ORIENT COMMUNITY ART CENTRE

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Introduction

The purpose of this study is design through exploration of a Community Art Centre in an area of the city that is neglected. Although the design discourse is idealistic, the aim is to explore the creation of a local node of cultural and artistic activity within an appropriate site located in Marshalland in the city of Tshwane in the Gauteng province. It is the view of the author that this is the most effective way of making artistic production, education and reception widely accessible and of stimulating the arts to a community which perceives art as elitist.

The establishment of an art centre is relevant because a report from the Department of Arts and Culture (DAC) indicates that the contemporary visual arts sector makes an important economic contribution to Gauteng's creative economy through direct creative, innovative and experimental activity. In addition, according to DAC, contemporary art communicates more effectively across cultures.

Marshalland is an area with both positive and negative attributes. The negative attributes are: crime, unemployment and the fact that the area is derelict. The positive attributes of Marshalland is its vibrancy and is also a busy area in terms of human movement. This is because of the existence of a railway station, taxi and bus terminals in the area. The idea is to capitalise on the positive attributes of the area. The theme of the discourse will be the accessibility, which will be further explained.

The attempt would be to create an environment, which will be a nexus for artists locally, nationally, and internationally and for work that has been inspired and influenced by local culture. The proposed centre will be a site for the dynamic exchange of ideas about art and society. At the heart of the discourse is the question: can architecture be instrumental in making art accessible to the people and can that architecture be appropriate?

Key issues to be reflected in the architectural design are education and the arts.

Building schedule:

- Gallery
- Multi functional hall
- Café
  - Subject specific library
  - Reading room
  - Computer lab
  - Offices
  - Studio
  - Workshop
  - Seminar rooms

For this project the designer will investigate the site in terms of the physical context through the urban environment, the social context of the buildings, the physical constraints, planning limitations and the climatic context.
The Brief

- To design an appropriate and relevant community art centre in an area characterised by urban decay.
- To design a building that would serve as an investment to the community at large.
- To design a building that will provide space where talented local artists can showcase their skills and cultural heritage to the local, national and international audiences, through contemporary arts.
- To design an art centre accessible to local residents and visitors, with views directly from the street into the gallery lobby in order to entice passersby and visitors to enter the centre.
- To provide public access to art through the creation of a gallery dedicated to local contemporary art.
- To design a prominent and visible building, through a creative façade that will emphasise the centre as the cultural cornerstone of the area.
- To enhance education and public programmes by designing a multifunctional hall and exhibition spaces. According to Price (Price, 2003, p.36) “Education, is not just for one set of age group but a continuous necessity for all members of the community throughout their entire life. Thus educational facilities, like a social service, should integrate through all areas of life in the form of media.
- To enhance the professional artist training programmes and education facilities by designing seminar rooms and a subject specific library for technical art historical research, a reading room and computer lab.
Clients

The centre will provide facilities for by: families, students, teachers, senior citizens, local community members, artists, curators, collectors, critics, theorists, tertiary education students and lecturers, art professionals, and art centre members and donors. An opportunity for job creation will be provided through public programs where skills will be transferred through apprenticeship to locals with talent. The centre will also run internship programs for high school and tertiary education students.

The DAC and the City of Tshwane will be regarded as clients.

The services rendered by the DAC are as follows:

- Facilitating, initiating and implementing international co-operation agreements on arts and culture.
- Ensuring the representation of South African arts and culture on the international scene.
- Managing and administration of arts, culture and heritage institutions.
- Promoting arts, culture and heritage festivals.
- Supporting informal arts education and training.
- Supporting development and access to the arts.
- Supporting excellence and sustainability in the arts
  (www.dac.gov.za)

Their service delivery target or milestone with reference to one of their programmes: arts, culture and language in society on their strategic plan for the period 2003 - 2006 is to:

- Promote excellence in the arts
- Create an opportunity to fund all forms of the arts
- Promote equity in the distribution of arts resources
- Mobilise business sponsorship for the arts
- Promote moral values and social cohesion through the arts
- Promote all forms of creative arts and
- Introduce arts and culture programmes in community art centres

Funding

It is envisaged that the Community Centre will be supported in part, with public funds provided by the Department of Arts and Culture, and the City of Tshwane local government. Additional support will be sourced from the private sector, e.g. Standard Bank and non-governmental organisations.
CONTEXT

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Marapastad
Location within the urban region of Tshwane. Marapastad is located on the Western side of the city.
On a micro-climatic level the proximity of the Apies River valley, the sewage works and the Dassiepoort Ridge contribute to some site-specific conditions. For instance 89 days of frost per year are recorded on average at the sewage works, as opposed to 60 days at the Weather Bureau further up on the Eastern side of Pretoria. From the point of view of urban settlement the main problems posed by the climate in Marabastad are the high summer temperatures, the high diurnal temperature ranges, the intensity of precipitation when it occurs, and the insufficient dispersal of air pollution.

**Temperature**
The temperature of an area influences the choice of building material e.g. dark or light coloured finishes for the surfaces.

Pretoria has hot summers, moderately cold winters, and moderate humidity levels.

**Rain**
The annual rainy season is between November and March with an average rainfall of 674 mm. Rainfall in summer is mostly limited to afternoon showers.

**Winds**
Prevailing winds are calm, and blow from the north-east in the morning, backing to north-west in the afternoon. During winter occasional cold snaps bring winds from the south, while summer thunderstorms are accompanied by turbulent wind patterns.

**Clouds**
Average annual cloud cover is 33%, varying between 13% in July and 54% in December.

Climate influences buildings with regards to their comfort level.
The Orientation of the building influences its performance. A building mass with a predominantly east-west axis maximising the northern and southern facade where effective climate control can be maximised. However, because the site chosen does not allow for this, creative ways will be explored to solve the problem. The solution will be to make use of shading devices.

The shadows created by massing around it and its influence on the micro-climate should be taken into consideration.

Surface temperatures, the minimum and maximum temperatures, have an influence on the surface articulation. Dark surfaces would have a higher temperature than light surfaces. Characteristics such as reflection, absorption, and resistance are important considerations when one has to choose surface materials.
Immediate context
sense of place

The site forms part of the Marabastad CBD. To the north is Beille Ombre, to the east is the Pretoria CBD and to the west tax and bus ranks.

The site as mentioned earlier forms part of the heritage of Marabastad as proposed by the Marabastad Development Framework. Due to the site's history and location it has potential to be the cultural hub of the area.

It is situated in an area of the city which is in the derelict state, but which has potential to be redeveloped to recover the vibe and energy it used to have. The choice of the site reflects the author's enthusiasm towards the diverse history of the area and its potential as a major cultural attraction of the capital city of our country. The aim is also to bring back what the place is in peoples' imaginations - a site of nostalgia and, through the intervention, a site of progress. The function of the building will enhance the site as the cultural cornerstone and gateway to the area of Marabastad.

One of the things that the area does not lose is its vibrance and colourfulness. Marabastad was the only cultural hub that black people could go to for entertainment. The area brings feelings of nostalgia to people who used to live there. Major concerts, movies and all sorts of cultural events, that catered for black people used to happen in Marabastad.

The site is situated on the block formed by 8th street on the west, Boom street on the south, 9th street on the east and Mogul Street currently used as retail space. Retail shops surround the site. The Orient cinema is the only building on site that will be retained.

The strategy and motivation for demolishing and adding buildings, as well as the site development and framework will be discussed later.

The site still represents the cultural hub the area used to be. Marabastad today is a vibrant business district. The locals that were interviewed said Marabastad is the only place one gets anything at a good price.

The site is characterised by:
- A gentle slope towards the North-East.
- Verandahs over public pavements, especially along Boom street.
- Pavement trading.
- Orientation, which allows for a building mass with a predominantly north-south axis.
- Hardscape around the site with established jacaranda trees along Boom Street.
6th Street

6th Street is a pedestrian street. It is on the Eastern side of the site. All the buildings on this street are retail shops. Due to the fact that 6th Street is not busy, it is used for off-street parking. All the buildings along this street are single storey.
8th Street is a pedestrian street. It is on the eastern side of the site. All the buildings along this street are retail shops. The buildings on the ground floor of the two buildings (A and B on the map) are used for a floor bar on the ground floor and the rest of the three floors in the building are not utilized.
Mogul Street
Mogul Street is a street with high pedestrian activity. Pedestrians use Mogul Street to and from the bus and taxi ranks and the train station. There is a market on Mogul Street south of the bus rank.
Boom Street
This is the main heart of Mamelodi. It was converted into a one-way running from West to East. The street has dedicated drop-off zones for buses and taxis. Boom Street has historical structures like the Morlam mpang Temple, two cinemas and two mosques.
Baseline study

Introduction

The baseline study for this discourse is a theoretical investigation into the understanding of how art can be made accessible to the majority of the people who have previously perceived art as being elitist, through architecture. The study will assist the designer in understanding why art and Art Centres are seen as being elitist and also assist in the formulation of the design through understanding the users of the building, which will hopefully result in an appropriate building.

The subject matter of this study was inspired by the advancement and the need for the protection of African Contemporary Art, and the desire to see the area reclaim its previous glory of being the cultural hub of Pretoria.

Contemporary Art

Contemporary art is recently produced visual art. When it ages, it loses this status of being contemporary. Ideally, the term is applied to art produced in the present. According to (Magnin and Soullou, 1996:10) in Africa the term contemporary seems to have two aspects to it: “on the one hand, it is an art that benefits from institutional support through the system of commissions and exhibitions of national talents”.

On the other hand, this is an art that carries little for the processes of legitimation, deliberately sidestepping the official circuits, an art that prefers to ignore its possible claim.

“...The creation of local modes of cultural and artistic activity is the most effective way of making artistic production, education and reception widely accessible, and of stimulating the arts at grassroots level” Policy presented by the Performing Arts Workers’ Equity at the Culture and Development Conference 1993
as “contemporary,” an art often practiced by artists without any formal schooling.” Ibid

In South Africa various efforts are made to introduce art to the people. The Africa Remix
held at the Johannesburg Art Gallery from July to October 2007 is an example of such
initiatives. The Africa Remix Contemporary
Art of a Continent features the work of more
than 85 artists from 25 countries on the
African continent and the Diaspora. Art is
largely perceived to be elitist by most of the
locals around the proposed site of
development.

There are many reasons given for this
perception, one of them being the fact that art
is expensive and only a few people can have
or have access to it, especially in a country like
South Africa where most people are poor.

In South Africa and African continent artists
have come up with creative ways of making
art accessible to people. Artist Dineo Brutus
Boubabre, who views writing as having a
civilizing effect, makes their graphic works the
privileged vehicle for the transmission of
knowledge related to both his ethnic group
and the world. Boubabre sits in front of his
house and exhibits his works in full view of the
community. Other artists exhibit their works
on the walls of their studios, attracting crowds
and provoking unending discussions.”
(Maglin, 1995, p.10)

Conclusion

The author is of the opinion that a few
initiatives have to be embarked upon to make
art accessible to the majority of the people.
Suggested initiatives are:

- Art should be introduced to young
  people in schools and
- tertiary art education facilities have to be involved with community art centre programmes,
- there should be programmes that are targeted towards the community members, families and senior citizens.

"To have someone tell you 'you have changed my life' is a pretty amazing thing to be told, especially when the person is well into their sixties. We saw people arrive to the workshops as shy crafters and leave as confident designers - amazing!" David KGNU
THE FUSION

4
The science of information is elusive and radical and can alter the perceptions of whole disciplines.

-Priest
The Woman's Jail forms part of a complex of living museum and exhibition spaces adjacent to the new Constitutional Court in Johannesburg. It is one of three prisons on the site in which anti-apartheid activists were unjustly detained and sometimes tortured.

Now office buildings have been provided to house the South African Human Rights Commission.

Later additions to the jail were demolished to restore the significance of the original buildings and courtyards, and an architectural language has been developed to clearly differentiate between the original buildings and retaining the integrity of both old and new structures.

The new buildings were designed in response to the building elements and scale of the existing structures. The third level of the building sits on top of columns, which correspond to the walls of the existing building. The building is clad all round with a sheet metal sunscreen. The sky is the image used to pattern the sun screen.

The sun screens also provide visual privacy for the occupants of the building. The screens are made of perforated corten sheeting with openings; the lower-level screens slide between the glass facades and colonnades. With time, rust will blend the screens' colour with the old red brick of the prison.

The design enhances the site, rather than being a passive heritage artefact, architecture becomes a prompt for renewal without compromising the respect that the past deserves. The cladding of this building is one of the things that impressed the author and is applied to the design of the new Mosterd Community Art Centre. However, in the design of the Art Centre, the idea of the perforated sheet screening will be taken a step further in that two sheet metals will be used instead of one. The reason for the two sheet metals is that, the light that will go through the screen will be diffused and will decrease heat energy.
Link Building for the Institute of Infectious Disease and Molecular Medicine, University of Cape Town
Cape Town, Western Cape
Gabriel Fagan Architects
Contemporary South African Architecture in a Landscape of Transition
Theo van der Does, Anne Grainger, Manning Flannery; 2006, pp.101-103

The Institute of Infectious Disease and Molecular Medicine, spread across three separate buildings, commissioned this pavilion structure as a physical and symbolic link of its activities.

The link building bridges the 18 metre space between the fine, 1925, neo-classical North and South buildings, but stands respectfully recessed from their facades.

A cylindrical reception, executive and teaching block were placed in the space created by the two buildings. The cylinder creates a visible sign and presence for the new intervention.

Space flows around the cylinder and the new working floors behind it are freely inserted between the old buildings, leading to a positive definition of space that would not have been possible with the insertion of a complete building. The intervention is a contemporary structure placed between two old buildings. The new structure sits respectfully next to the old buildings.

The lesson taken from this design is how the architects responded to the old buildings and the use of a cylinder as a form. The fact that the cylindrical form allows the space to flow around is a fascination of the author.
Municipal Library of Nembro
Bergamo, Italy
Archea Associati
Architecture, no.827, pp.78-80, March

The architects used a ceramic sun screen, which was inspired by one of the local ceramic artists. The new building is placed next to an old building similar to the proposed site. The manner in which the architects dealt with the old building is a lesson that will be taken in the design of the Marabastad Community Art Centre. The library is a rectangular transparent glass volume surrounded by ceramic tiles held in place by a frame of steel.

Indirect sunlight is diffused into the library, filtered as if through Venetian blinds so as to never fall directly inside.

The building takes a whole different aspect at night: the light from within is diffused outside through the screen, making the building seem lightweight. The old building was restored fully while the new one was constructed.

The lesson taken from this design is the unconventional use of ceramic tiles as a sun screen. This method of screening the sun will be applied by the author in the design of the Marabastad Art Centre. This particular sun screen will surround the cylindrical library section of the building which will be subjected to the Southern and Eastern light.
Dutch Embassy
Maputo, Mozambique,
Claus en Kaan Architects

The Dutch Embassy was designed by the Dutch partnership of Felix Claus and Kees Kaan. The embassy occupies a site on the edge of Maputo’s city centre. This embassy is unlike most embassies which are usually a bombastic expression of national identity. The building responds to its local context of Maputo. According to project architect Kees Kaan, there are only 11 countries in the world that are poorer than Mozambique, and just 12 that are richer than the Netherlands so this combination of extremes required tasteful handling. Marabastad has challenges that are almost similar to Maputo.

The new embassy occupies a site on the edge of Maputo’s city centre.
Hard landscaped except for local tropical trees with luxurious orange blossom and the courtyard marks the gradual transition between public and private spaces.
The internal organisation is simple and logical. The building has a double volume foyer which marks the entrance. This is a deliberately low-key and functional building (the ambassador’s office on the first floor is distinguished merely by being slightly larger than those of other staff members). The architecture has an unprecedented degree of formal refinement, and its effect lies largely in the creative use of local materials and labour. As a result the new building has a rough perfection, which endows the simple forms of its architecture with a resonance and vitality.

All Dutch Embassy in Maputo
Sackler Galleries
London, England
Foster Associates
Architectural review, vol. 188, no. 1138, pp. 80-81, Dec 1981

Foster Associates' new Sackler Galleries in London's Royal Academy is a contemporary intervention. The architects' brief was the rationalisation of the building's circulation. The historic buildings has been restored and brought back to view.

The vertical circulation is through an oval glazed lift. The lift takes you to an elongated lobby brimming light. The light of the lobby comes through the glass connection used by the architects between the old and the new intervention. Foster Associates have reinstated the view as well as the physical form, of the historic fabric — in this case part of the long-unused rear façade of Burlington.

The whole north wall is glass, as is the adjacent strip of roof. The use of glass to connect the old and the new building is a lesson that will be applied to the design of the Marabastad Community Art Centre.
The Morgan Library
New York, USA
Renz Piano Building Workshop
Space, no. 47, pp. 38-47, Fall 2007

The Morgan in an old building founded by Pierpoint Morgan in 1906 and made a public institution in 1929, serving as a scholarly research library as well as a full service museum. Renzo Piano was charged not with enlarging but rather, as he put it, re-balancing and rethinking the institution which had grown somewhat haphazardly over the years into a three-plus-building sprawl. The new Morgan library is a modernist building.

The new steel and glass structures by Renzo Piano preserves the historic buildings and creates three new pavilions. The pavilions are joined to the old stone buildings by vertical slabs of glass. The new main entrance, facing Madison Avenue, leads to high glass roofed courtyard, inserted between the J.P. Morgan house, the original library building and its annex, from which all other museum and library activities radiate.

The significance of this building is its lobby. The openness of the ground floor level and the penetration of light into various parts of the building make the passer-by aware that there is something exciting going on inside the building. The new Marabastad Contemporary Art Centre has to have the same openness to it so as to entice passersby because the idea is to make art accessible to the people. Through the use of a glass façade this goal is easily achieved.
Tourcoing, France
Bernard Tschumi
G.A Document Works vol. 29: pp. 93-93
Architectural Record vol. 84, 1998, pp. 87-88

The design of this building was Tschumi's search for the "in-between". Tschumi added a new roof to protect the existing buildings. The principle of not removing the old building's roof and putting a new one on top of it will be implemented on the design of the Art Centre.
DESIGN

5
THE DESIGN FORMULATION

INTRODUCTION

In the following pages the author will attempt to communicate the design process, from design inception and conceptual work to the final design product. The process of design is one of drawing, redrawing, model building and redrawing. With the utilization of text and graphics the process of design will be communicated.
Design Method

Architectural theory, if it is to be of any use, should be composed of a set of what Cedric Price (1934-2003) terms working concepts. A working concept is a theoretical tool which allows the designer to make a series of consistent reasoned decisions. Good concepts are those that have the potential to shape the strategies that solve a stated design problem. Decisions regarding massing, program layout, materials and finishing can thus be brought in line and given coherence. Taken in this light it is clear that there is no inherent separation between theory and practice.

The working concept for this discourse is **accessibility**.

Physically: This refers to being able to be reached, or entered (English dictionary)

Abstract: On an abstract level accessibility refers to, being able to be understood or influenced. (English dictionary)

The process that was followed allowed the designer to learn from what has been done previously and to combine that, with her own ideas to create a design that is thought through.

"The nature of the design process and the contribution that it can make to the economy is greatly misunderstood and under-rated by the business sector. We (DAC) hope to change this misconception so we can begin to address the social and economic imbalances. We (DAC) have reached a point in our development where we have to look into our culture and history to define our identity and determine the future route." Deputy Minister, Department of Arts and Culture, N. Botha

The importance of the community and the role that they will play, is very important for the design proposed. The involvement of the community results in a rich design which will be appropriate and rational.

During the design process a stage was reached where an accommodation list could be developed. The list was generated through the researching of art centres, requirements of the users, site challenges and the design development.
This project for a Community Art Centre, envisions construction of a three storey building housing studios, a gallery, a café, a subject specific library, a multi functional hall, a computer lab, offices, a workshop and seminar rooms.

The plan’s organisation is dictated by the site. The entrance to the building is enhanced by the gallery on the west and a café on the east which both have strong forms. The programme is organised around a central triple volume lobby area which responds to all the spaces in the building.

To the west of the lobby is the gallery, to the east are the café, abolutions, a reception area vertical circulation and a multifunctional hall.

On the second floor is the subject specific library, a reading room, a computer lab, and offices. On the third floor is an open loft-like flexible studio spaces which are placed above the reading room and the computer lab. A roof terrace on the mezzanine level offers external leisure and workspaces overlooking significant views.
Programming

In the previous chapters the design strategies and concept were discussed, and the context was analysed. The information gathered will now be used to influence the design of the final product.

The process that will be followed from now on, will be to illustrate the graphic evolution of the design on a conceptual level, then the layout of the building will be illustrated, and each space within the building will be illustrated and discussed.
Legend:
1. Gallery
2. South entrance
3. Café
4. Lobby
5. Refectory
6. Lift lobby
7. Kitchen
8. Store area
9. Northern entrance
10. Multi-functional hall
11. Subject specific library
12. Reading room
13. Wall cup
14. Computer lab
15. Office working area
16. Fire escape wall
17. Office
18. Open-to-fringe
19. Open-plan offices
20. Studios
21. Kitchenettes
22. Workshops
23. Lounge
24. Seminar rooms
25. Exhibition area
26. Roof terrace

102. Longitudinal Section
103. Cross Section
Spatial ordering

“All paths of movement, whether of people, cars, goods, or services, are linear in nature. And all paths have a starting point, from which we are taken through a sequence of spaces to our destination. The contour of a path depends on our mode of transportation. While we as pedestrians can turn, pause, stop, and rest at will, a bicycle has less freedom, and a car even less, in changing its pace and direction abruptly.” (Ching, 1998, p. 252)

The ordering system that was used in the design is that of the principle of axes. The axes of the building will be the spine around which all the spatial ordering will follow. The other principle that was followed is one of rhythm. Rhythm in the design of the building would on plan view, be significance have a significance in the fact that it will differentiate between the old and new, for e.g. in the existing building, the floor finish will have a rhythm.
Urban spaces
focus: entrances and exits

The transition from public to private spaces are important in spatial ordering as it can integrate the building with the user.

The nodes formed by the design are on the North west corner of the site and the node between the old and the new building (forming the Northern and Southern entrances). The proportion and the scale are measured relative to one another. The nodes should be able to be utilised by both users and passers by.

The North-West node will be an informal art market which will form a commercial node. At this node users will be able to pause. The floor treatment in front of the stalls will be textured so as to slow down the pedestrians and also to make it easier for the people to identify where the stall counters are.

This node was initially going to be closed off by a garden wall. This idea was not developed as it would have defeated the idea of the working concept of the whole design—accessibility.
Access and Legibility

The building is to be provided with a clear circulation and service core, which can be clearly identified and will be legible for the users.

Two aspects of legibility will be considered:

- Legibility of the building within Marabastad, and
- Legibility of the facilities within the building for ease of use. For example, when users enter the building from any of the two entrances they will be able to locate the reception area.

The lift and the staircase will be visible from the reception area and the lobby.

The idea of creating a rhythm will be applied within the building's volumes. When a user enters the building they will see volumes in a form of blocks of different colours as illustrated on the ground floor plan.
IDENTITY
External facades, materials and finishes

The north and west facades will be finished with plaster and paint, and they will have a sheet metal sunscreen. The South façade of the new building will be of a glazed wall with a ceramic tile sunscreen. The eastern façade will have glazing and plaster and paint finishes.

On the ground floor level where there is a lot of pedestrian activity, attention will be given to the façade finish so as to ensure a more interactive and visually stimulating surface. Local artists will be involved in the design of these façade this will include artists painting murals.

The floor finish from the pavement to the inside of the building will be of robust natural materials. The material considered for the pavement is slate, because it is the current material used on site. The idea was abandoned, and clay bricks will be used instead. This is because clay bricks can be sourced from the area.

Fire escape stairs will be of metal.

Interior
The floors will be finished with bricks and concrete. The bricks will be used in what the author terms the “low street” of the building (the lobby area). This will create continuity from the outside into the building. This is in support of the concept of accessibility.
Form exploration

The form initially was for the intervention to have the same typology as the existing building. Due to the fact that the new intervention was competing with the old heritage building, the idea was not developed.

Idea 2
The idea then was for the designer to come up with an intervention that would respect the old building and also have its own presence. The ideas that were explored at the time were to come up with a contemporary building that will enhance the site and create a new layer. The ideas created problems of how the new contemporary building was going to touch the old building in a sensitive manner. This idea was not discarded but it was developed further.

Idea 3
The idea here was to come up with solutions that would result in the new intervention respecting the old heritage building for it to embrace the new Intervention. This was achieved through the use of the old building’s roof ‘embracing’ the new intervention. Even though the new building is higher than the old building, it is not competing nor imposing. The idea seemed to work hence it was developed further.
Technical Production

"Real technology must be employed in translating the brief and in the determination of the nature of operation, form and valid social life span of the proposed building. If indeed such an investigation suggests a building is the best solution". (Cedric Price, 2003, p308)

The most complex unit of any piece of architecture is the human being for whom it is designed. The goal of the technical production is to design a building, which will be sustainable and user friendly.
Passive design

"Passive design systems is a broad term used to encompass a wide range of strategies and options resulting in energy-efficient building design and increase occupant comfort. The concept emphasizes architectural design approaches that minimize building energy consumption by integrating conventional energy-efficient devices, such as mechanical and electrical pumps, fans, lighting fixtures and other equipment, with passive design elements, such as building siting, an efficient envelope, appropriate amounts of fenestration, increased daylighting design, and thermal mass.

Many passive buildings are compatible with active components such as solar hot water systems. Passive solar design balances all aspects of the energy use in a building: lighting, cooling, heating, and ventilation. It achieves this by combining, in a single concept, the use of renewable resources and conventional, energy-efficient strategies." [Hui, P. (2002)] (www.btu.hk/bsew/conf/k/solar_k.html)

The basic design principles that can be applied when one designs a passive building area:

- Design for thermal comfort, this can be achieved through thermal massing. Thermal mass is desirable for both summer and winter climate.
- Reduce glazing where possible or provide solar shading. (In the design of the centre where glazing is provided shading devices are offered).
- Design the building to maximise cross ventilation. Cross ventilation in summer can remove most of the heat in the building.
- Use deciduous trees for shading in the summer.

How the above principles have been applied in the design of the Art Centre will be discussed later.

Sustainable design strategy and materials

The issues pertaining to sustainable design is the use of recycled materials in the building. These materials will be sourced locally from the area where B. Kunz is proposing a building material recycling yard. All material that will be used in the building of the project will be sourced locally. Central to sustainable design is that the designed building should have low embodied energy and that the services designed for, should consume low energy.
Space

Site
The site is a consolidation of erfs 642, 643, 645, 646, 647 and 648. The site is owned by the City of Tshwane Metropolitan Municipality. All the buildings on site except the Orient Cinema will be demolished for reasons cited earlier. The bricks of the demolished buildings will be cleaned and re-used in the construction of the new building. The existing sewer lines will be moved and connected to the main sewer line on the eastern side of the site on 9th street.

The site’s existing building and the pedestrian interface influenced the geometry of the building.

Environmental qualities
Natural light will be utilised in the building. All spaces in the building will have appropriate natural light and will have views to the outside. The lobby will be the heart of the centre and a feeder area for people to other spaces in the building. The lobby will therefore have to be a vibrant social area that will act like a low street and in that case will have very few planting.

All the levels will have a view of the lobby, and of the outside. The use of natural light in the building is important in that it will add drama to all the spaces within the building through the shadows that will be cast.

Geometry
The geometry of the building was determined by the site, context, climate, user/building interface and the needs of the users. The site dictated that the form be North-South which is not desirable. The geometry of the building however, supports the flow of pedestrian movement. The form consist of two rectangular masses and a circular form on the South-Eastern side of the site. The geometry of the building plays an important role in how the users respond to the building. The South-East corner geometry for example, trees that corner and facilitates a smooth and easy movement around the corner while giving the user access to the interior space.

Structure
The structure of the building was determined mainly by the programme. The structure was also influenced by the working concept of accessibility and the idea of minimising energy consumption. Energy consumption strategies that were applied are:

- Insulation
- Heat storage
- Internal micro-climatic; and
- Illumination

Heat penetrates the interior of the building through windows and it is stored on the interior surfaces. The surfaces re-radiates some of the absorbed energy into the space and stores some of the energy. The amount
stored by the surfaces depends in the colour of the surface and its mass. For the Art Centre, the building of the structure will be labour-intensive in order to provide employment to the locals. For this reason in situ concrete structures will be specified even though it is a bit costly. Concrete as a material was chosen despite its high embodied energy. The advantage with concrete is that it is recyclable.

All the facades of the building except the Southern façade will have sun screening devices. Where sheetmetal sun screens are provided for, a square hollow section carries them. The sheetmetal screen protects the facades from the heat during the day.

Materials
The use of bricks generated from the recycling yard in the vicinity, as a building material, will contribute to sustainability. The steel that will be used in the building will be sourced from ISCOR Steel locally.

For the new building the designer will use a combination of 190 X 190 X 90 hollow clay blocks with a textured surface finish and a single skin of 90 X 90 X 90 modular bricks. The combination of the above will offer optimal thermal and acoustical performance.
Clay blocks offer good thermal performance through its cavity. Modular bricks act as thermal storage. In-situ concrete columns were used in the building. Two T steel sections bolted back-to-back are bolted to the columns to carry the long spanning curved roof.

The roof structure has a theme of lightness. The roof overhangs beyond the enclosure. The articulation of the roof is by structural RSJ sections. The pudlines used are top hats which create a shadow line when viewed from the interior. King Klip 700 sheetmetal was chosen as a roof material.

**Landscaping**

Hard landscaping is used around the site. The northern-western side of the site will be planted with trees. Floor finishes on the outside of the building are used to bring texture and also emphasis events that happen around the building, for example when access to the building is. 220x100x50mm clay corobrick pavers are used. The red colour of the pavers will highlight where the entrance and exits are. To carry on the theme of accessibility the same clay pavers are used in the inside of the building. Where other events happen, for
example where a food take away counter is provided for, access is emphasised through the use of stone pavers. In-situ concrete floors will also be used and the community will be involved in the patterning of those areas.

**Plants**

All plants that will be specified on site will be indigenous. On the North-Western side of the site the plants that will be specified are Tulbaghia violacea, Cape Aal and River Bush Willow. The Fever tree will also be specified.

On the South-Eastern corner of the site, fever trees will be planted as indicated on the plan. The old building will be lined with lavender trees along the entrance. Everywhere else on site where shrubs are specified, Cape thatching reeds will be planted.

**Facades**

The orientation of the building poses problems. The thermal properties of the western façade had to be addressed. Fortunately the existing building façade has a skin that is 365mm thick. Due to the depth of the building though, the building could not have glazing. The glazing was provided in order to allow natural light in the building. The new building also has glazing on the western façade to optimize natural light in the building.
Solar control

"At certain times of the year, in both temperate and hot climates, excessive solar radiation passing through glazing to interior surfaces and can cause occupant discomfort. External shading, especially when fixed, is a significant architectonic element as in the Schroder house by Gerrit Rietveld. Shading elements may be external, or internal; and seasonal, fixed, or movable. (Calofigli, P91, 1996). Different types of external shading suit different orientations. For west facing glazing, one needs to screen out low-level summer evening sun, and in such cases vertical screens are preferred. In other areas a combination of horizontal and vertical screening may be necessary.

Looking at the above diagrams it is clear that external shading devices are more effective than internal devices. After careful consideration external shading devices will be used in this design. The screen that will be used on the western façade will be composed of two 2mm perforated stainless steel screen. The outer sheet will have 60% perforations, and the inner façade will be 40% perforated. The outer perforations are smaller than the inner perforations are, this means that the light that goes through the screen will
and will lose most of the heat before it reaches the interior. The screen assembly will have a frame to hold the two sheet metals together.

**Ceramic tiles sun screen**
The façade of the library is screened with a ceramic tile sun screen. The tiles’ positions will be held in place fixed in position. This means that the tiles do not move. Local artist will be commissioned to design the tiles.
Glazing
Glass admits light and solar radiation into a building. Depending on the type of glass, a portion of incident radiation is admitted to heat a building. The fraction heat admitted is referred to as the Solar Heat Gain Factor (SHGF). It differs with the type of glass. The degree to which solar radiation of a given wavelength varies depending on material composition, thickness and the refractive index of glass. All glass have a shading factor; that is the heat gain of a particular glazing as a fraction of that allowed by clear glass. The following table outlines the shading factors of different types of glass.

<table>
<thead>
<tr>
<th>Glazing</th>
<th>SHGF</th>
<th>Shading Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear glass</td>
<td>0.04184</td>
<td>1</td>
</tr>
<tr>
<td>Heat absorbing glass</td>
<td>0.03784</td>
<td>0.78</td>
</tr>
<tr>
<td>Reflective glass</td>
<td>0.20184</td>
<td>0.36</td>
</tr>
<tr>
<td>Clear glass with reflective screen</td>
<td>0.14384</td>
<td>0.18</td>
</tr>
<tr>
<td>Double glazing</td>
<td>0.07584</td>
<td>0.80</td>
</tr>
</tbody>
</table>

The glass used on all facades except the library and the café is 6mm thick. The library and café will have a 12mm thick sovelvene glass tinted grey. All glazing is fit with mild steel mullions.
Ventilation
The primary mode of ventilation in this building is passive. Natural ventilation depends on where the openings in the building are. It also depends on air movement. In the library and all the spaces the visitors can open and close windows as will. This offers an opportunity for interaction with the building. There is also a small air conditioning plant provided for peak temperature.

Stack effect: Hot air radiated by a building’s occupants and equipment tends to rise towards the ceiling or open windows. This principle has been applied on all the windows on the Eastern side. The windows have an opening at the bottom and the top. The principle is that air vents out the top, thereby encouraging hot air to rise, and drawing fresh air at the bottom. The plan of the building is narrow, so as to facilitate cross ventilation from the calm North-Eastern winds in the morning and the North-Western winds in the afternoon.

Insulation
The roof is insulated with isoboard ceiling, in order to reduce heat gain. The concrete floor slabs and masonry walls mediate internal temperature variations through their mass.
Fire and emergency requirements

All steelwork in the building will be coated with fire protective coating.

Fire extinguishers: a fire extinguisher which can be easily reached, will be kept in the building. There are different types of fire extinguishers available: there are dry powder extinguishers, which are effective and can be recharged on site. The others are water fire extinguishers, which will take care of most fires, except electrical fires. In the building, a powder extinguisher will be used. A 45m fire hose will be provided for every 500m².

Water

Water that will be used on site will be municipal water. On the side where the informal market is situated, a tap will be provided for underneath the fire escape stalls. The tap will be used and managed by the informal traders.

The run-off water on site will be channeled towards the planters around the site. The planter beds will be well drained in order to prevent waterlogging around. The planters' bottoms will have gravel to provide effective drainage. On top of the gravel a mat will be put to prevent the next layer of sand to fall through. On top of this layer, ordinary potting soil will be used.
Services

A single connection is made to the municipal water supply with a 75mm diameter pipe. Single stack system (building less than 30m) with vent pipes will be used. The municipal sewerage to be connected to is on Mogul street.

Waste disposal from the kitchen and the building will happen on 9th Street.

Electrical: Electricity is needed for lighting, power, emergency, IT power and cabling, supplies to lifts, air conditioning, earthing and lighting protection, security, voice and data services.

Transport: Workers and visitors to the centre will have access to established public transport. They will have access to taxis, buses and trains. There are two bus terminals, a railway station and a few taxi ranks including long-distance taxi ranks.

Acoustics: Where required acoustics criteria are set out in the (SABS0103: 1994).
ARCHITECTURAL CONTEXT
Space

To travel (through a building) hopefully is a better thing than to arrive.
Robert L Stevenson 1805-94 in Price.

From the Atteridgeville precinct (on the West). The pedestrians coming from the West are dropped off by buses or taxis at the ranks. Depending on which mode of public transport they used they will experience the edges of Maboneng differently.
From the vibrant bus rank, which is open structure with a light roof structure, one is confronted by the sound of music, the smell of food sold on the markets that sell anything that one needs. On the Northern side of the bus rank there is a Tshwane Municipality fruit and vegetable market. On the Southern side there is open air retail shops.

Through walking in these spaces the pedestrian is confronted with the expansion and compression of urban spaces and different urban scales. A positive attribute about Maboneng is that it is an open and accessible urban area, where one can go anywhere.

By the time the user reaches the Community Art Centre, they will have experienced this vibe and interaction that only Maboneng can offer.

Through the verandahs of Boom Street and the pavement street vendors to the entrance of the building the user experiences expansion again before reaching the inside of the centre.

136. Bus rank
137. Maboneng retail market
138. Conceptual model
Before the user reaches the inside, they will be offered glimpses of the inside of the building mass through transparent vertical surfaces that break the solid mass at intervals and creating a rhythm. Through the transparent surfaces the pedestrians are given access to what is happening inside the building.

**Vehicles**

As a driver drives down Boom Street from the West, he experiences the intensity and vibrancy of the urban edge. The form of the building and the materials used in the vertical surfaces invites the drivers and their occupants to visit the centre. On the Northern side of the site the motorist will be invited by a vibrant art market where local art and crafts will be sold. **Access** for motorists is provided through the prominence, legibility, identity of the building and the art market.

On 8th Street, the user experiences interaction and accessibility into the building. **Accessibility** will be offered to the users through a glass facade on the ground floor level, and on the North-Eastern corner of the building, the building mass is broken with the use of glass in order to offer the users a glimpse of what is happening in the multi function hall.
Gallery

The gallery is located in the existing building which used to house the old cinema. In the gallery a layer of cement finish flooring will be laid on top of the existing floor. The new floor will be laid a few millimeters away from the walls of the existing building in order to highlight that there is a new intervention that is laid on top of existing architecture. It will be laid in such a way that it will create rhythm that runs across the direction of the way the users will walk. The rhythm that will be created will not appear regular to the eye. This will make moving in the space a special event.

The theme of creating rhythm is also applied on the roof by means of the truss. The gallery does not have a ceiling, the existing roof trusses will be exposed and therefore create a rhythm.
The initial design of the gallery had a ramp wrapped around the space. For practical reasons and after consultation with artists and curators, it was realized that by using the ramp, valuable wall space will be lost. The idea of the ramp wrapping around the gallery was therefore discarded.

A new ramp was designed in the middle of the gallery. The significance of a ramp in the space is that, a ramp creates a narrative in terms of drawing people towards something. The ramp in the space will lead people towards a part of a moveable wall that will have a historical reference to the old cinema. This wall will be fitted with a digital monitor. The ramp is a vertical access to the exhibition space on the first floor of the gallery where light sensitive exhibitions will take place.

The wall with a digital monitor will serve as a progressive monument in terms of:
- The building that used to house a cinema before, and the multimedia television has reference to film.
- With the use of film in the gallery, people will be exposed and therefore have access to other forms of art.

This idea was abandoned because it negates the working concept of accessibility. To access the next level would have been impractical for the disabled users.
Access through the lift became a more viable option. The users will use the lift and then use a bridge to go across to the gallery. The bridge will offer a different experience of the volumes in the building. From the bridge the users will be seduced by a focal point in a form of a wall that will have artwork hanging on it. Going to their left towards the exhibition space the users will have views of the artwork from a different angle.
Two hanging system options were researched for use in the gallery. Hanging walls and a hanging system whereby panels are hanged freely from the roof with cable. Both systems have advantages for curators and guests. Hanging walls are advantageous for curatorial functions. They use them to direct the flow of traffic within the space and also for dividing the space to create a certain rhythm or tempo in the gallery.

The panels that are hanging from the roof have an advantage of giving a three-dimensional aspect of the exhibition space.

After careful consideration the hanging walls were chosen as the hanging system that will be appropriate for the gallery space. The hanging walls will not have an impact on the existing walls of the gallery. The open space gallery with hanging walls was chosen because it will give an opportunity for the exhibits to refer and reflect to one another within the space.

The South-Western end of the gallery will have two levels, the ground level will house a dark room, and the first floor will be exhibition space for light insensitive exhibits. The dark room is placed at the end of the gallery because people in galleries tend to stop where there is an exhibition of digital media, therefore by putting the dark room at the end of the gallery, it will ensure that people will...
move in the space and view other art works before stopping to watch the digital media. The sculptures will be exhibited on the south-eastern side of the gallery opposite the dark room. The sculptures and exhibition for materials like pottery will be exhibited in glass structures and free standing pedestals.

Lighting in the gallery will be of either natural light for exhibitions of sculptures or of artificial light for the exhibition of light sensitive art works like photographs or paintings. The lights will be mounted on the roof for practical reasons and the will have to be able to rotate 360°. They will have to be able to move on the track so that they can be moved around depending on the size and the location of the artwork.

The light dosage in the gallery is 200lux, which is usually only possible to achieve with artificial light; 650 lux is a daylight component that will be used.
The Community
At the moment the people of Marabastad define the space more dynamically than the buildings in the area. It is the goal of the design of the Community Art Centre to achieve the same dynamism. The vibrant community of Marabastad will be involved in the design process. They will be consulted, they will build and they will be responsible for most of the aesthetics of the building. Local artists and community members will for example be given the responsibility of designing the furniture in and around the building. With the involvement of the community in the design of the building, the spaces that will be designed will have meaning to the community and therefore there will be a sense of ownership. With ownership the people are more willing to take responsibility of things.

In order to meet the needs of the users, educational and public programmes offered at the centre will focus on the following activities: (these activities were lessons learned from other community art centres with the same challenges both in South Africa and internationally.)

School programmes: Teachers and pupils/learners will be given access to the centre's facilities. This will be aimed at enhancing the schools curricula and encouraging people to accept, embrace and access art.

Youth programmes: with the levels of crime and unemployment facing our country, the centre will aim to provide the youth of the area with free activities outside the school environment. The youth will participate in hands on workshops, internship programmes and all other programmes related to the arts.

Family programmes: most people blame the wrong behaviour of children on their parents. They say parents do not spend enough time with their children. The centre will offer families an opportunity to spend time together. The programmes will be designed for children and their parents/guardians to experience the pleasures of exploring art.

Artists programmes: this programme will offer a few local artists an opportunity to use the studios for free for a short period (e.g. 6 months) and thereafter the artists will exhibit all their work in the centre. This will offer the artists access to facilities and a wide audience.

Adult programmes: Adult programmes will mainly be providing activities in conjunction with exhibitions.

Scholarships will also be offered through the DAC. The above programmes are seen as catalysts in making art accessible to a wider audience, especially targeting the people who viewed art as being elitist. In conjunction with the programmes, public tours, wall text (community responsibility), and brochures will be available to the users of the centre.

The Nature of Community Involvement
Where concrete floors are specified, the community will be involved in the laying of tiles in patterns that they will design and in the process skills will be developed. The community will be involved in the design of all public space floor finishes for example the lobby area.
From the above discussions and design process, the author is able to reflect on the goals that were set at the beginning and evaluate if they were achieved. The designer throughout strived for a design that would be in context, appropriate and accessible, and one that would be responsive and positively contributing to the environment.

At the heart of the design discourse was how the designer could make art accessible to the majority of the ‘ordinary’ people both physically and abstractly. To achieve this goal the designer strived to follow a design process of integrity and relevance.

The process was a learning curve worth every sacrifice made by all involved, directly or indirectly.


