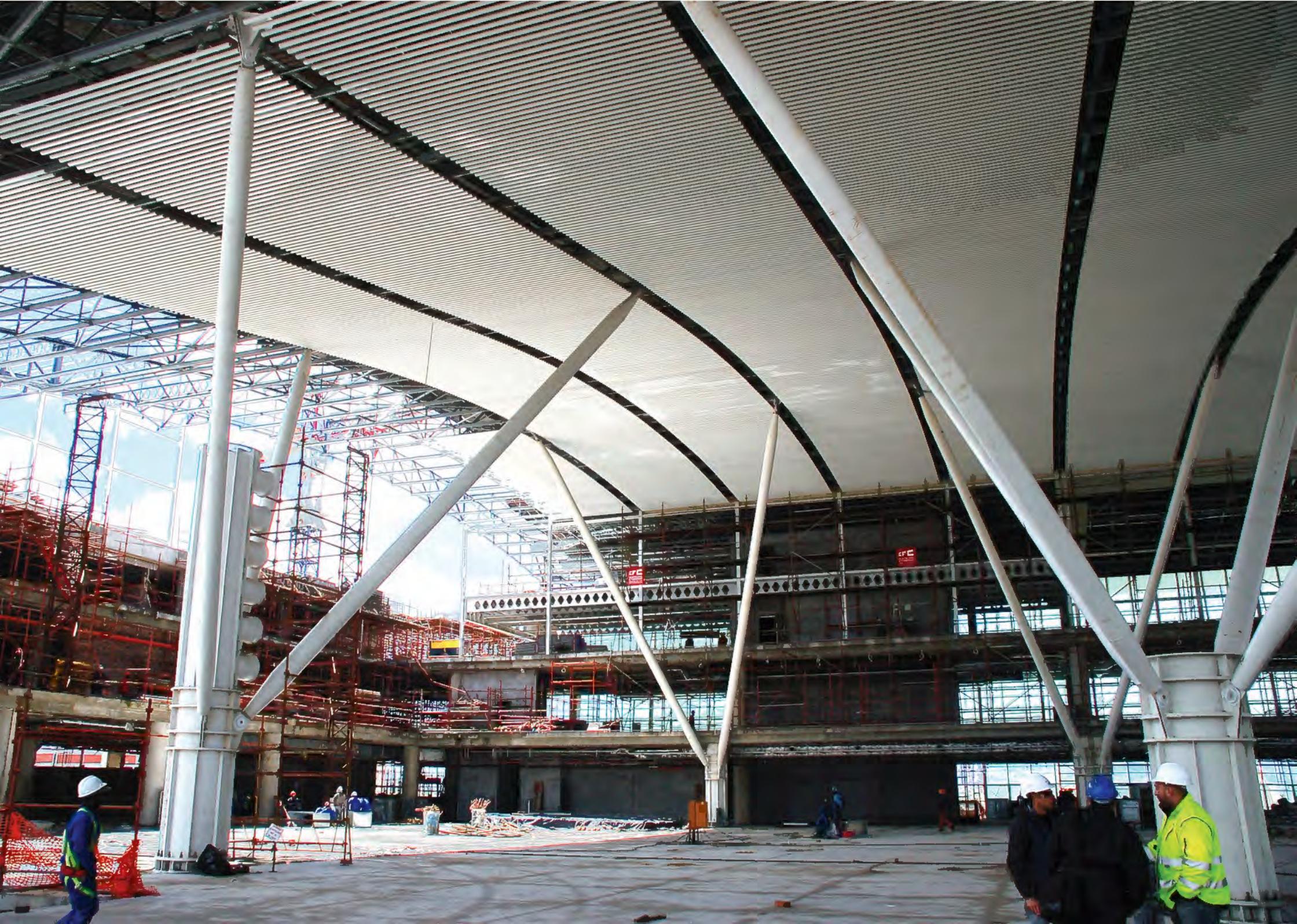
He agreed. The tests were successful. And so, nearly nine and a half thousand

pipes were placed in the ceiling of Cape Town International Airport.



Jed Kritzinger







Clubs

Oh, the clubs. Every club that opens in Cape Town, has to have an acoustic report, or a noise report, that says that it is not going to make a noise at all.

The City of Cape Town has introduced a by-law which says that the noise at any club must not be audible outside its premises. This is a pretty tall order, but it is achievable. Unfortunately club owners don't like to go about it the right way.

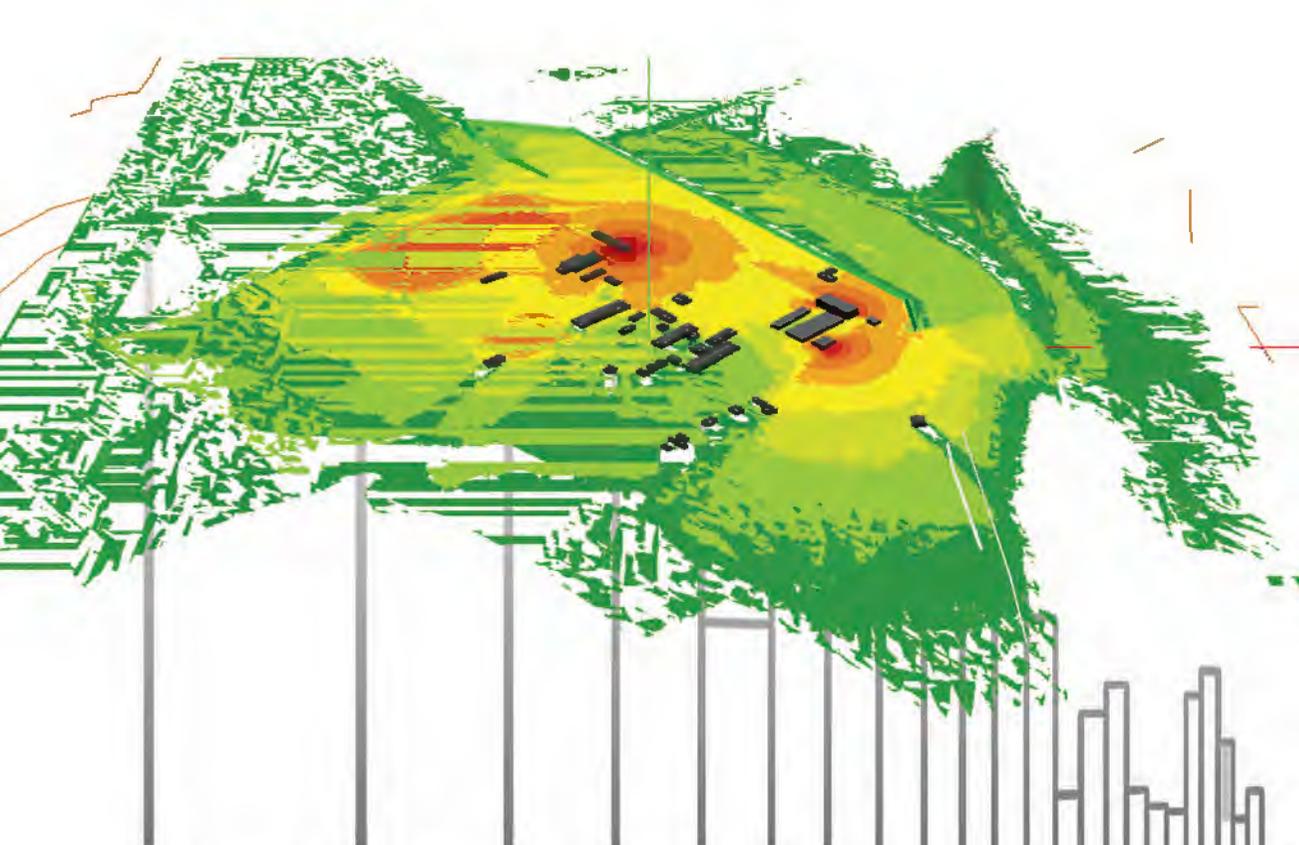
They like to:

- a) build the club
- b) open the club, and
- c) apply for the licence.

Possibly they should reverse the order of some of these and they would have more success. But some of the better clubs that we have worked on are Club Wadda, and Bambu, but there are about 76 others which we have also worked on. What can we say!







SoundPlan Agency

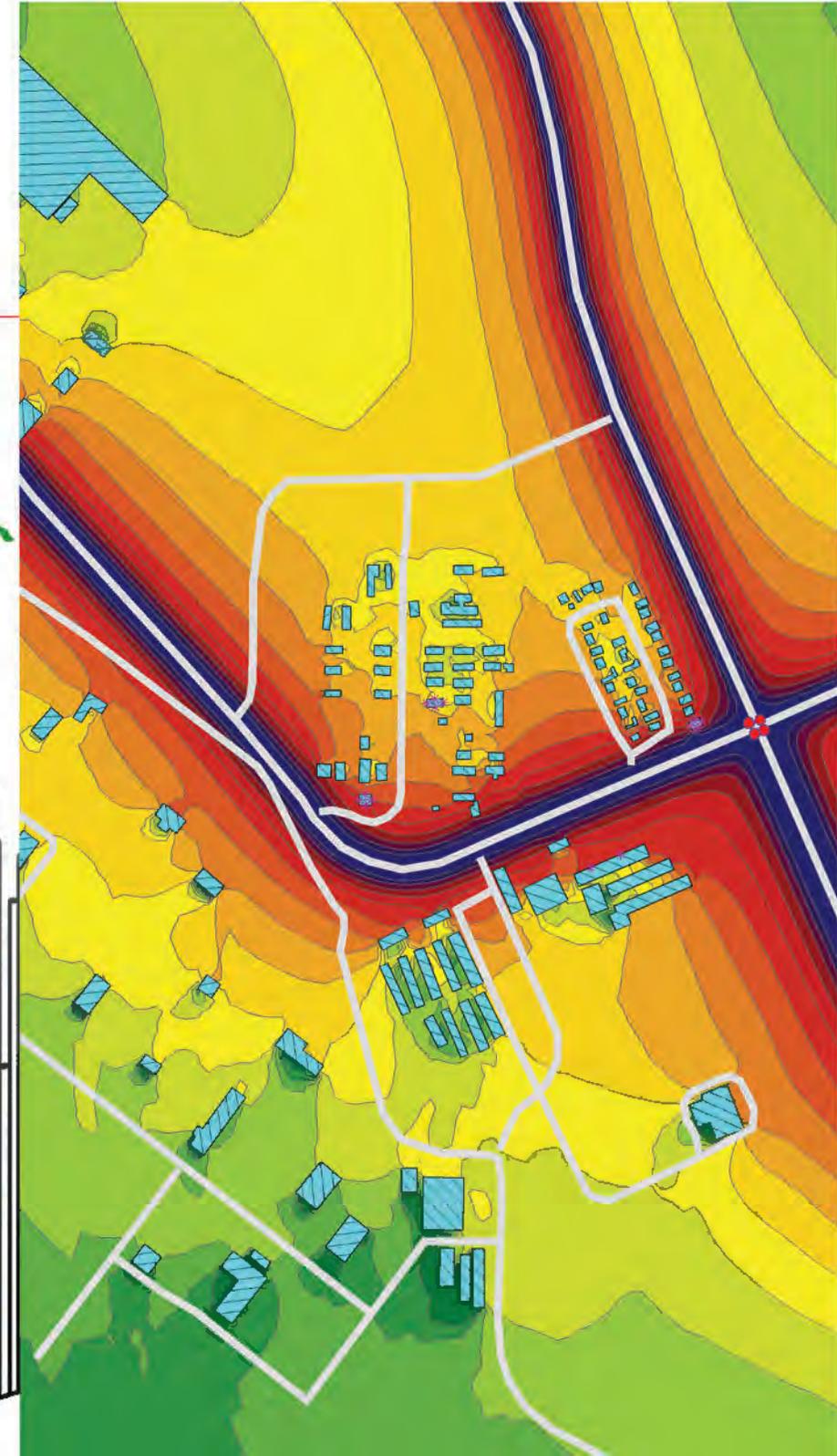
SoundPlan is an acoustics software package which is used for plotting noise maps, indoor noise distribution and can do wall barrier calculations, road noise calculations, rail noise calculations, air noise calculations and many other things. The acoustics firm that we admire the most in the Southern Hemisphere is Marshall Day in Australia. Marshall Day are agents for SoundPlan and now we are proud to say that we are agents for SoundPlan in South Africa.

We use it extensively and we find it friendly to use, easy, and most of all, accurate.

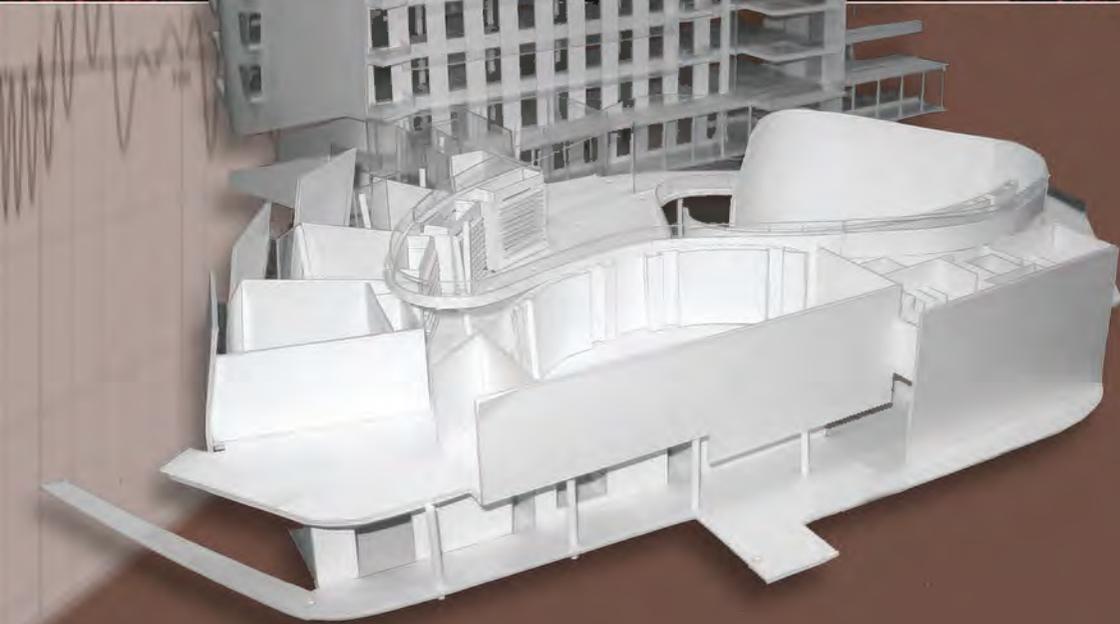
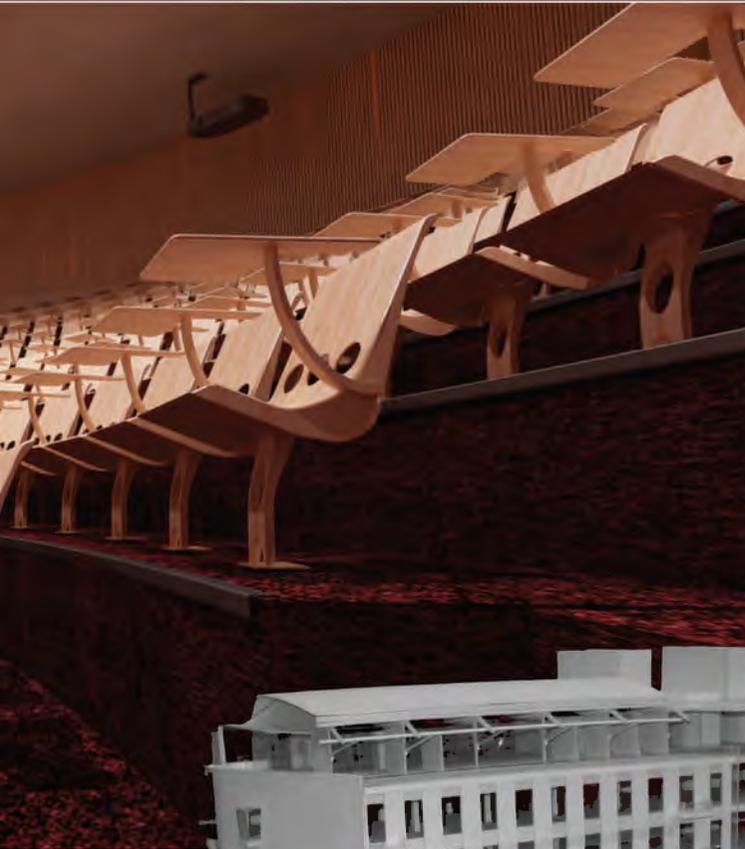


**Sound
PLAN**

*designing a
sound
environment*

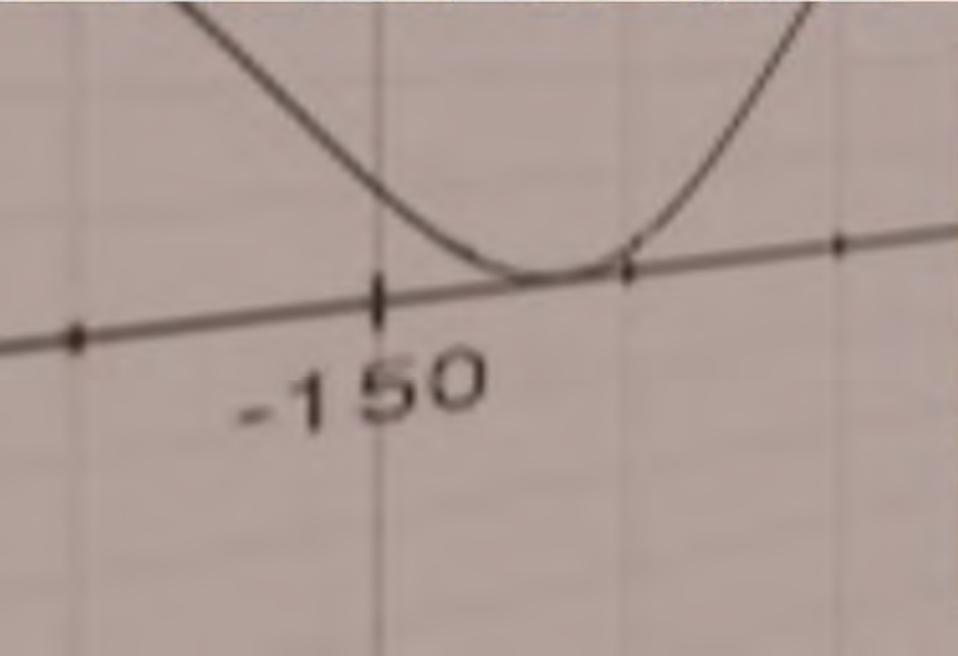






University of Western Cape Learning Centre
Dr Justin Snell from DHK Architects led us through this project. The principal focal point of the Learning Centre is the lecture theatre and the teaching rooms that surround it.

We wished not only to create great acoustical surfaces but also to display them in such a way that might also be an education to the students who used the facilities. We suggested that we incorporate into the Centre a number of different acoustic finishes, not obvious acoustic finishes, because that would be too "in your face" but acoustic finishes which provide great acoustics, wonderful audibility, and at the same time, for anybody interested to look, would show them the possibilities that one can do in acoustic treatments to create great listening spaces. The Centre is not finished yet, but when it is, it will be a winner.





Sound Mapping Jobs

There is a problem with doing sound mapping jobs because inevitably they are for large factories or chemical plants or production plants and they certainly don't want us to tell anybody what they are up to. I don't think they are up to anything bad, but it's confidential information as to how their factory is laid out, what they produce, what their stock pile levels are and so on.

So we are not really allowed to tell you much about our sound mapping jobs. But we have done some big ones. In particular we have done noise maps for a large mining complex on the north coast of Natal, Kwa Zulu. We did a small sample map of the noise levels at Hospital Bend interchange in Cape Town

(see the section on "SoundPlan") and we're allowed to tell you that we did a noise map for the Chevron Flare modernization project but as for the other ones, well, maybe next year.



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