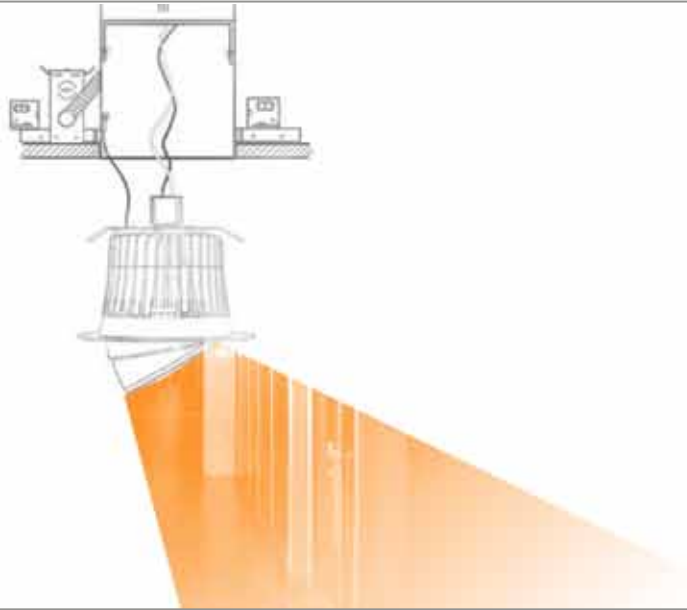




CHAPTER 6

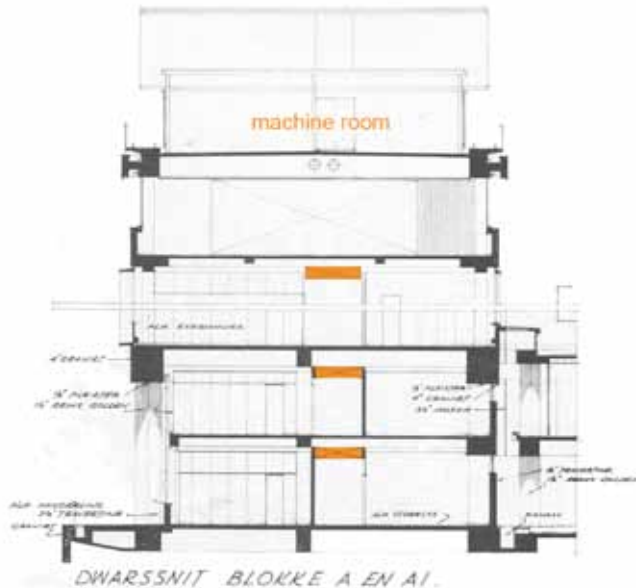
Additional Technical Information



6.1 Building climate and air conditioning

Existing services_

The whole of the TPA building are surfaced by an air-conditioning system, which regulates humidity, temperature and air filtration. Cold and warm air is circulated through air channels running above the corridors, illustrated



6.1.1 Original section drawing published in 1963 in the November edition of the S.A. Architectural Record with indicated air channels and placement of one of the machine rooms.

in Fig 6.1.1. The building has four machine rooms, two on the roof and two on intermediate floors.

Additional natural ventilation_

According to Holm, (1996, p.1) solar passive design is sensitive to the climate and uses resources from the natural environment such as the heat of the sun, wind and temperature differences to heat or cool the building. Through the design intervention of an additional circulation core, solar passive design principles were introduced to add to the climatic comfort of the building.



6.1.2 Diagram illustrating the natural ventilation process in the additional circulation core.

6.2 Lighting

Existing light quality_

The daylight light quality in the TPA building is of a high quality due to the amount of south facing windows and louvered north facing windows. Light fixtures as discussed in the building analysis section, 3.3.2.7 Ceilings, provide the building with artificial light.

Additional lighting_

Two additional LED lighting systems were introduced within the design.

* The LED PAR38 Lamp, especially designed for museums and art galleries is proposed to be utilized in the exhibition spaces of the Pretoria Arts Association. (Fig. 6.2.1)

* The T9 100° LED Light Tube is used throughout the Design due to its reduced maintenance costs and energy saving ability. (Fig. 6.2.2)



Fig. 6.2.1 LED PAR38 Lamp.



Fig. 6.2.2 T9 100° LED Light Tube.

6.3 SBAT Rating

The Sustainability Building Assessment Tool (SBAT) developed by Jeremy Gibberd from the CSIR, was implemented to rate the sustainability of the design intervention.

Several of the criteria in the SBAT are not relevant to an interior thesis project. Due to this fact certain assumptions were made.

Three marks out of five were awarded to the buildings social, economic and environmental performance. The adjacent graph illustrates the performance of this project.



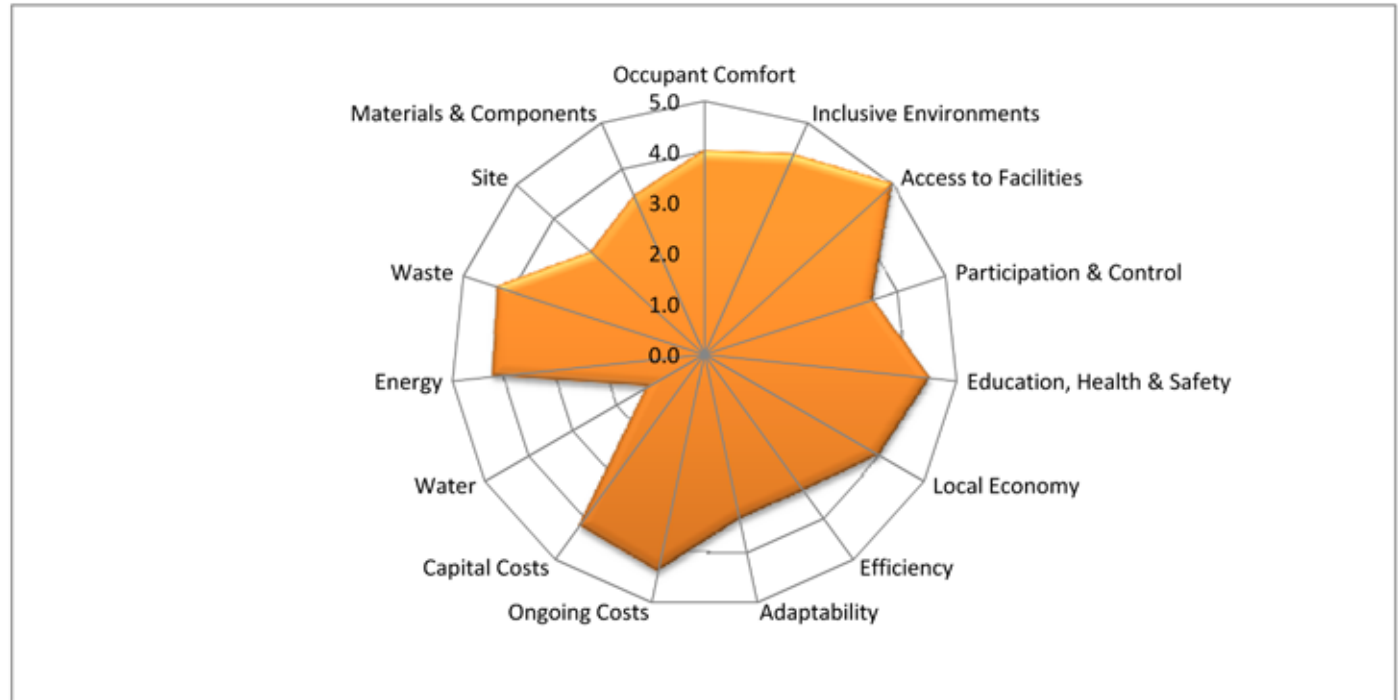
SUSTAINABLE BUILDING ASSESSMENT TOOL (SBAT- P) V1

PROJECT

Project title: Re-activating the TPA Building
Location: Pretoria CBD

ASSESSMENT

Date: 26-Oct-09
Undertaken by: Carien Theart
Company / organisation: UP
Telephone: Fax:
Email:



Social 4.3

Economic 3.9

Environmental 3.2

Overall 3.8

Classification

Fig. 6.3.1 SBAT assessment.



Conclusion_

Our experience of being in this world is formulated by the amalgamation of the senses. To experience something means to be able to touch, see, taste, hear and smell it. Therefore, for architecture to truly engage us, it should be designed with the intangible sensuous dimension in mind. The sensory realm of architecture goes beyond appearances. What a place looks like becomes less significant, but how it feels is essential. In Maya Lin's (2000, p.103) words: "I see architecture not as a form that contains space, but as an experience - a passage".

Due to the subjective nature of sensory experiences, my approach to the design was not to literally stimulate the senses but for the design to subtly guide the visiting body to experience the space. Therefore it is not about the light source, but its interaction with the surface, not only about the visual texture of materials but their tactile qualities and ability to envelop and resonate sound.

This sensuous approach towards design has been introduced into the skin of the TPA building. The design thereby wakes the TPA Building from its dormant state within the Pretoria CBD; transforming it into a building which not only resides in public space, but by its very nature becomes a public space. As stated by Zumpthor (2006, p.12), this building will act as "an envelope and background for life which goes on in and around it, a sensitive container for the rhythm of footsteps on the floor, for the concentration of work, for the silence of sleep."