the centre for indigenous medicines . ikhaya lemithi yesintu . lehae lameriane yasethu . the centre for indigenous medicines . ikhaya lemithi yesintu . lehae lameriane yasethu . the centre for indigenous medicines . ikhaya lemithi yesintu . lehae lameriane yasethu . the centre for indigenous medicines . ikhaya lemithi yesintu . lehae lame

University of Pretoria etd, Selepe M (2007)

5 Technical investigation

All materials are selected to consume the least energy and cause little if any environmental damage in their production or manufacture. The buildings are designed to require the least energy consumption and to use components that are of a standard construction technique.

The areas requiring a high technical precision and places of crafted elements will be outsorced to the skilled persons and will be brought in to the site in order to create employment to the unskilled labour so to satisfy the aspirations for technological refinement and the use of local crafts persons.

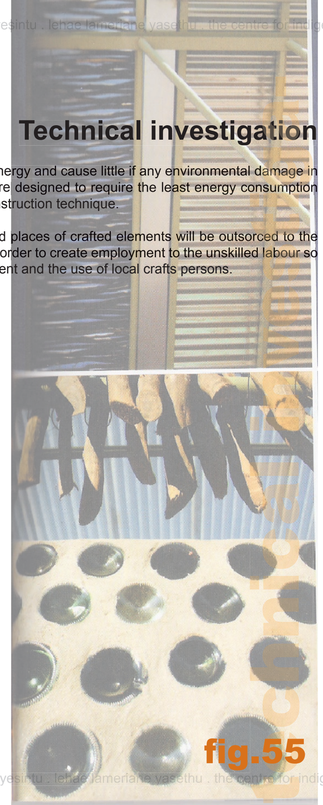
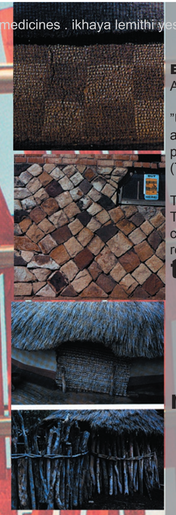


fig.55



Building materials
A robust building reflecting our times

"Using materials and building methods of this age. A reading of architecture in the city should reflect the cultural aspirations of the people who live in the city"
(Tau 2001:4)

The building should be robust, and designed to weather gracefully. The construction and the materials should reflect both the 20th century technological accomplishments and Pretoria's indigenous resources.

timber cladding, sun shading, flooring, structure, windows, doors

concrete structure, trading stands, paving, infill panels, cladding

masonry masonry walls, boundary walls

aluminium

timber latte sun shading, fencing, walls, roofs

rocks dry packed stone walls, paving, cladding, perimeter walls

steel structure, windows, roof, bracing

glass glazing, windows, doors, partitioning

thatch roofs

ADMIN. BLOCK finishes schedule

Finishes columns and beams

fc1 - off shutter concrete
fc2 - plaster & paint
fc4 - patterned mosaic tiled

Finishes walls

fw1 - off shutter concrete.
fw2 - plaster & paint.
fw3 - bagged finish.
fw3 - flush jointed face brick.

Finishes floors

ff1 - granolithic
ff2 - off-concrete
ff3 - gravel
ff4 - loose pavers
ff5 - carpet
ff6 - soft wood timber

Finishes soffits

fs - off shutter concrete
fs - plaster & paint

Finishes ceiling

fcl1 - off-shutter
fcl2 - timber slats

finishes door and windows

fdw1 - timber painted
fdw2 - aluminium factory finish

Balustrade type

bl1 - type 1, balconies
bl2 - type 2, walkways and stairways.

CONSULTING ROOMS finishes schedule

Finishes walls

fw1 - plaster & paint.
fw2 - bagged finish.

Finishes floors

ff1 - granolithic
ff2 - gravel
ff3 - loose pavers

Finishes ceiling

fcl1 - timber slats

Finishes door and windows

fdw1 - timber painted

STORE & ABLUTIONS finishes schedule

Finishes walls

fw1 - plaster & paint.
fw2 - bagged finish.
fw3 - mosaic finish.

Finishes floors

ff1 - granolithic

Finishes ceiling

fcl1 - timber slats

Finishes door and windows

fdw1 - timber painted

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University of Pretoria etd, Selepe M (2007)

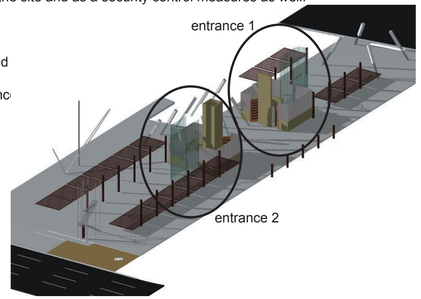
tectonic investigation

building organization

The office building:

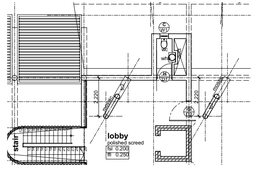
The building is legible, this is achieved by placing the easily recognizable parts each of which looks like the function it serves. It is elevated on a cluster of columns so people can filter through under the building, creating the gateway to the site and as a security control measures as well.

There are 2 major entrances that serves the building each dedicated to the staff members and the visitors to the building. The entrance foyers are easily identiyable and signage suggests to the visitors which entrance to utilize.

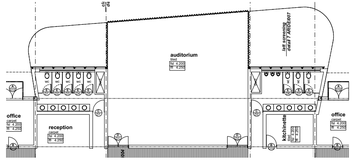


Access stairs and a lift are means in each entrance to access the office and auditorium floor above. Circulation along the first floor is linear via timber covered verandah.

The ablutions are naturally positioned at each floor for easy access to all staff and visitors on the first floor with dedicated ablution facilities for the security/ receptionist at the ground level.

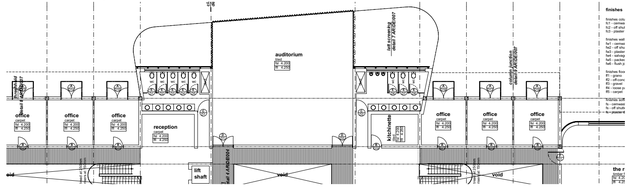


Ablution facilities on the ground floor

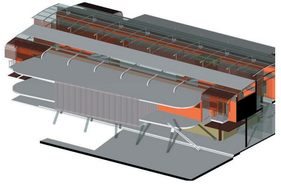


ablution facilities on the first floor

a special sound insulated auditorium on the first floor is placed close to the entrance lobby and away from the offices. Externally clad with corrugated sheeting on a timber frame. This space can and will be used for meetings, conference space.

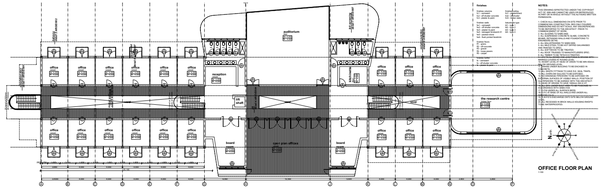


plan at first floor [auditorium]

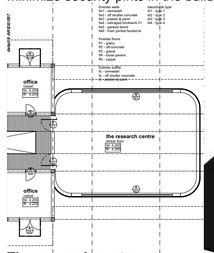


3d image [auditorium]

The remainder of the building is general office space and is spread evenly over the functions mentioned above.



The research centre is positioned on the western side of the building, consisting of one floor and a mezzanine for offices and storage spaces. Its accessed is via the same entrance to the building to minimize security pints in the building.



The research centre

3d [research centre]

The building is designed to accentrically be lifted off the ground to allow movement through to the site below. A gateway to the development. Its support structure are colonnade in a rhythmic manner and de constructed as well to break the formality.

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University of Pretoria etd, Selepe M (2007)

natural environment

Comfort being the primary influence on productivity

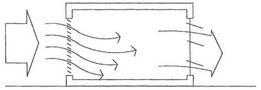
The building is divided into 3 climatic zones namely:

i. Mechanical ventilation, air-conditioning to primary use spaces and offices.

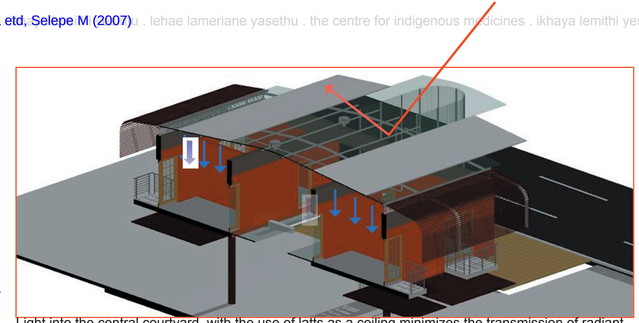
ii. Passive climatic control to central/ circulation space and collective zones.

iii. Ambient air temperature.

fig.56



Offices internal climate modification is through cross ventilation, by allowing the air to flow through one opening to another cools down the interior of the space. Ideally by placing the openings opposite the other and the height is from floor to the highest point in the room, cross ventilation will occur. If the humidity is high in the room, mechanical ventilation will be applied.



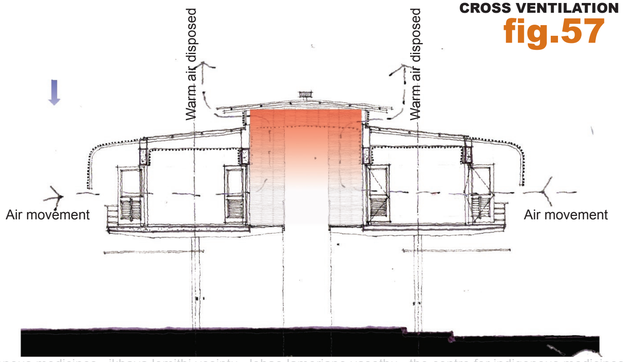
Light into the central courtyard, with the use of latts as a ceiling minimizes the transmission of radiant heat.

Use of split air-conditioning system to cool down the spaces if the passive ventilation is not sufficient.

Under calm conditions warmer air within a space moves upwards to the ceiling, leaving the cooler air below, the idea with creating the central courtyard is to have open circulation space, also working as a cooling stack effect drawing hot air from the building, in turn cooling the spaces within the courtyard.

CROSS VENTILATION

fig.57



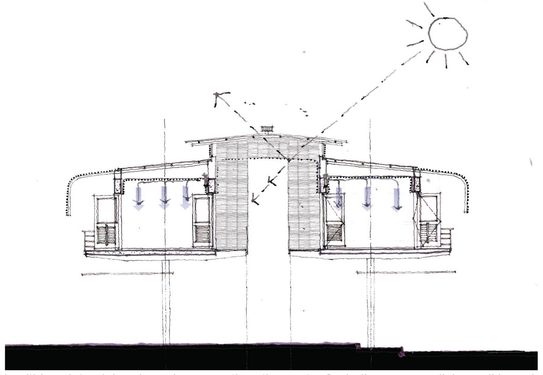
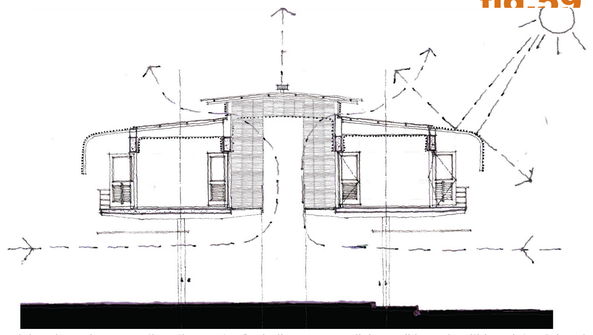


fig.59



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