



DINGAKENG: A CENTRE FOR TRADITIONAL HEALTH PRACTITIONERS

CREATING A LINK BETWEEN TRADITIONAL AND MODERN MEDICINE

Submitted in fulfilment of the requirements for the degree of Magister in Architecture [Professional] in the Faculty of Engineering, Built Environment and Information Technology at the University of Pretoria.

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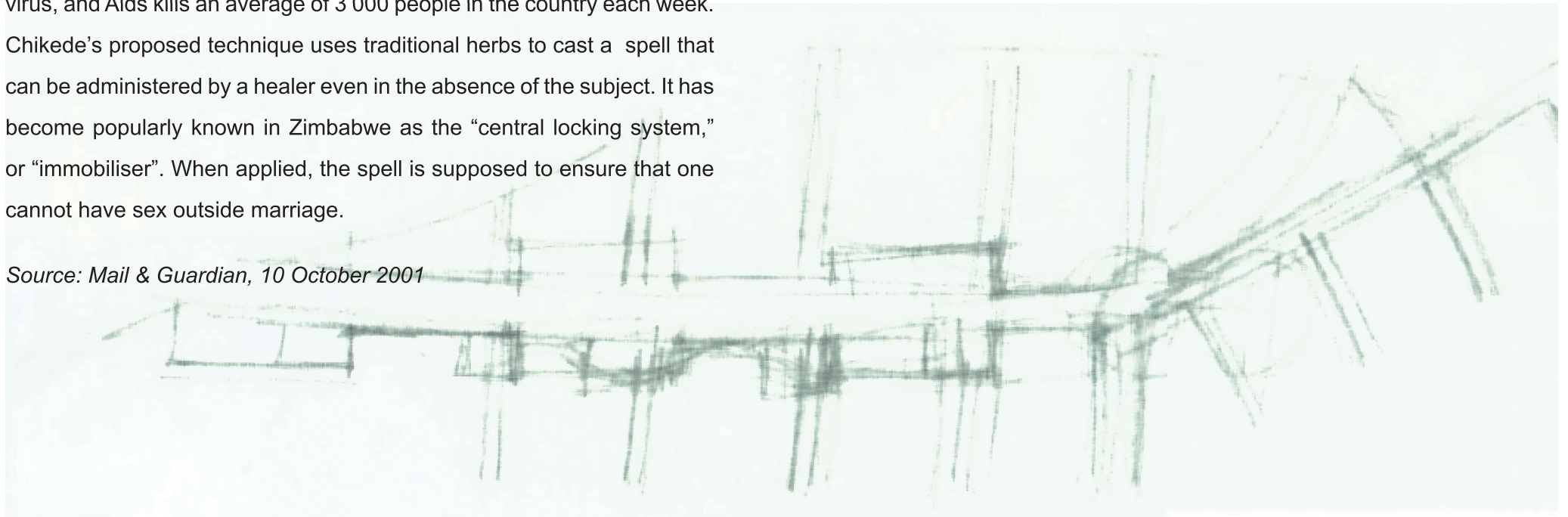
Zimbabwe healer moots magic chastity potion

A ZIMBABWEAN healer wants to promote the use of a traditional spell that ensures fidelity, alongside the more conventional methods of condoms and abstinence to curb the spread of Aids in the country.

Healer Mutsa Chikede came up with the idea of using a technique that involves magically “locking” women and immobilising men, to bar them from having extra-marital sex, alongside condoms and abstinence because the latter only have a limited impact on stemming the spread of Aids in Zimbabwe.

Around one in four of Zimbabwe’s adult population is infected with the HIV virus, and Aids kills an average of 3 000 people in the country each week. Chikede’s proposed technique uses traditional herbs to cast a spell that can be administered by a healer even in the absence of the subject. It has become popularly known in Zimbabwe as the “central locking system,” or “immobiliser”. When applied, the spell is supposed to ensure that one cannot have sex outside marriage.

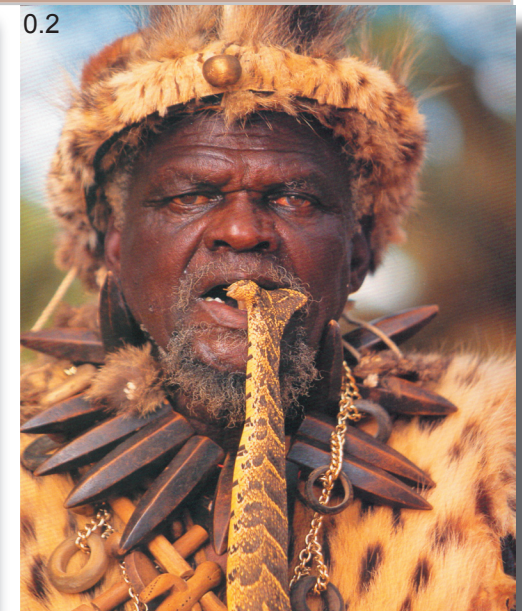
Source: Mail & Guardian, 10 October 2001



Overview

This dissertation explores the fusion of traditional health practise in the context of the city. The primary objective of this dissertation is to expose people to the spirituality and sacredness of the indigenous South African health practices but also help reverse the guilt and inferiority complex usually associated with such practices.

People in the city find themselves having to travel long distances to rural areas to consult *inyangas* and/or *sangomas*. This dissertation also tries to find a solution on how to design a facility in an urban context that is going to accommodate *inyangas* and *sangomas* that is going to reflect the indigenusness of the practice.. Therefore, people will have easy access and not have to travel long distances for consultation. The Dingakeng Centre is going to be the first step in creating a link between the traditional and the modern health practice. The name *Dingakeng* is a Setswana word meaning a place of the traditional healers



I AM AN AFRICAN

I am an African.

I owe my being to the hills and the valleys, the mountains and the glades, the rivers, the deserts, the trees, the flowers, the seas and the ever-changing seasons that define the face of our native land.

My body has frozen in our frosts and in our latter-day snows. It has thawed in the warmth of our sunshine and melted in the heat of the midday sun.

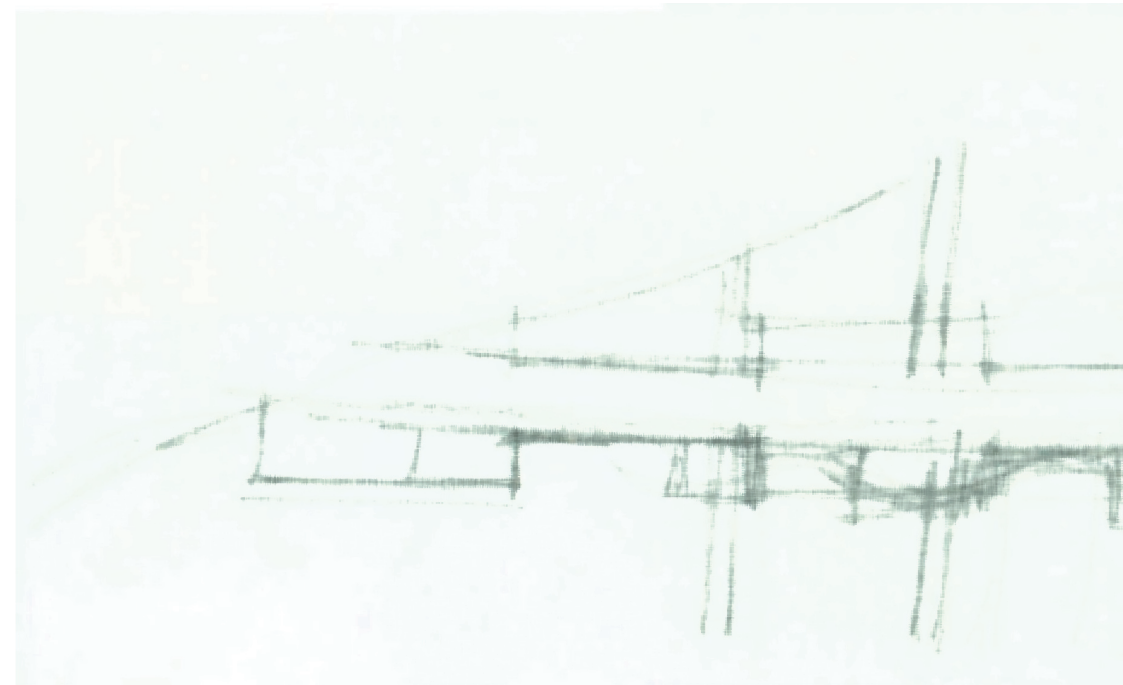
The crack and the rumble of the summer thunders, lashed by startling lightening, have been a cause both of trembling and of hope. The fragrances of nature have been as pleasant to us as the sight of the wild blooms of the citizens of the veld.

The dramatic shapes of the Drakensberg, the soil-coloured waters of the Lekoa, iGqili noThukela, and the sands of the Kgalagadi, have all been panels of the set on the natural stage on which we act out the foolish deeds of the theatre of our day.

A human presence among all these, a feature on the face of our native land thus defined, I know that none dare challenge me when I say - I am an African!

(Deputy President Thabo Mbeki, 1996, at the adoption of the Costitution)

(Source: <http://www.gov.info.co.za>)



Glossary of terms

“*Abakhetwa*” : means traditional male initiates at circumcision schools

“*Badimo*” : Ancestors or the departed; they communicate with God on behalf of the people

“*Lethwasa*” : means a person studying to become a traditional healer

“*Muti* “: means an object or substance used in traditional health practice for the purpose of:

(a) the diagnosis, treatment or prevention of a physical or mental illness; or

(b) for any curative or therapeutic purpose, including the maintenance or restoration of physical or mental health or wellbeing

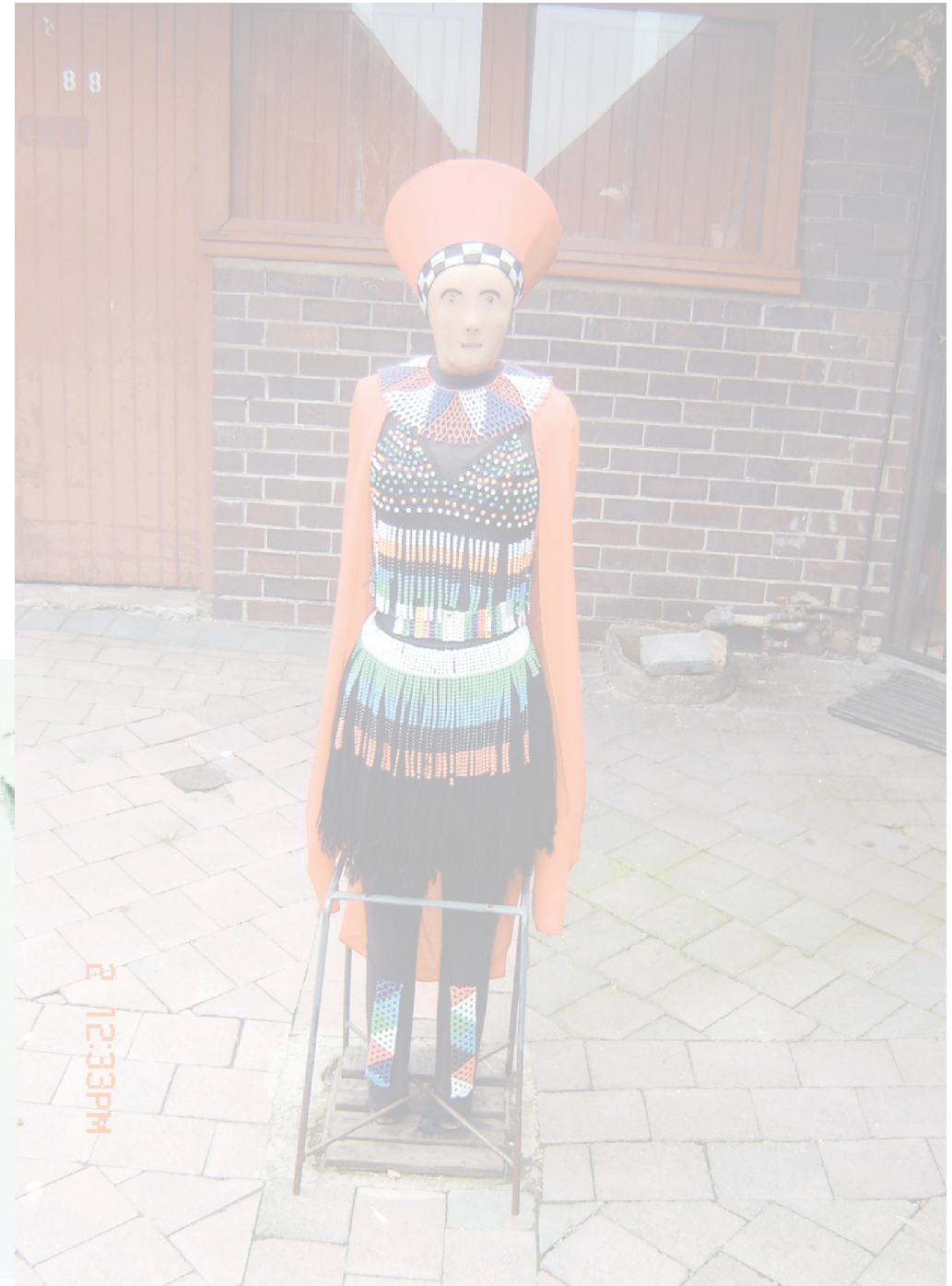
(c) in human beings, but does not include a substance used for the satisfaction or relief or a habit or craving for the substance used.

“traditional health practitioner” means a person registered or required to be registered in terms of the Traditional Health Practitioner’s Act (2003), and includes a traditional birth attendant and a traditional surgeon (*inyanga* and *sangoma*);

“traditional health practice” means the performance of a function, activity, process or service that includes the utilization of a traditional medicine or a traditional practice and which has as its object

“traditional birth attendant” means a person who attends at and assists with the birth of a child or who assists and advises pregnant women or women who have just given birth concerning prenatal, perinatal and postnatal matters;

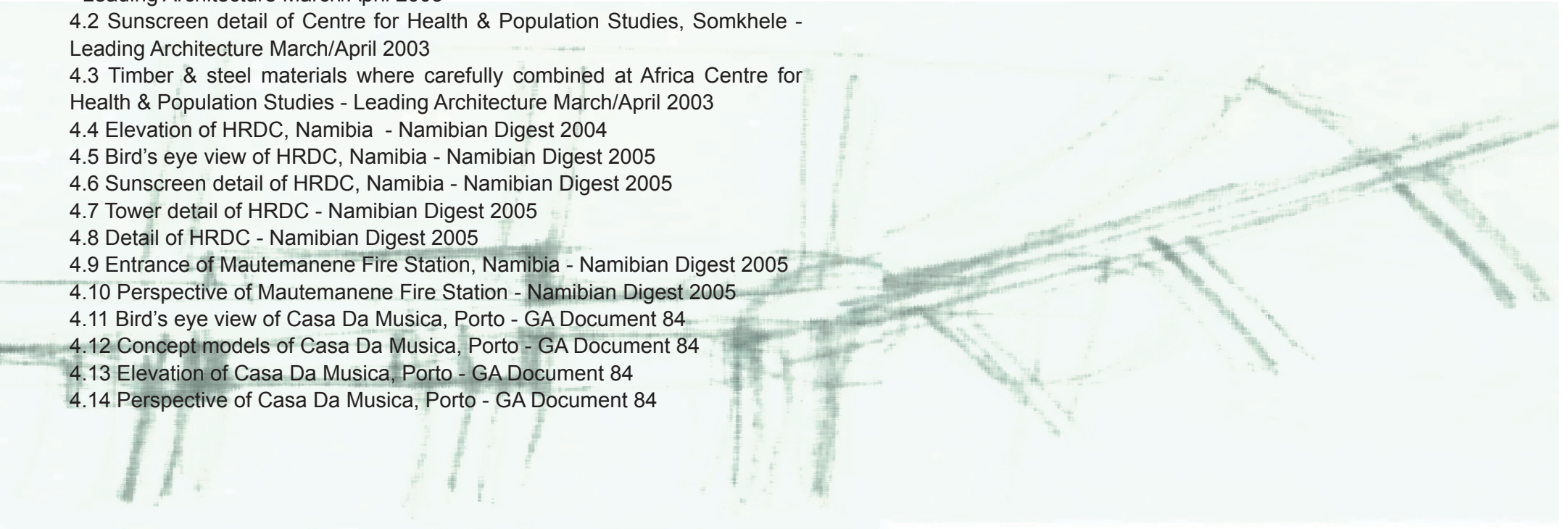
“traditional surgeon” (*ingcibi*) means a person who performs circumcision as part of an African cultural initiation ceremony.



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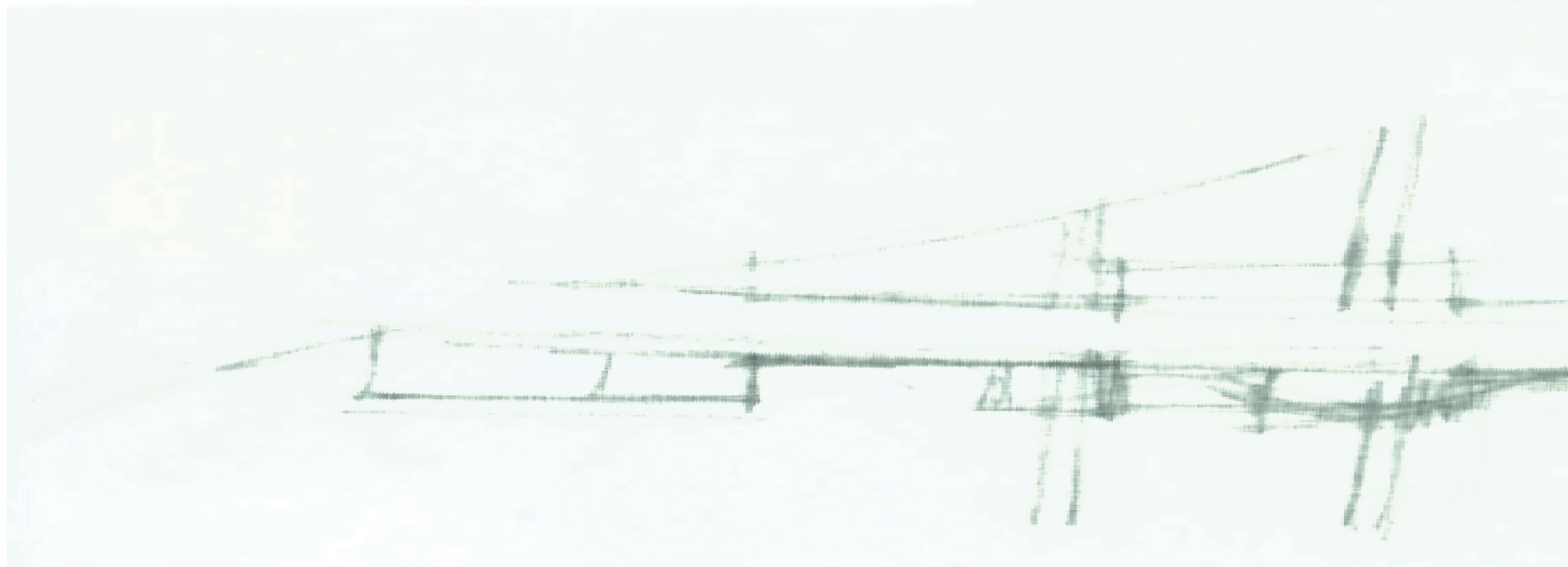


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Appendix

1. Introduction

1.1 Background

Africans have been using traditional medicine since time immemorial. According to World Health Organization (WHO), up to 80% of the African population uses traditional medicine to help meet their health care needs. In Asia and Latin America, populations continue to use traditional medicine as a result of historical circumstances and cultural beliefs. In China, traditional medicine accounts for around 40% of all health care delivered (<http://www.who.int/en>).

Traditional medicine is highly popular in many developing countries because it is firmly embedded within wider belief systems. The broad use of traditional medicine is often attributed to its accessibility and affordability. Usually, traditional medicine is often the only affordable means of health care in many developing countries, especially for the world's poorest patients (*ibid*).

In most cases the traditional healers understand the family history of most of their patients (Makinde 1988: 103). Consulting an *inyanga* or *sangoma* is part of culture of most Africans. The *inyangas* have always been using plants and animal substances as preventive, protective, and curative medicine. Majority of the Africans believe traditional healers understand the causes of their illnesses and diseases better than the Western medical doctors.

The popular media in South Africa often carry horror stories of traditional medicine and it's practitioners, while sensationalist articles have escalated with the rise of AIDS epidemic. Reports of the prescription of mysterious herbal treatments or *muti*, healers who claim to have found the cure for AIDS, and unethical and unsavoury behaviour relating to the treatment of patients can often be found on the pages of newspapers and magazines.



Fig 1.1: Credo Mutwa, famous Sanusi



Fig 1.2: Sangoma

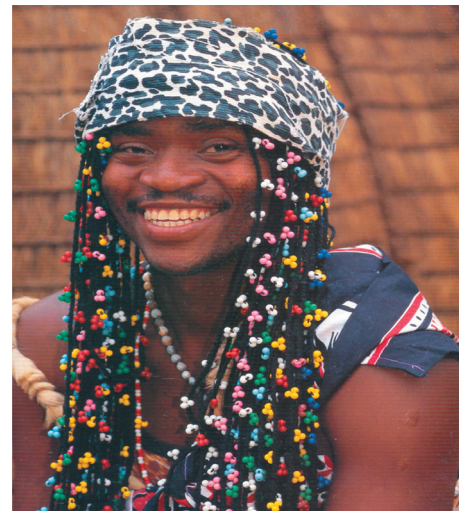


Fig 1.3: Lungani Ndlovu, famous sangoma

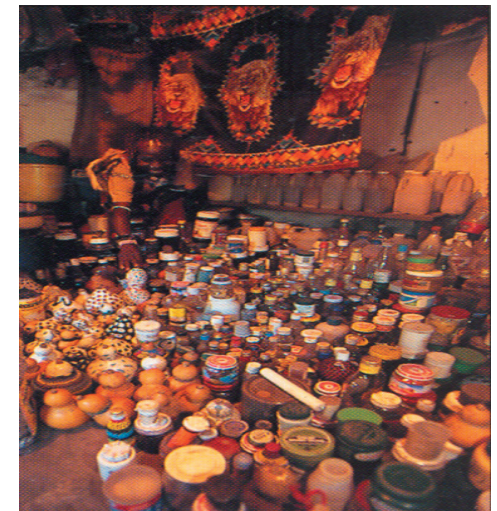


Fig 1.4: Muti

Since the turn of the last century, there has been an influx of people in the city due to rapid urbanisation. Most of the people were coming from the rural areas and had to adapt to a life in the city. Therefore, people in the cities found themselves travelling long distances to consult either an *inyanga* or *sangoma* in the rural areas.

There are, of course, problems that need to be addressed if the traditional healer is going to be a continuous effective participant in the health care system. Firstly, many *inyangas* and *sangomas* are reluctant to allow their formulae to be put on record or tested. There is sort of secrecy surrounding the practice, and this is a serious handicap. The secretive nature of their knowledge has made the “principle and practice of traditional medicine inaccessible to curious minds” (Gbadgesin 1991:133).

Without records, many of the “formulae that could be useful have died with their discoverers” (*ibid*). Hence it is said, “the death of a genuine healer is tantamount to the loss of library” (Makinde 1191:91). Western medical doctors, on the other hand, do not encourage such records because of their negative attitude towards traditional medicine.

As Akin Makinde (*ibid*) wrote, the main reason why traditional medicine has led to no discovery in the medical sciences is because traditional healers do not reveal their secrets to anyone except their children or immediate relatives. This is due to the fact that many of them have long family traditions as healers and new generations get introduced to the intricacies early in life. It is not unusual for a child to start learning at the age of seven. In such a situation, by the time he becomes an adult he must have an encyclopaedic knowledge of herbal medicine (Gbadegesin 1991:132).



Figures 1.5-1.8 : Durban muti market (Architects: OMM)

1.2 The Client

The Government has realised the importance of incorporating traditional health practice within the health sector. In 31 August 2005, South Africa joined the rest of the world to celebrate African Traditional Medicines Day. The World Health Organisation (WHO) declared the 31st of August as an African Health Day in 2003 (<http://www.info.gov.za>)

The theme of last year (2005) was: “African traditional medicine: Contributing to preventing HIV infection.” The theme was in line with the resolution taken by the African Ministers of Health at the 55th session of the WHO Regional Committee held in Maputo earlier this year to declare the 2006 as the “Year for Acceleration of HIV Prevention in Africa” (*ibid*).

Earlier this year (2006), at a conference for researchers and research-funders, the Minister of Health manto Tshabalala-Msimang said in her speech that “research and development of African traditional medicine should be one of the main priorities for research in South Africa” (<http://www.doh.gov.za.docs/news>).

Understanding that we are Africans with a particularly history dating back several centuries, Minister Tshabalala-Msimang said South Africa needs to pay attention to those things that sustained the health of Africans throughout their history of denied access to health and other basic services.

Tshabalala-Msimang said at the conference that there is a need to invest the resources and efforts into the research and development of African traditional medicines which have been suppressed through several years of colonialism and apartheid. (*ibid*).



Fig 1.9: Entrance of Kwa-Mai-Mai
Architect: Rob Lloyd



Fig 1.10: KwaMai-Mai



Fig 1.11: Faraday Muti Market
Architects: Albonico Sacks

“Our success in the research and development of African traditional medicine will probably be the best contribution the health sector can make to the African Renaissance” *Health Minister Manto Tshabala-Msimang*

The Department of Health will soon launch the Council for Traditional Health Practitioners as required by the Traditional Health Practitioners Act (2003).

The Council will regulate traditional health practice by:

- Creating a registry for persons who engage in traditional health practice,
- Setting competency levels for practitioners,
- Maintain ethical and professional standards,
- And facilitate interaction with other sectors in the health system (*ibid*).

Traditional medicine has a major role to play in the health system covering areas such as health promotion, prevention, diagnosis and treatment of diseases.

According to the NEPAD Health Strategy report, about 23,000 qualified health professionals emigrate annually, while AIDS is taking its toll on the health workforce (<http://www.afro.who.int>). Therefore, Dingakeng Centre will help reduce the burden that is faced by the Department of Health of shortage of health workers in the country.

This health strategy follows the openness of NEPAD in looking into the root causes of Africa’s ills and Africa’s potential as the basis for lessons for the way forward. NEPAD proposes primary strategic directions for addressing the health problems and their underlying determinants.

It is a comprehensive strategy that takes into account existing initiatives and previously adopted decisions and resolutions by African Heads of State and Government and Ministers of Health, such as at the United Nations General Assemblies on AIDS and Children and in various regional fora, such as the annual OAU/AU, WHO Regional Committees for Africa and the Eastern

Mediterranean and at the African Heads of State Summits on AIDS, TB and other Infections and on Malaria (*ibid*).

Like most developing countries, stewardship of traditional medicine remains weak in Africa because of insufficient documentation and evidence on efficacy and safety of traditional medicines and a lack of knowledge of its practices and behaviours. The result is poor co-ordination between traditional medicine and the rest of the health system, and a lack of protection of intellectual property rights and endangered medicinal plants (*ibid*).

There is growing recognition of the importance of health in development strategies of NEPAD, exemplified by the fact that three of the Millennium Development Goals are directly related to health: reducing child mortality, improving maternal health and combating HIV/AIDS, malaria and other diseases (*ibid*).

The NEPAD Health Strategy embraces the spirit of the Rio Declaration¹¹ that ‘Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature’. This vision was reiterated in the Declaration of the Johannesburg World Summit on Sustainable Development.

While recognizing that this vision remains distant for many African people, the NEPAD Health Strategy represents an important step to bestow future African generations with a real prospect of life free from a heavy burden of avoidable disease and disability and premature death.

1.2.1 Africa faces a huge burden of preventable disease, disability and death

Health is one of the most serious casualties consequent on the poverty, social exclusion, marginalisation and lack of sustainable development in Africa. The numbers of premature deaths (mortality) illustrate this starkly, but there are also high levels of suffering (morbidity) and disability. Africa's 800 million people face a huge burden of preventable and treatable health problems, which not only cause unnecessary death and suffering, but also undermine economic development and damage the continent's social fabric (<http://www.africa-union.org>).

The burden is in spite of the availability of suitable tools and technology for prevention and treatment and is largely rooted in poverty and in weak health systems. Indeed, although similar to China, India and the Eastern Mediterranean in the 1960s, the health status of the people of sub-Saharan Africa is now worse than any other region in the world (*Ibid*).

"Inyangas carry the secrets of a society... They know the history of the community." Credo Mutwa, from *Indaba My Children*.



Figure 1.12: Traditional Zulu huts

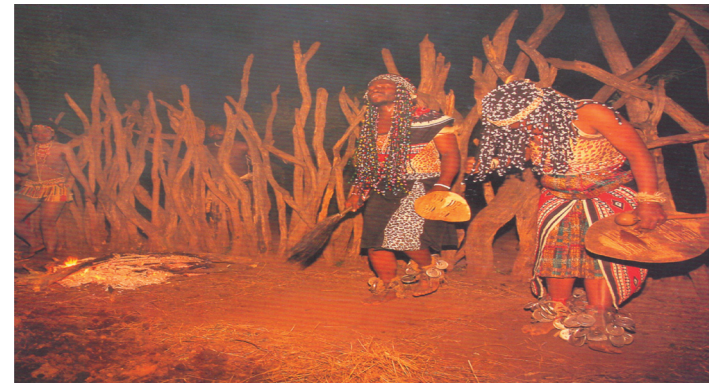
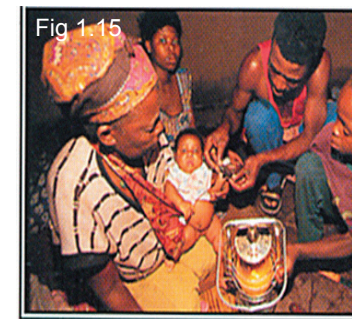


Figure 1.13: Sangomas during ritual dancing



Figures 1.14-1.15: Baby dedication ceremony to ancestors

1.3 Traditional Medicine v/s Complementary and Alternative Medicine



According to the WHO Traditional Medicine Strategy (2002-2005), the use of traditional medicine (TM) remains widespread in developing countries, while the use of complementary and alternative medicine (CAM) is increasing rapidly in developed countries. In many parts of the world, policy-makers, health professionals and the public are wrestling with questions about the safety, efficacy, quality, availability, preservation and further development of this type of health care.

1.3.1 What is Traditional Medicine (TM)?

“Traditional medicine” is a comprehensive term used to refer both to TM systems such as traditional Chinese medicine, Indian *ayurveda* and Arabic *unani* medicine, and to various forms of indigenous medicine. TM therapies include medication therapies (herbal medicines, animal parts and/or minerals) and non-medication therapies (without the use of medication, as in the case of acupuncture, manual therapies and spiritual therapies) (*ibid*).



Figures 1.16 : Traditional herbs

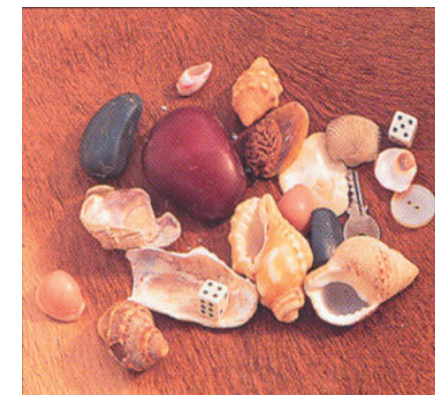


Figure 1.17: *Ditaola* (Bones)

In countries where the dominant health care system is based on allopathic medicine, or where TM has not been incorporated into the national health care system, TM is often termed “complementary”, “alternative” or “non-conventional” medicine (*ibid*).

TM is widely used and of rapidly growing health system and economic importance. In Africa up to 80% of the population uses TM to help meet their health care needs. In Asia and Latin America, populations continue to use TM as a result of historical circumstances and cultural beliefs. In China, TM accounts for around 40% of all health care delivered.

Meanwhile, in many developed countries, CAM is becoming more and more popular. The percentage of the population which has used CAM at least once is 48% in Australia, 70% in Canada, 42% in USA, 38% in Belgium and 75% in France (*ibid*).



Figure 1.18: Sangomas communicating with *badimo* (ancestors)



Figure 1.19: Khekhekhe leading *mathwasa* (initiates)



Figure 1.20: *Mathwasa* dancing during initiation ceremony

1.3.2 Why such broad use?

1. Affordable and accessible in developing countries

In developing countries, the broad use of TM is often attributable to its accessibility and affordability. In Uganda, for instance, the ratio of TM practitioners to population is between 1:200 and 1:400. This contrasts starkly with the availability of allopathic practitioners, for which the ratio is typically 1:20 000 or less (<http://www.who.int>).

TM is sometimes also the only affordable source of health care especially for the world's poorest patients. In Ghana, Kenya and Mali, research has shown that a course of pyrimethamine/ sulfadoxine antimalarials can cost several dollars. Yet per capita out-of-pocket health expenditure in Ghana and Kenya amounts to only around US\$ 6 per year (*ibid*).

Conversely, herbal medicines for treating malaria are considerably cheaper and may sometimes even be paid for in kind and/or according to the “wealth” of the client. TM is also highly popular in many developing countries because it is firmly embedded within wider belief systems (*ibid*).

2. Alternative approach to health care in developed countries

In many developed countries popular use of CAM is fuelled by concern about the adverse effects of chemical drugs, questioning of the approaches and assumptions of allopathic medicine, and greater public access to health information.

At the same time, longer life expectancy has brought with it increased risks of developing chronic, debilitating diseases such as heart disease, cancer, diabetes and mental disorders. For many patients, CAM appears to offer gentler means of managing such diseases than does allopathic medicine (*ibid*).

1.3.3 Uncritical enthusiasm versus uninformed scepticism

Many TM/CAM providers seek continued or increased recognition and support for their field. At the same time many allopathic medicine professionals, even those in countries with a strong history of TM, express strong reservations and often frank disbelief about the purported benefits of TM/CAM. Regulators wrestle with questions of safety and efficacy of traditional herbal medicines, while many industry groups and consumers resist any health policy developments that could limit access to TM/CAM therapies.

Reports of powerful immunostimulant effects for some traditional medicines raise hope among HIV-infected individuals, but others worry that the use of such “cures” will mislead people living with HIV/AIDS and delay treatment with “proven” therapies.

1.3.4 Challenges in developing TM/CAM potential

To maximize the potential of TM/CAM as a source of health care, a number of issues must first be tackled. They relate to: policy; safety; efficacy and quality; access; and rational use.

(a) Policy

According to WHO, relatively very few countries have developed a policy on TM and/or CAM. Only 25 of WHO's 191 Member States have a policy on TM and/or CAM. Yet such a policy provides a sound basis for defining the role of TM/CAM in national health care delivery, ensuring that the necessary regulatory and legal mechanisms are created for promoting and maintaining good practice, that access is equitable, and that the authenticity, safety and efficacy of therapies are assured. It can also help to ensure sufficient provision of financial resources for research, education and training.

(b) Safety, efficacy and quality: Crucial to extending TM/CAM

TM/CAM practices have developed within different cultures in different regions. Therefore, there has been no parallel development of standards and methods, either national or international, for evaluating them.

Evaluation of TM/CAM products is problematic. This is especially true of herbal medicines (*muti*), the effectiveness and quality of which can be influenced by numerous factors. Unsurprisingly, research into TM/CAM has been inadequate, resulting in paucity of data and inadequate development of methodology. This in turn has slowed development of regulation and legislation for TM/CAM.

According to WHO, many TM/CAM therapies have promising potential, and are increasingly used. Many of them are untested and their use not monitored. As a result, knowledge of their potential side-effects is limited. This makes identification of the safest and most effective therapies, and promotion of their rational use more difficult. If TM/CAM is to be promoted as a source of health care, efforts to promote its rational use, and identification of the safest and most effective therapies will be crucial.

(c) Access: making TM/CAM available and affordable

Although many populations in developing countries are reported as depending heavily on TM to help meet their health care needs, precise data are lacking. Quantitative research to ascertain levels of existing access (both financial and geographical) and extending such access, are called for.

Also, if access is to be increased substantially, the natural resources must be protected. Raw materials for herbal medicines, for instance, are sometimes over-harvested from wild plant populations.

(d) Rational use: ensuring appropriateness and cost-effectiveness

Rational use of TM/CAM has many aspects including: qualification and licensing of providers; proper use of products of assured quality; good communication between TM/CAM providers, allopathic practitioners and patients; and provision of scientific information. Challenges in education and training are twofold. Firstly, ensuring that the knowledge, qualification and training of TM/CAM providers are adequate.

Secondly, using training to ensure that TM/CAM providers and allopathic practitioners understand and appreciate the complementarity of the types of health care they offer. Proper use of products of assured quality could also do much to reduce risks associated with TM/CAM products such as herbal medicines (*muti*).

1.3.5 Safety and efficacy issues

Scientific evidence from randomized clinical trials is only strong for many uses of acupuncture, some herbal medicines and for some of the manual therapies. Further research is needed to ascertain the efficacy and safety of several other practices and medicinal plants.

Unregulated or inappropriate use of traditional medicines and practices can have negative or dangerous effects.

For instance, the herb “Ma Huang” (Ephedra) is traditionally used in China to treat respiratory congestion. In the United States, the herb was marketed as a dietary aid, whose over dosage led to at least a dozen deaths, heart attacks and strokes.

In Belgium, at least 70 people required renal transplant or dialysis for interstitial fibrosis of the kidney after taking a herbal preparation made from the wrong species of plant as slimming treatment.

1.3.6 Biodiversity and sustainability

In addition to patient safety issues, there is the risk that a growing herbal market and its great commercial benefit might pose a threat to biodiversity through the over harvesting of the raw material for herbal medicines and other natural health care products. These practices, if not controlled, may lead to the extinction of endangered species and the destruction of natural habitats and resources.

Another related issue is that at present, the requirements for protection provided under international standards for patent law and by most national conventional patent laws are inadequate to protect traditional knowledge and biodiversity.

“To speak of ‘alternative’ medicine is . . . like talking about foreigners- both terms are very pejorative and refer to large, heterogenous categories defined by what they are not rather than by what they are” (Pietroni, 1992).

1.3.7 Tried and tested methods

25% of modern medicines are made from plants first used traditionally. Acupuncture has been proven effective in relieving postoperative pain, nausea during pregnancy, nausea and vomiting resulting from chemotherapy, and dental pain with extremely low side effects. It can also alleviate anxiety, panic disorders and insomnia.

Yoga can reduce asthma attacks while Tai Ji techniques can help the elderly reduce their fear of falls.

TM can also have impact on infectious diseases. For example, the Chinese herbal remedy *Artemisia annua*, used in China for almost 2000 years has been found to be effective against resistant malaria and could create a breakthrough in preventing almost one million deaths annually, most of them children, from severe malaria.

In South Africa, the Medical Research Council is conducting studies on the efficacy of the plant *Sutherlandia Microphylla* in treating AIDS patients. Traditionally used as a tonic, this plant may increase energy, appetite and body mass in people living with HIV.



Figure 1.21: A sangoma preparing muti



Figure 1.22: An inyanga selling muti

1.3.8 Communicable and Non-Communicable diseases

The HIV/AIDS epidemic poses an unprecedented challenge for Africa, reversing the gains made in life expectancy over the past half century. Life expectancy in the most severely affected countries has been reduced by almost a third, from 60 years to 43 years (<http://www.who.int>).

2.4 million people died from AIDS in 2002 and around 3.5 million new infections occurred. HIV prevalence in adults ranges from 1 per cent in some countries in North Africa to above 30 per cent in the high prevalence countries in Southern Africa, where it is estimated that economic growth has been slowed by 2.6%. The growing number of AIDS orphans starkly illustrates the social impact of HIV (*ibid*).

Examples are the 1 million deaths caused by malaria each year and the 600 000 deaths (on average 30-40 years prematurely) caused by tuberculosis. Malaria has slowed economic growth by 1.3% per annum at a \$12 billion economic cost. 34 countries have a tuberculosis burden exceeding the 300 per 100 000 population benchmark for severe disease, with 1.6 million new active cases occurring annually. Sleeping sickness is resurging, affecting between 300 000 and 500 000 people annually (*ibid*).

“You cannot fight an evil disease with sweet medicine.”
A popular saying amongst *inyangas*.



Figure 1.23: Urban muti market



Fig 1.24: Khekhekhe, famous *inyanga*



Fig 1.25: Some of the *muti* being sold

Table 1.1: Some of the countries that use TM

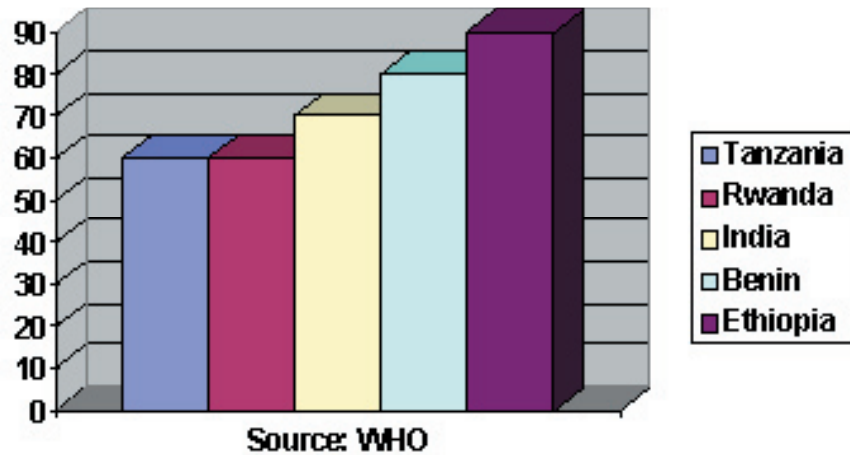


Table 1.2: Percentage of people who have used CAM at least once

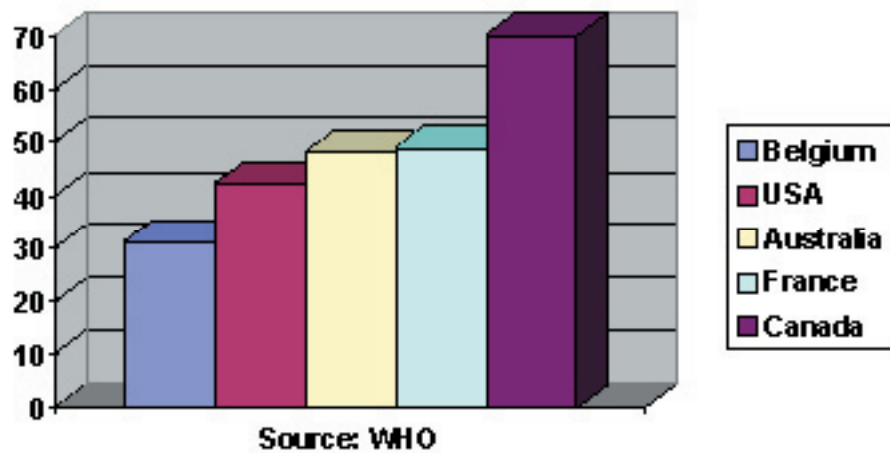


Figure 1.26: Emblem of NEPAD

1.4 The role of African Indigenous Churches

African Indigenous Churches played a major role among Africans especially during oppression. Europeans did not understand Africans and their culture when they brought Christianity into Africa. African Indigenous Churches combine Christianity with some elements of traditional African belief. Thus they are, in several significant ways, different from the mainstream Christian churches, brought to the Southern African subcontinent by European missionaries, that adhere to conventional Christian beliefs and practices. (<http://www.folklife.si.edu/resources/festival1997/faithin.htm>).

African Indigenous Churches filled a void that was created by the Western Churches. According to Reverent John S. Mbiti, African religions are older than both Islam and Christianity. Many books incorrectly speak of 'ancestor worship' to describe African religions. African religious activities chiefly focused upon the relationship between human beings and the departed (Mbiti 1969: 26). As Mbiti wrote, making sacrifices unto ancestors is "part of continuing fellowship not worship" (*Ibid*).

In the families fellowship with the ancestors is usually performed by the eldest member of the family. Such an act of worship can either be for immediate needs or simply inherited practise (Mbiti 1969: 58).



Fig 1.30: AmaNazarite during pilgrimage on mountains

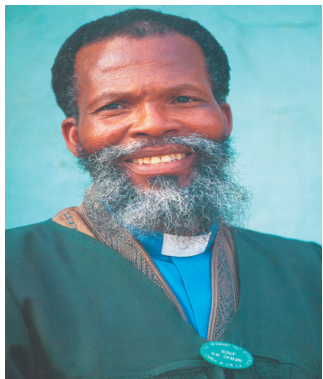


Fig 1.27: Bishop Sikakane of the Zionists Church

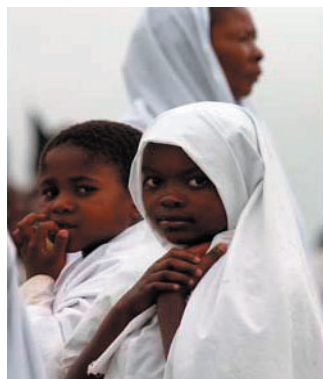


Fig 1.28: Amantobazana (Virgins)



Fig 1.29 : Zionists during prayer



Fig 1.31: Zionists during church service

1.4.1 Zion Christian Church (ZCC)

ZCC is the largest and fastest growing of the African indigenous churches in South Africa. The church members, estimated to be between 2 million and 6 million in 4000 parishes, live primarily in urban townships and rural areas. The ZCC was established in 1910 by Engenas Lekganyane, a farm worker in the area that was later to become Zion City (Moria), in Limpopo Province. The ZCC took its name from Biblical references to the mount of Zion in Jerusalem, based in part on the inspiration of a similar community in Zion, Illinois (http://countrystudies.us/south_africa/54.htm).

The growth of African Indigenous Churches was spurred by the anti-apartheid movement. The Zionist churches did not break away directly from the mission establishment; their origins lie, instead, in Zion City, Illinois, where John Alexander Dowie (1847-1907) founded the Christian Catholic Apostolic Church in 1896. The influence of his church spread to South Africa in 1904 when Daniel Bryant baptized several Africans (<http://www.folklife.si.edu/resources/festival1997/faithin.htm>).

The ZCC respects traditional African religious beliefs, in general, especially those concerning the power of the ancestors to intercede on behalf of humans. As a Zionist organization, the ZCC is characterized by an emphasis on divine and faith healing, purification rites, dancing, night communion, river baptism, the holy spirit, taboos, and prophesying and so on (*ibid*).



Figure 1.32: Mokhukhu (ZCC male dancers) in action

1.4.2 Nazareth Baptist Church (*Ibandla lama Nazareth*)

The *amaNazarites* of Isaiah Shembe are the oldest African Independent/Indigenous Church in South Africa. The church divided into two main sections in 1976 following the death of its leader and founder Bishop Johannes Galilee Shembe [1904-1976]. The largest group was led by Bishop Amos Shembe [1907-1996], the other, smaller group, by the Rt. Rev. Londa Shembe [1944-1989] (<http://www.ucalgary.ca/books/shembe.htm>).

Mbusi Vimbeni Shembe, successor of Bishop Amos Shembe, is the current leader of the major branch with over a million *amaNazarites*, most of whom are Zulus. His great grandfather was a great diviner who healed the people, even those of the royal family. The church is based in KwaZulu-Natal and have their pilgrimage on the mountains (*ibid*).

1.33



1.34



1.35



Figures 1.33-1.35: AmaNazareth during pilgrimage in KwaZulu-Natal

1.4.3 Healing and prosperity as a growth factor

The main reason people joined African Indigenous Churches in the early years was healing from sicknesses. Because of the significant number of second generation Christians now in this churches, the ongoing healing offered to these members in fact makes healing one of the most important factors in its continued expansion.

People continue to join these churches because they believe their needs are met, this include healing from sicknesses and discomfort. Majority of black people are living in the townships and rural areas, and often times efficient medical facilities are expensive and scarce. Therefore, consulting a priest for healing remain the only option available for many.

Priests in different Indigenous Churches heal sick people differently. Some priests would lay their hands on a sick person and pray over him/her. Some of the priests would give a sick person 'holy water' to drink. Some priests can even encourage a sick person to consult a traditional healer if they are unable to heal him/her. Some priests can even advice a sick person to slaughter an animal to the ancestors to please them.

Some people join these churches because they believe they will be delivered from the curses and be blessed. They believe that their problems will disappear for good. Many people people believe that joining these churches will guarantee their prosperity. Therefore, people will obey every word that is spoken by the priests. After all, they are God's representatives on earth and they are able to communicate with the ancestors directly. Hence, people believe that misfortune will come to anyone disobeying the priests and prophets.

"Man stands apart from all other creatures not only as a tool-maker and word-maker, but also as a worshipper and temple builder as well." (Mirsty 1965: 1).

1.5 Traditional Circumcision

“The most widespread form of bodily mutilation is male circumcision”
(<http://africanvoices.co.za/circumcision>)

Ritual circumcision is practised across many cultures in the world and is one of the “most resilient of all traditional African practices within [the] urban industrialised environment” (*ibid*). Every year hundreds of young *abakhetwa* (Xhosa: male initiates) in the Eastern Cape undergo traditional rites to become *amadoda* (men) and to honour their forefathers.

Ritual circumcision under some circumstances can put young *abakhetwa* at risk of contracting STD's, HIV/AIDS and other blood-borne infections. Therefore, traditional surgeons (*ingcibi*) need to be taught safe ways to circumcise the initiates. Hence workshops will be run at Dingakeng Centre to keep traditional surgeons informed about the latest safety measures.

For Xhosa-speaking people who practice ritual circumcision as a cultural institution, alternatives are negligible to non-existent. Initiation is seen as the “formal incorporation of males into Xhosa religious and tribal life”, and before circumcision, a male cannot marry or start a family, inherit possessions, nor officiate in ritual ceremonies. Young who have been to initiation school are distinguishable by their social behaviour and a particular vocabulary they learn during their time in the bush (*ibid*).

During his presentation on the provincial conference on circumcision on the 27th September 2004, the Eastern Cape MEC for Health Mr Bevan Goqwana said that “this custom was practiced by our forefathers and has been in existence from time immemorial, and has been passed on from one generation to another”. He also highlighted that circumcision reduces the chances of being infected with the HIV virus. In 2001 the government passed the Traditional Circumcision Act of 2001 in order to regulate the practice and to avoid botched circumcisions (<http://www.ecprov.co.za>).

Circumcision has been practiced for many generations in different parts of the world either as part of culture or religion. For example, both Jews and Muslims practice male circumcision. Circumcision is one of the strictly observed religious practices in the world. Often, Muslim boys pass through their major status change - circumcision (khitan) when they have recited the entire Qur'an [Koran] once through. Boys are usually circumcised once they are between the ages of ten and twelve years old (<http://wwwm.circlist.com/rites/moslem.html>).

Ritual circumcision becomes a health issue when certain problems/factors arise. These can be attributed to the following five factors:

- 1) The training and competence of the traditional surgeon (*ingcibi*) Inadequate training can lead to errors in surgical technique, and at times, surgeons have been found to be operating under the influence of alcohol.
- 2) The sterility and reuse of surgical instruments Traditionally an *assegai* is used. Implements may be blunt or reused. This practice has been implicated in the spread of blood-borne infections, such as Tetanus, Hepatitis B and STDs, including HIV/AIDS. As yet, no study of HIV/AIDS in relation to ritual circumcision has been carried out, as youths presenting at hospitals are not routinely tested.
- 3) STDs among the *abakhetwa*. Traditionally, sex was proscribed before marriage, however, youth are becoming sexually active at an increasingly younger age and therefore there is a higher prevalence of STDs amongst initiates. This is transmitted through the use of equipment that is not sterilised between each use.

4) Aftercare Medical complications occur most frequently during the aftercare period of the initiate. A traditional attendant (*ikhankatha*) is ascribed to each initiate, and is responsible for bandaging the wound. Ischaemia (starvation of blood supply) or/and infection from the tight thong bandage wrapped around the wound, leads to penile sepsis and gangrene, with subsequent loss of penile tissue. Infection can spread throughout the body and ultimately, Septicaemia is the cause of most deaths from circumcision (<http://africanvoices.co.za/circumcision>)

5) Another risk factor is severe dehydration, which is common in initiation schools, because initiates are discouraged from drinking fluid post circumcision. This is not only to prevent frequent urination, but is set as a test of endurance. This taboo, accompanied by climatic factors - initiation schools currently occur more often in the hot summer months, as opposed to autumn in the past - and the use of plastic building materials in lieu of traditional grass and leaves, contribute to a harsh environment that is not conducive to healing (*ibid*).



Figure 1.36: *Abakhetwa* (male initiates)



Figure 1.37: Muslim boy is circumcised

1.6 The brief

The state of traditional health practice is in chaos because it went for some time in the past without being regulated by the authorities. The *inyangas* and *sangomas* were practicing without proper documents and were not recognised by the apartheid regime. Since traditional health practice was not regulated, patients with complaints did not know where to lay their complaints. Since genuine *inyangas* and *sangomas* were practicing without certificates, it was difficult to know who is a fake and who is genuine.

According to the Traditional Health Practitioners Bill (2003), traditional health practitioners are required to have a valid certificate before they can practise (<http://www.doh.gov.za/bills>). Unfortunately, there are still a number of traditional healers practicing without the relevant certificate. As a result, this has led to malpractice in other areas.

Another problem is that majority of the *inyangas* and *sangomas* practice mainly in rural areas and it is difficult for people in urban areas to access them. Therefore, people in the cities have to spend more money to consult either an *inyanga* and/or a *sangoma*. Unlike medical doctors who have facilities like hospitals and clinics, traditional healers do not have any facilities where they can practice their medicine. Hence, most of the *inyangas* and *sangomas* practice their medicine in their houses.

The Western medical doctors have always undermined traditional healers. Since there is always been secrecy surrounding the practice of traditional medicine, Western medical doctors labelled it as being magic and witchcraft.

There is not a good relationship between traditional and Western medical practitioners at the moment.

The new centre will encourage good working relationship between both the Traditional and Western medical practitioners. Any stereotypes about each other will be eliminated. The centre will be a model that both Traditional and Western practitioners can work together. Patients with medical aids will not be forced to go to hospitals; they have the option of consulting *inyangas* and *sangomas* using medical aids.

On the 6th of June 2006, the Minister of Health Manto Tshabalala-Msimang, said that traditional medicine will soon be recognised in the health budget. Speaking at a traditional medicine workshop in Benoni, Tshabalala-Msimang also said her department would speed up the process of establishing an interim traditional health council (www.doh.gov.za/docs/news)

Tshabalala-Msimang said: "There is a great deal of literature on traditional medicine in India, the Philippines and China. We need to establish this for African medicine." She also said developing countries were appreciating the value of traditional medicines and alternative practices, pointing out that Britain's Prince Charles had been a supporter of the concept (*ibid*).

Therefore, since the traditional medicine is going to be recognised in the health budget, to design a facility where traditional health practitioners will practice. The *inyangas* and *sangomas* who will practice in the centre will possess a certificate to comply with the Traditional Health Practitioners' Bill (2003).

2. Context

2.1 History



Figure 2.1: 'Volkshospital'



Figure 2.2: H. F. Verwoerd

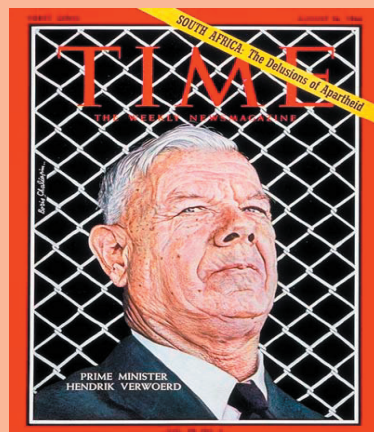


Figure 2.3: H. F. Verwoerd on Time magazine cover

The first hospital in Pretoria, capital of the “Zuid-Afrikaanse Republiek”, was in an old house near the military barracks in Potgieter Street. The foundation stone of a new ‘Volkshospital’ was laid by President S J P Kruger on 21 June 1890 and made provision for 130 beds. Despite expansions, this hospital became too small for the growing population of the city in the early part of the new century. The flu epidemic of 1918 underlined this inadequacy. The hospital also became dilapidated and had to be replaced (<http://www.pah.org.za>).

In 1925 the central government of the Union of South Africa (1910-1961) agreed to finance the building of a new hospital for Pretoria. The costs were, however, not to exceed 300 000 pounds. This was to replace the ‘Volkshospital’ built in 1890. J H Hofmeyer, Administrator of the Transvaal, laid the foundation stone of the existing hospital in Pretoria on 22 April 1927. In his speech he said:

“At this hospital artificial barriers will fall away in suffering, and the difference between race, creed and class will loose its significance and we will fight together to give health to those who walk the streets as well as those who live in luxury.”

Patients and personnel occupied the hospital on 14 March 1932, with the first Superintendent being Dr Lewis S Robertson and Miss M Slater the first matron. This is a fine example of the architecture of the Department of Public Works when the provision of public buildings was done in-house (*ibid*).

John Cleland, chief architect of the Department of Public Works, did the design sketch. John Cleland was chief architect of the Public Works Department for the Union of South Africa from 1920 until 1932 and Secretary of Public Works from 1932 until 1939 (Academic Hospital/Reports/Heritage Report).

The hospital demonstrates attitudes to planning and administrative organisation relative to the provision and running of medical institution of the time. This ideal of the “falling away artificial barriers in suffering” was later usurped by the apartheid policy, although racial divide was introduced before the coming of the National Party Government of 1948, as with the provision of “Native Wards” and facilities. The so-called “Native Ward” was originally designed in 1935 by W G McIntosh (*ibid*).

Originally named Pretoria General Hospital, it was renamed H F Verwoerd Hospital in 1967, and in 1997 the name was finally changed to Pretoria Academic Hospital. A Faculty of Medicine was established in 1943. The faculty and the hospital formed an academic institution. Towards the end of the Second World War it was the third academic health establishment in South Africa and only the sixth in African..

This academic institution grew over the years to include other facilities such as the Maternity Hospital, Ear, Nose and Throat Hospital and the Orthopaedic Hospital (<http://www.pah.org.za>).

The new Pretoria Academic Hospital is a purely tertiary healthcare institution, rendering specialized and highly specialized services to medically referred patients. State-of-the-art medical equipment to the total value of R442million has been procured for the new hospital (*ibid*).

The new Pretoria Academic Hospital is situated about 800 meters directly north of the old hospital. The main access to the hospital is off Voortrekker Road left at the traffic light into Malan Street. The old Pretoria Academic Hospital has been commissioned as an autonomous 200-bedded community hospital called Tshwane District Hospital (*ibid*).

It is the only teaching hospital in South Africa that accommodates the hospital & University Clinical Department's offices in one building. The relocation programme commenced from 16 January 2006 for non-clinical services, and the Out Patient Services started to move to the new hospital from Friday 10th February. The whole move was completed by 31 March 2006, a record time of ten weeks (*ibid*).



Figure 2.4:
Old administration
(Heritage building)
Architect: John Cleland
(DPW)



Figure 2.5:
Tshwane District Hospital
Architect: John Cleland
(DPW)



Figure 2.6:
New Pretoria Academic
Hospital
Architects: Leap/MMA

2.2 Why this particular site

The main reason why the author chose the site is because it is within the hospital. The proposed Dingakeng Centre is going to be build within the Old Academic Hospital site. This is one idea to create a relationship between traditional medicine and western/modern medicine. The Dingakeng Centre is going to be a link between traditonal and modern medicine.

Patients from the Centre will be easily referred to the hospital. Some of the patients from the hospital will also be reffered to the traditional healers at the Centre. The author envisages a good working relationship between the Inyanga Centre, Tshwane District Hospital, and the new Pretoria Academic Hospital.

People who are curious about traditional mediicne will be able to come and see how *inyangas* and *sangomas* operate. Since there is going to be a muti garden, people will be able to see which plants are used as muti. It will be a learning experience for people who are going to visit the Centre. All those negative perceptions about traditional medicine will erased once people learn about the practice.



Figure 2.7:
Dr ME Kenoshi: CEO of the
New Academic Hospital

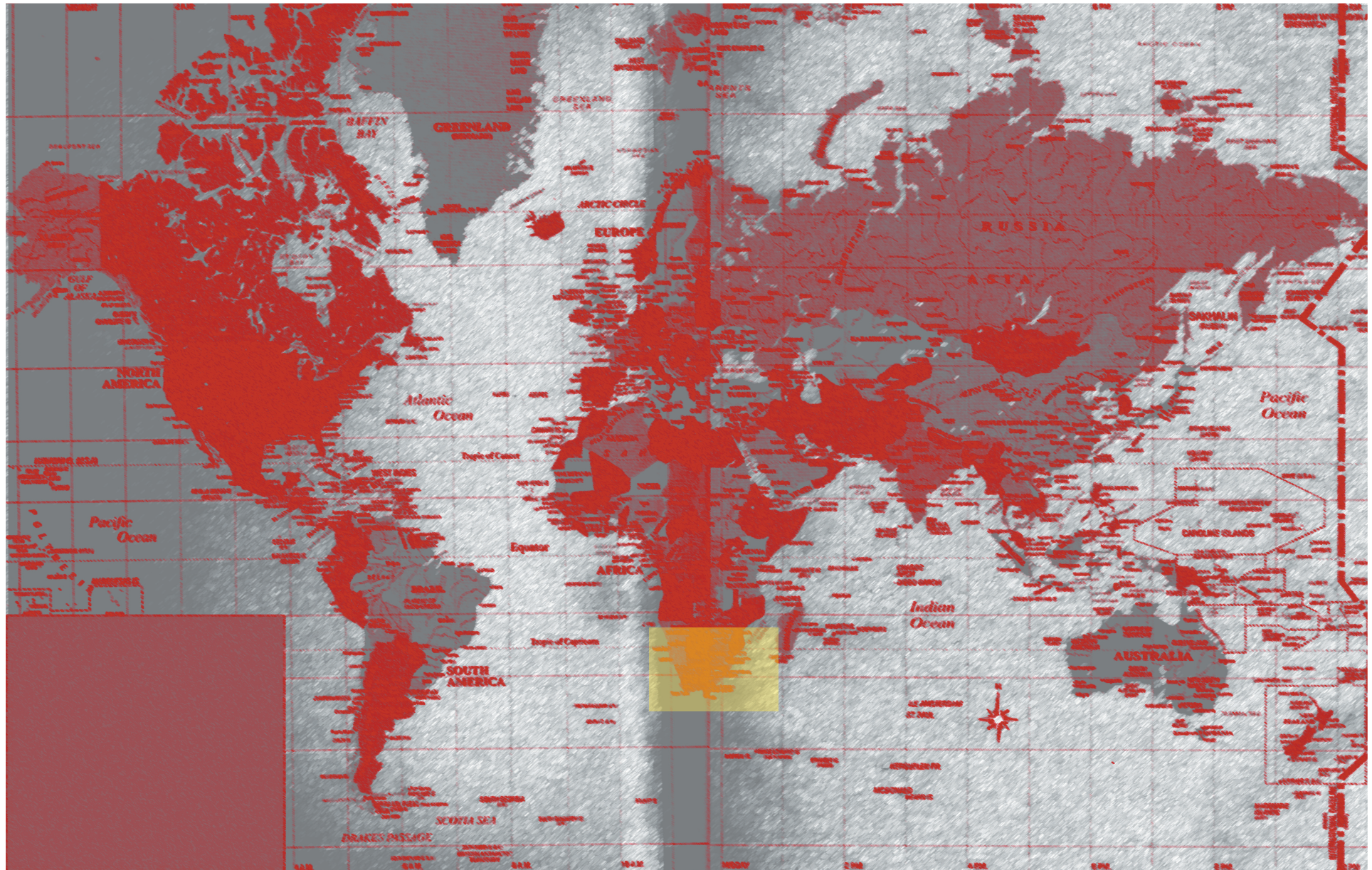


Figure 2.8: World map

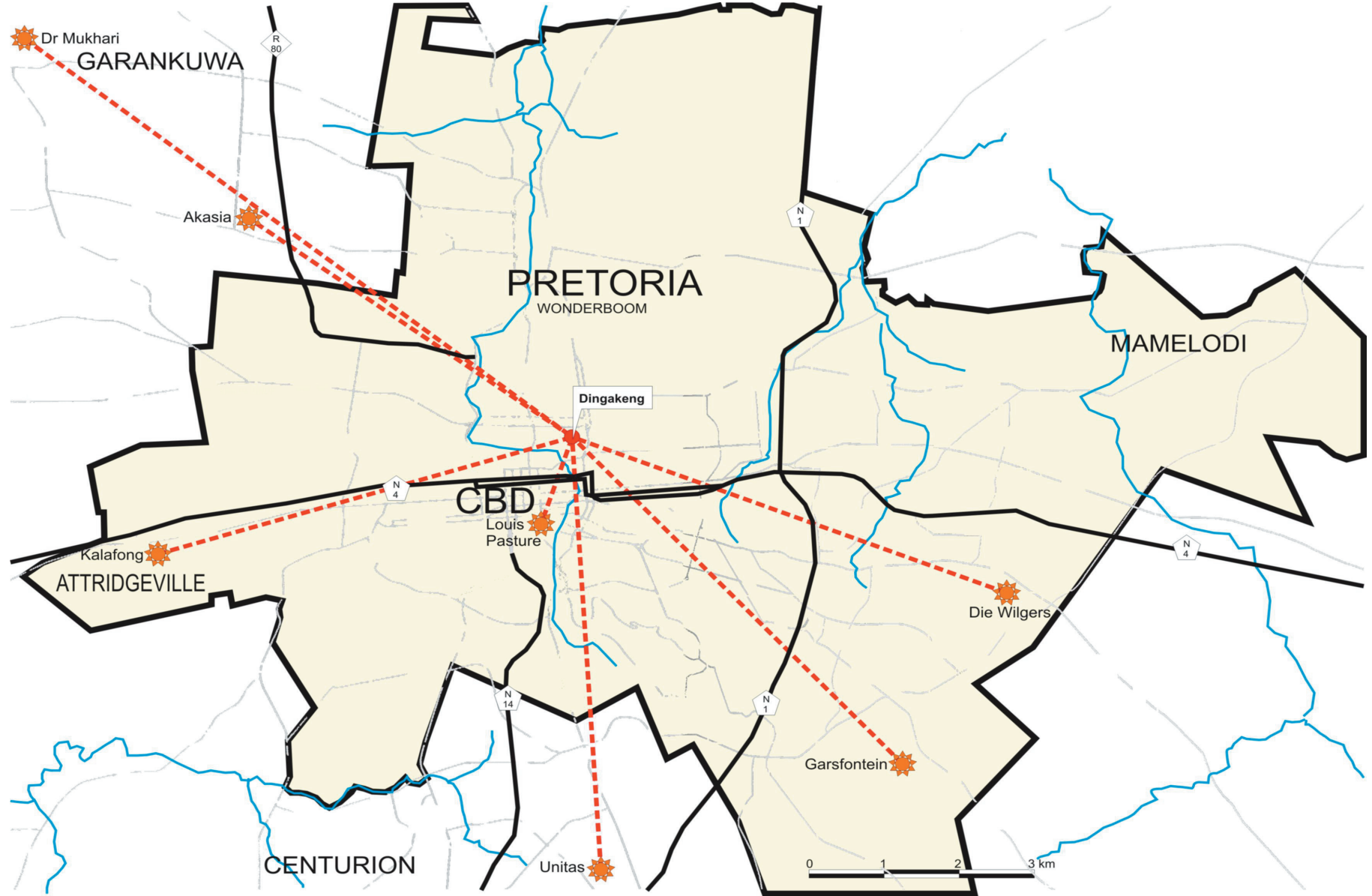


Figure 2.9: Linking Dingakeng with hospitals in Tshwane

2.3 Pretoria

Pretoria can be considered as a relatively young city, only being established in 1885. The Pretoria urban design concept was based on a strongly defined image. The town was encircled by the Apies River on the eastern and the Steenoven Spruit on the western side. These water courses conceptually defined the boundary between the inside and the outside of the town, much like the medieval town wall would.

From those boundaries the urban domain asserted its presence, which reached its highest intensity in the steeple of the central church, a presence both material and spiritual. The steeple at its time was literally the highest edifice in Transvaal (Mare *et al* 1998: 61).

The urban grid was ordered around the church and related both to the cosmic order of the sun's path and to the *poorte* (openings, gabs) in the Daspoort and the Schurweberg mountain range, thus interpreting the genius loci. The orthogonal system of the grid was married with the demands of the open furrow water supply system originating at *Fonteine* (Fountains) to the south of the town in such a manner that the watershed coincided with the central space, *Kerkplein* (Church Square) (*ibid*).

As with the wide streets the physical proportions of the square reflect the air of great open spaces. In Pretoria's Church Square the distance of 175 metres buildings was felt to be sufficiently proximate as to give spatial definition by the use of mere single storey buildings. Looking down the streets one could behold the vast sky meeting the distant horizon (*ibid*).

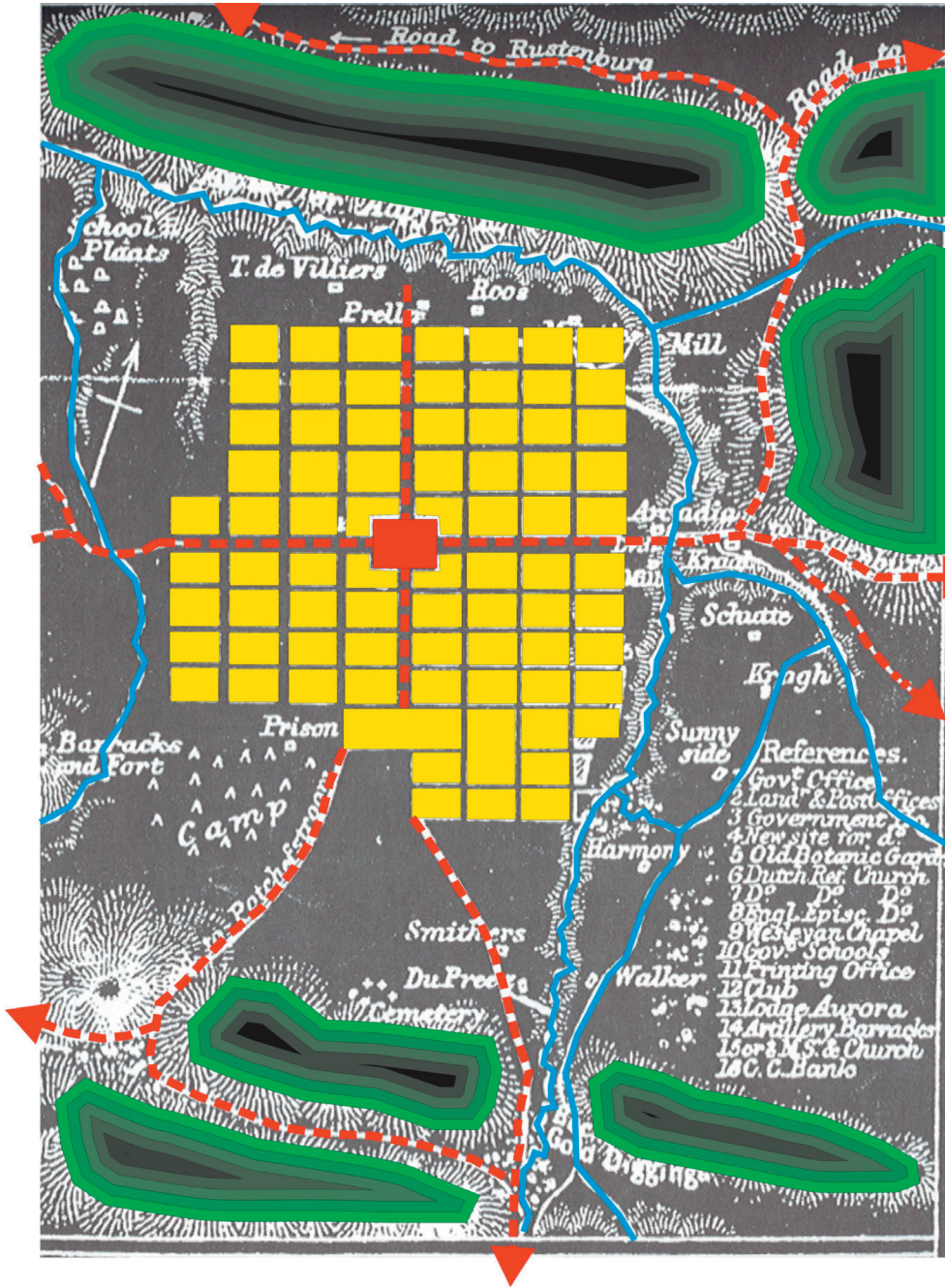


Figure 2.10: Early map of Pretoria, 1887

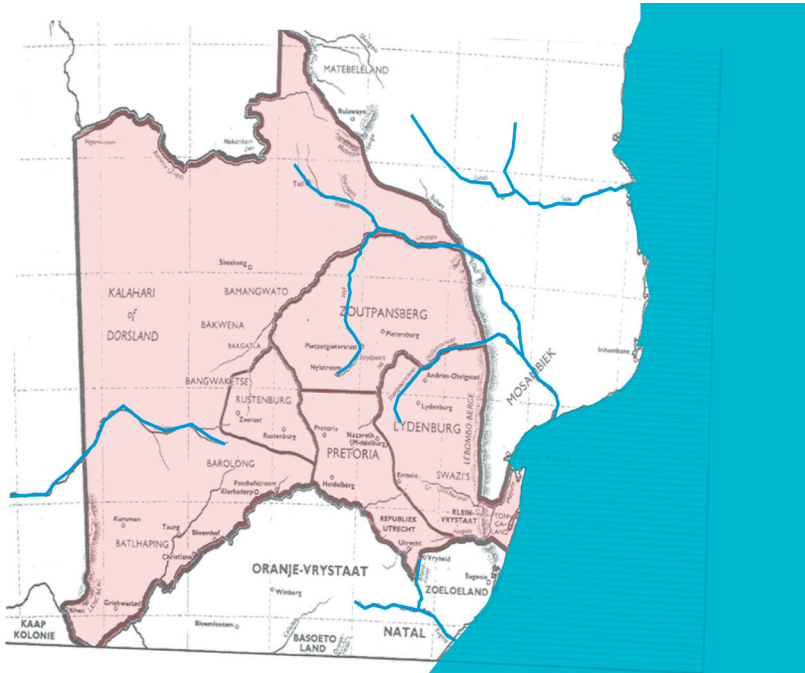


Figure 2.11: The Zuid -Afrikaansche Republiek in 1868. Maximum size territories to which the ZAR laid claim

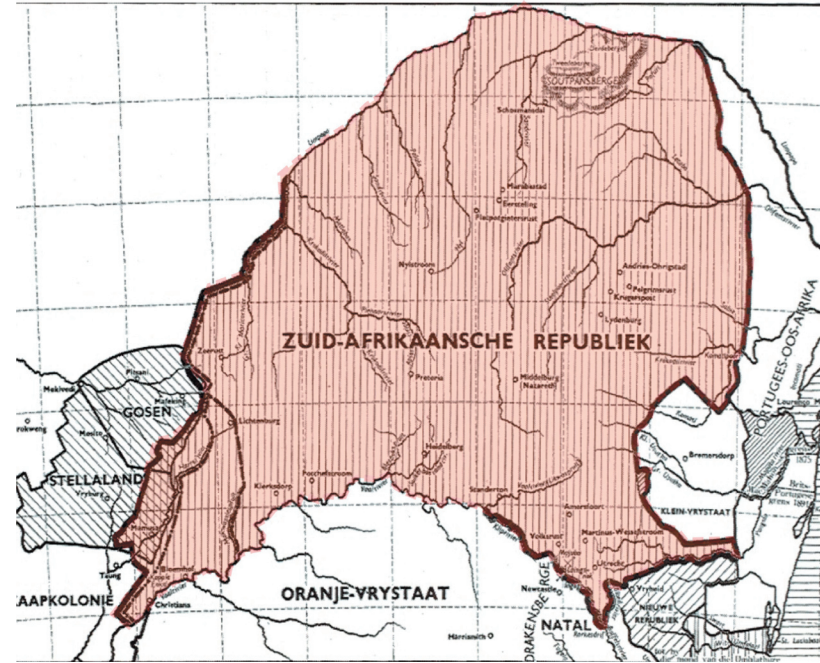


Figure 2.12: The Zuid -Afrikaansche Republiek (ZAR) from 1871 to 1884.



Figure 2.13: Village quarters for African servants, Pretoria, 1950. Panoramic view.

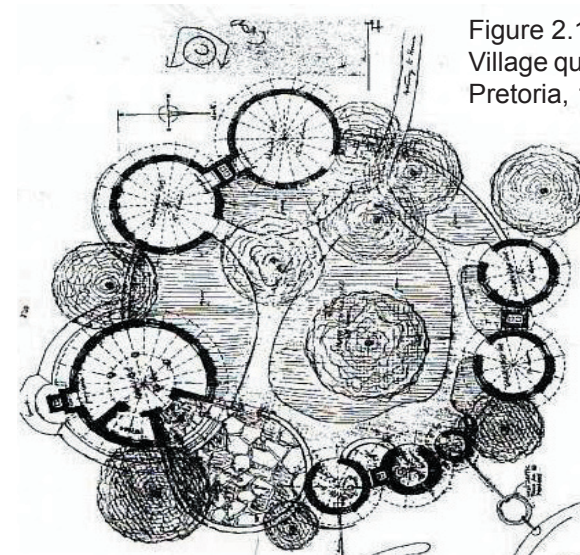


Figure 2.14: Village quarters for African servants, Pretoria, 1950. Plan.



Figure 2.15: Aerial photograph with site & major roads



Figure 2.16: Aerial photograph of site

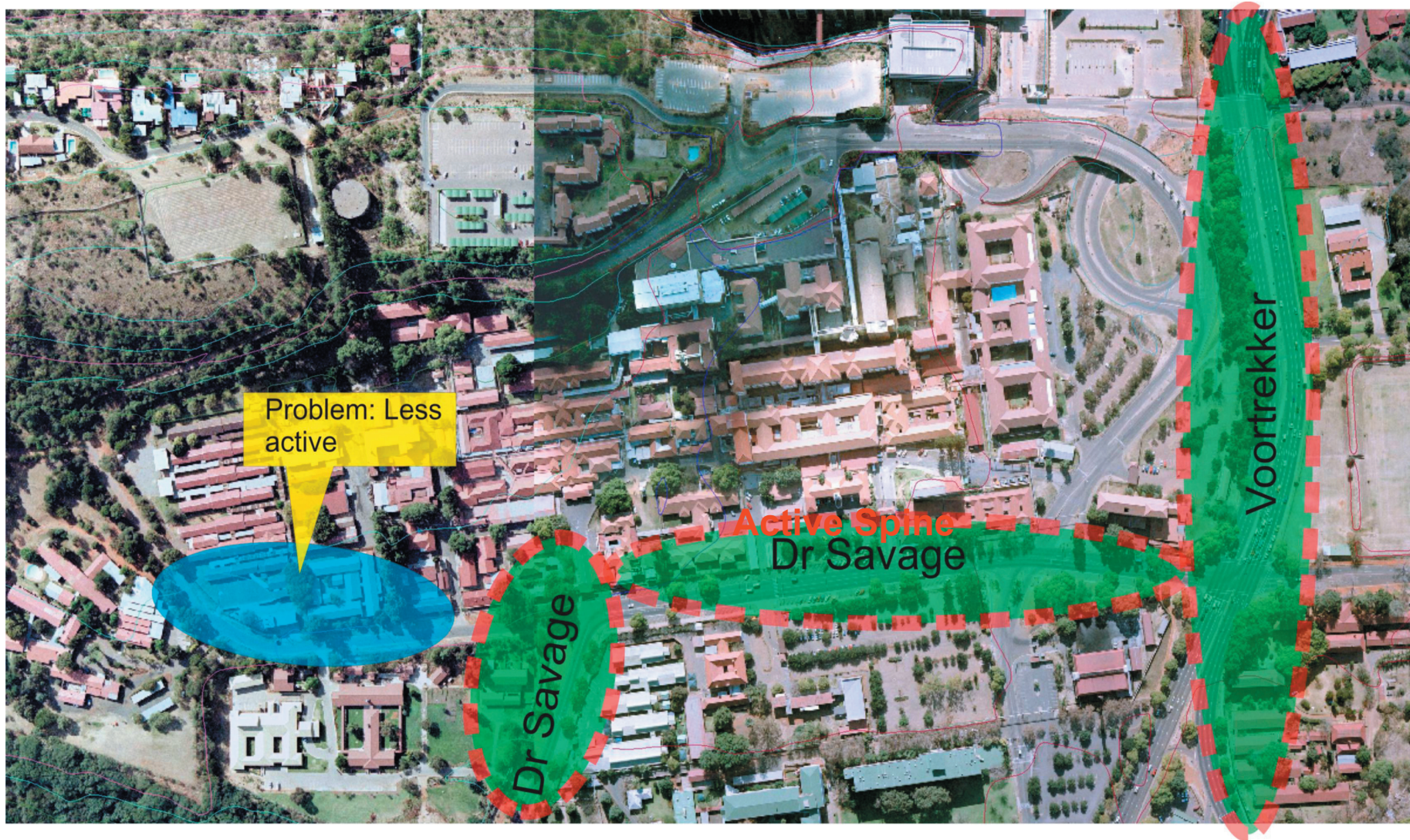


Figure 2.17: Activity Spine

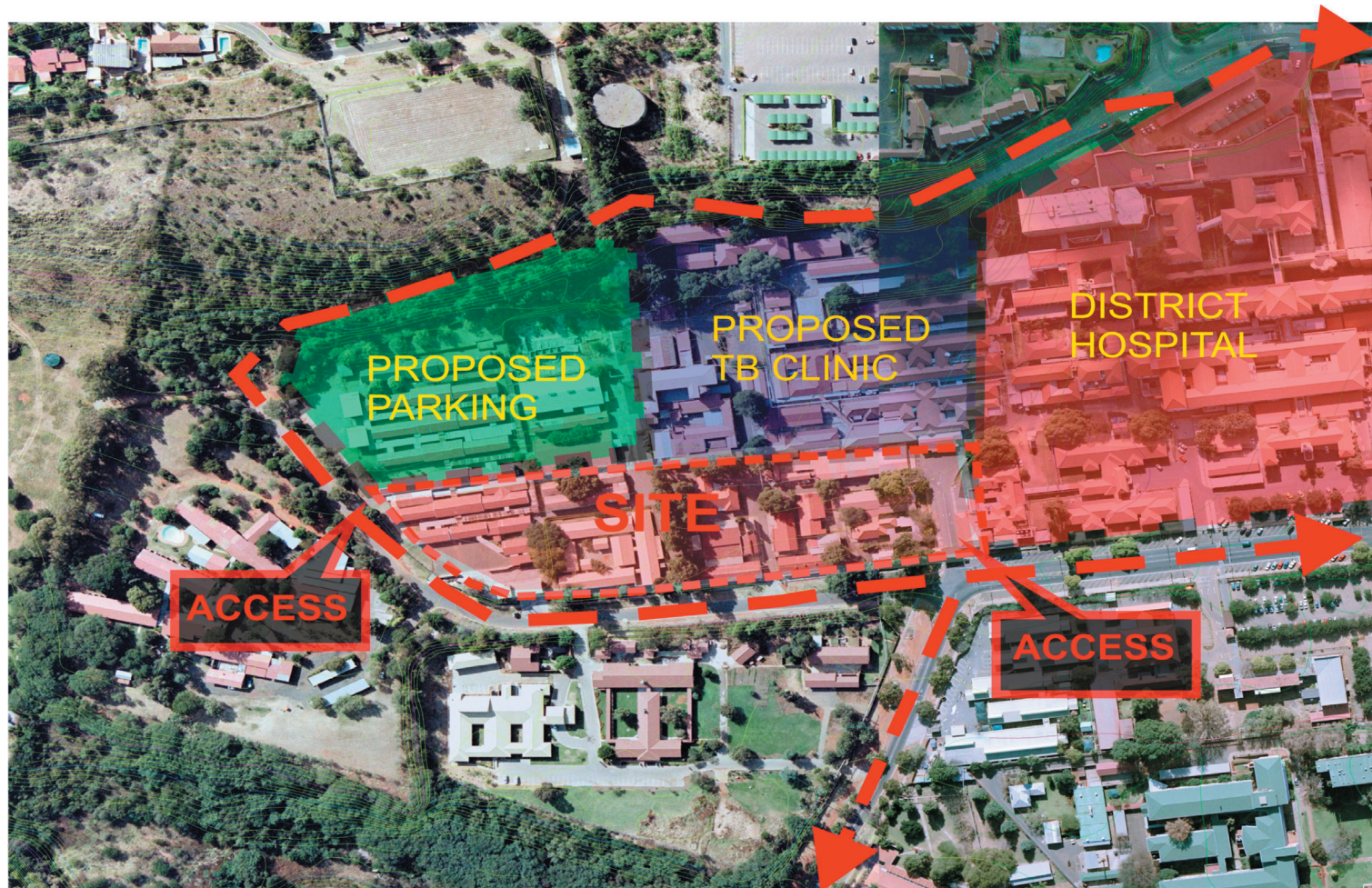


Figure 2.18: Aerial photograph with proposals on site



Figure 2.19: Existing hospital mortuary, heritage building



Figure 2.20: The administration block, heritage building



Figure 2.21: Entrance of the District Hospital

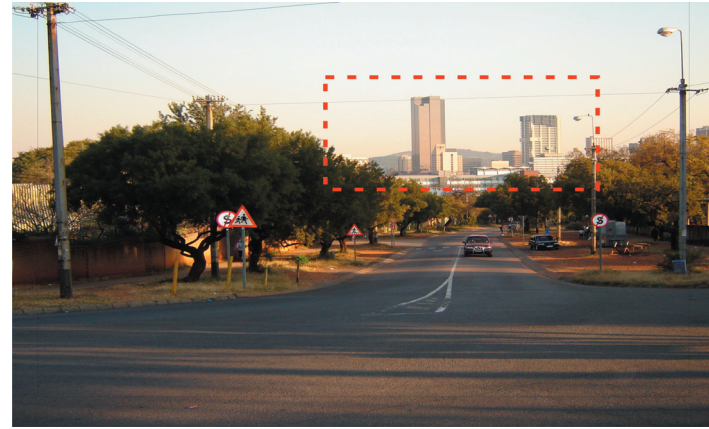


Figure 2.22: View from the T-Junction



Figure 2.23: South-ward view from the site



Figure 2.24: Northward view from the site



Figure 2.25: Panorama of the Tshwane District Hospital along Dr Savage Road



Figure 2.26: Some of the pre-fabricated buildings on site

3. APPLICABLE THEORY

“We shape our buildings, thereafter they shape us.” Winston Churchill, in Time magazine (1960).

Theory is an ambiguous word. It means different things to different people. To some people a theory is a system of ideas or statements, a mental schema that is believed to describe and explain a phenomenon or a group of phenomena. Some theory has been proved using scientific methods. Such theory is referred to as “positive theory” (Lang 1987:13). The term “positive theory” is used because it consists of positive statements, assertions about reality.

Theory can refer to a “model”, a way of perceiving reality that imposes a structure on that reality. Theory can also refer to a prediction that a certain outcome will be achieved by a certain action; such predictions are referred to as “hypotheses” (*ibid*). According to Lang (*ibid*), the other way theory is used is as a prescription for action; this is “normative theory”. In architecture, design principles, standards, and manifestoes are examples of such theory. They are based on what the world, good architecture, landscapes, and urban designs should be. (*ibid*).

“Theory cannot be proved. It stands until it is disapproved” (Lang 1987:13). According to Vitruvius, a building must fulfil three basic purposes: *utilitas*, *venustas*, and *firmistas*. Sir Henry Wotton (1624) paraphrased it as follows:

“In *Architecture* as in all other *Operative Arts*,
the *end* must direct the *Operation*.
The *end* is to build well.
Well-building hath three Conditions.
Commoditie, *Firmenes*, and *Delight*.”

Commodity and *firmness* are certainly major contributions to delight. The mistake of too many modern architects was to believe that the two were sole contributors. *Commodity*, or what Norberg-Schulz calls “building task,” was regarded as the functional goal “form” in Norberg-Schulz’s terms, the aesthetic goal (Lang 1987:23).

Architecture also requires *firmness*. Buildings have to endure as long as they are needed. The history of architecture is partially the history of technology. Technology has been a predominant concern in explaining the evolution of architecture.

The major changes in architectural style have resulted, however, from the interrelationships of many factors: the emergence of new types of clients; changes in lifestyle, social stratification, values, and economic cultures; and developments in the technology available or inventable by designers and/or builders (*ibid*).

3.1 Good city form

Like a piece of architecture, the city is a construction in space, but one of vast scale, a thing perceived only in the course of long spans of time (Lynch 1960: 1). Moving elements in a city, and in particular the people and their activities, are as important as the stationary physical parts. We are not simply observers of this spectacle, but are ourselves a part of it, on the stage with the other participants (*ibid*).

People come to cities in order to experience the economic, social, cultural and recreational opportunities which can be generated through the physical agglomeration of large numbers of people (Dewar & Uytendogaardt 1991:16). There is also a need for ease of access to the opportunities and facilities which exist. It is of little use generating opportunities if access to these is limited to a very limited number of people.

The marginal cost of overcoming access-restricting barriers, of which distance is one, for the more wealthy is low while the equivalent cost to the poor, who perpetually sit on a knife-edge of critical trade-offs, is very high (*ibid*). The concept of access has both spatial and a-spatial dimensions.

A central role of appropriate urban policy should be directed towards breaking down the economic, political, regulatory, attitudinal and other barriers which prevent people from fully entering, and participating within, the mainstream of urban life (*ibid*).

The primary physical barrier to ease of access is the cost of overcoming the friction of distance. The best situation obtains when people can gain access to most necessary daily activities on foot. Indeed, for many, it reflects the only feasible option. Movement on foot, therefore, should define the primary scale of urban life (*ibid*).

If the urban poor are to gain physical access to these, however, an efficient, viable and co-ordinated public transportation system is a prerequisite, it is not an option.

The concept of spatial separation of different race groups had been informally applied in South Africa, as in many other places, since colonial occupation. However, it was formalised with the advent to power of the National Party in 1948 and received its clearest form of with the introduction of the Group Areas Act in 1966 (Act 66 of 1966). Different race groups (non-whites) were moved to the periphery of urban settlements.

The system of apartheid was dependent on long distant routes linking fragmented parts of the city together. These routes were seen as 'space-bridgers,' not space-intergrators. The emphasis was on mobility, as opposed to on increasing access and convenience. This system resulted in townships separated from the economic activities in towns and cities. Hence the townships remained stagnant and under-developed.

Here, at the southern tip of Africa, most people are dislocated from their immediate pasts, some joyfully, others reluctantly, yet others refusing the realities of their displacement. All are pre-occupied with matters of identity, with heritages, with histories- including architectural identities. Post-modern pastiche, the predominant design mode of the day, is viewed as a practice for, among other goals, "gratifying people's need for rootedness, for a sense of belonging" (Lipman).

As Alan Lipman (*ibid*) stated, "architecture - as a practice and as a product - does not simply reflect the societies in which it is produced. Buildings are not merely images of what it is, of how people live presently. On the contrary, via its material presence as embodied human action, architecture can and does speak of what might be, of how we humans live. Appropriate architecture must then help to shape, to educate people's desires." This is far from being solely a matter of outward form, of style.

3.2 A place for identity

To be at peace with the universe, with society and with themselves people need to be able to situate themselves by affirming their identity:

- Identity as a human being, *Homo sapiens*, who is distinct from the physical, mineral, vegetable and animal world;
- Identity as a member of a group with which one shares and discusses values; the family, political party, club, etc.
- Identity as an individual who maintains a margin of liberty and personal responsibility, distinct from the group and from all others, each person is unique (Von Meiss 1990:161)

"The built environment is far from being the only one to influence our sense of identity" (*ibid*). Gestures and ritual, clothes and objects, language and many more factors are just as important. Architecture is nevertheless playing an important role in reducing or strengthening our sense of identity.

Cities do not reflect a cohesive social identity. They represent an amalgam of complex forms of social organizations and institutions operating over many scales. Physically, this richness is expressed in two ways. First is through the celebration of valued societal institutions in the organization of urban space. In this sense, social order directs spatial order (Dewar & Uytendogaardt 1991: 22).

The second is through the reflection of cultural expression in the making of environments. Appropriately, therefore, the complex social and cultural fabric of cities should find expression in the built environment. Cities should not reflect the imposition of uniform values: they are many placed places. In the management of urban growth, there must be sufficient freedom for the expression of social and cultural value to occur (*ibid*).

A workable image requires first the identification of an object, which implies its distinction as a separate entity. This is called identity, not in the sense of equality with something else, but with the meaning of individuality or oneness. Second, the image must include the spatial or pattern relation of the object to the observer and to other objects. Finally, this object must have some meaning for the observer, whether practical or emotional (Lynch 1960:8).

Architecture is playing an important role in reducing or strengthening our sense of identity. We must distinguish two types of manifestations of identity:

(a). Private identity

The affirmation of identity to oneself and to one's intimate group. The signs can be relatively 'private' or subtle. They only need to be recognizable by the initiated. Thus the position objects and icons in an orthodox church guide the behaviour only of those who know it's ritual, and that is sufficient (Von Meiss 1990:162).

(b). Public identity

The affirmation of identity to others by establishing a distinction between 'them' and 'us.' The indications must be clear, redundant and popularized. The architecture of colonial towns imposing itself on a foreign country is a striking example on a large scale (*ibid*).

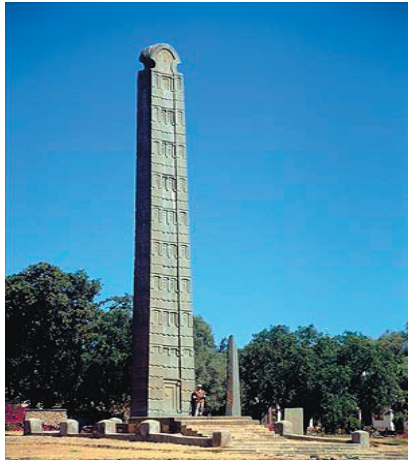


Fig 3.1: Obelisk Axum, Ethiopia

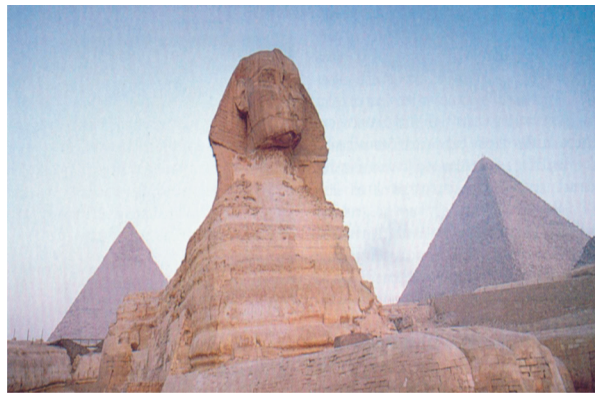


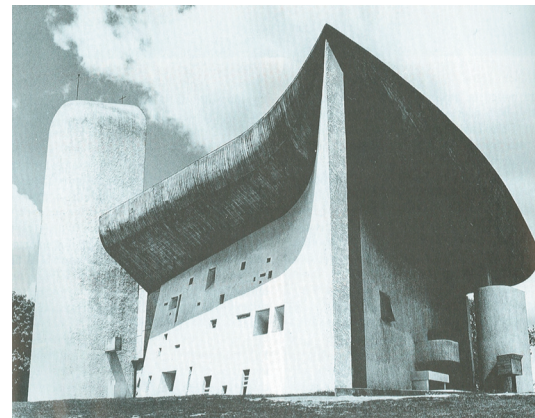
Figure 3.2: Sphinx, Egypt

In both cases the aid to identity is only effective provided it is known and recognised by others. It implies a tacit or explicit agreement, a convention, a tradition. The terms of this agreement, the distinctive signs of identity, become clearer as we accumulate experience of social life in a given culture. "The architect must discover the principal means which ensure this communication of identity" (*ibid*).

In order to produce a building reflecting the identity of a group of initiates (e.g. a family home or a church interior), the architect has a choice between three strategies.

1. Interpretative

It pre-supposes attentive observation and deep understanding of the values and behaviour of the people and groups concerned, as well as the places and the architectural elements crucial to their identity. For example, Le Corbusier was not a practicing Catholic, but he clearly understood the essential characteristics of the sacred Catholic space in order to build Ronchamp and La Tourette (Von Meiss 1990:162).



Figures 3.3: Pilgrimage chapel at Ronchamp



Figure 3.4: Interior of chapel

2. Making future users participate in the design of places

This process presents interesting possibilities in the residential field for allowing those involved to confirm their identity. Architects who engages himself merely as a technician at the service of the user produces buildings which are characterized by a non-critical summation of personal tastes at the expense of the collective interest, thus detracting from the lasting quality of the work (*ibid*).

3. 'Architecture of hospitality'

The third strategy proposes the search for an architecture which suitably lends itself to the places and symbols of identity which will be created by the occupants themselves after completion of a strong ordering structure. 'Architecture of hospitality' is a new strategy which seeks to reconcile mass production and our need for individual identity (*ibid*).

To resolve a building project which involves, to a greater extent, the creation of a place displaying an identity to the public (for example a church exterior or the gateway to a private garden), we must resort to symbols that are comprehensible by everyone.



Figure 3.5: Kaedi Hospital, Kaedi, Mauritania



Figure 3.6: MATEP Art Therapy, Soweto



Figure 3.7: KwaMai-Mai, Johannesburg

These signs of a place and its underlying identity are effective because they are unique and widely known (e.g. Eiffel Tower); or because they belong to a typology rather than to a conventional code, deep rooted in the collective memory of which we are part, such as doorways, fountains or staircases (*ibid*). The architect must respect certain conventional layouts in order that the building can effectively play its role as an aid to public identity.

3.3 God is an African: Sacred Sites

“Take off your sandals, for the place where you are standing is holy ground.”
(Exodus 3:5)

In every region and town and neighbourhood, there are special places which have come to symbolise the area, and the people’s roots there. These places may be natural beauties or historic landmarks left by ages past. But in some form they are essential (Alexander et al 1977:132).

People cannot maintain their spiritual roots and their connections to the past if the physical world they live in does not also sustain these roots (*ibid*). Usually, sacred sites are well known by everyone in the community. For example, Moria in Limpopo Province is well known by everyone that it is a sacred site for the ZCC. Likewise, people in KwaZulu-Natal know places of pilgrimage of the *AmaNazareth*.

People agree about the sites which do embody people’s reaction to the land and to the past. It seems, in other words, as though the sacred sites for an area exist as objective communal realities. As Christopher Alexander (*ibid*), these sites must be preserved and made important. Destruction of these sites, which have become part of the communal consciousness, can create gaping wounds in the communal body.



Figure 3.8: Moria, Limpopo Province

Traditional societies have always recognised the importance of these sites. Some mountains are marked as places of special pilgrimage. Rivers, bridges, buildings, rocks, and trees are also be sacred and have the power through which people can connect themselves with their own past (*ibid*).

Modern society often ignores the psychological importance of these sites. They are bulldozed, developed, changed, for political and economic reasons, without regard for these simple but fundamental emotional matters; or they are simply ignored (*ibid*).

We must therefore build around a sacred site a series of spaces which gradually intensify and converge on the site. The site itself becomes a kind of inner sanctum, at the core. And if the site is very large, for example a mountain, the same approach can be taken with special places from which it can be seen, an inner sanctum, reached past many levels, which is not the mountain but the garden, from which the mountain can be seen in special beauty (*ibid*).

Whether the sacred sites are large or small, whether they are at the centre of the towns, in neighbourhoods, or in the deepest countryside we must establish ordinances which will protect them absolutely, so that our roots in the visible surroundings cannot be violated (Alexander et al 1977:133).

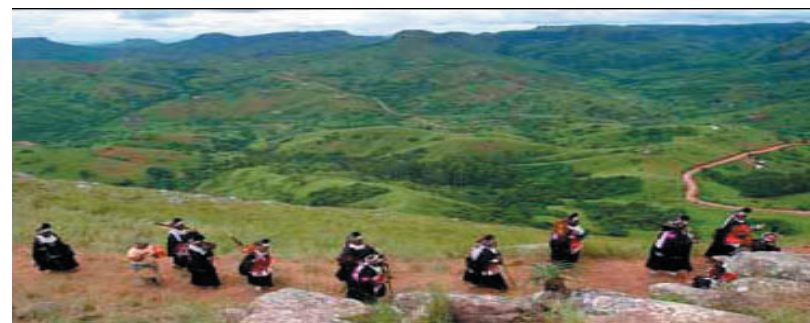


Figure 3.9: *AmaNazareth* during pilgrimage in KwaZulu-Natal

What is a church or temple? It is a place of worship, spirit, contemplation, of course. But above all, from a human point of view, it is a gateway. A person comes into the world through the church. He leaves it through the church. And, at each of the important thresholds of his life, he comes again steps through the church (Alexander *et al* 1977:332).

The rites that that accompany birth, puberty, marriage, and death are fundamental to human growth. In all traditional societies, where these rites are treated with enormous power and respect, the rites, in one form or another, are supported by parts of the physical environment which have the character of gates (ibid).

In all cultures it seems that whatever it is that is holy will only be felt as holy, "if it is hard to reach, if it requires layers of access, waiting, levels of approach, a gradual unpeeling, gradual revelation, passage through a series of gates". For example, anyone who has audience with the Pope must wait in each of the seven rooms; the Aztec sacrifices took place on stepped pyramids, each step closer to the sacrifice; the Ise shrine, the most famous shrine in Japan, is a nest of precincts, each one inside the other (ibid).

Even in an ordinary Christian church, you pass first through the churchyard, then through the nave; then on special occasions, beyond the altar rail into the chancel and only the priest himself is able to go into the tabernacle. The holy bread is sheltered by five layers of ever more difficult approach.



Fig 3.10: The Ganges (Mother Ganga). The most sacred of all the rivers in India.



Fig 3.11: Canaanite Stone, Hazor



Fig 3.12: Obelisk Temple, Byblos

Layers of access of Temple of Solomon

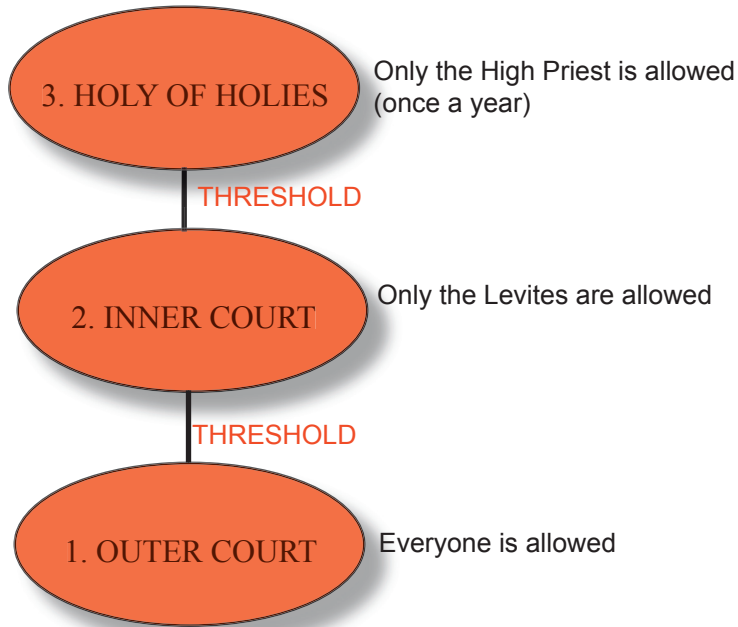


Fig 3:13 (Source: Holy Bible)

In the temple of Solomon everyone was allowed to congregate in the Outer Court. Only the Levites were allowed in the Inner Court or Holy Place. In the Holy of Holies, where the Ark of the Covenant dwells, only the High Priest was allowed inside once a year. A similar structure was also in the tabernacle of Moses (Holy Bible).

This layering, or nesting of precincts, seems to respond to a fundamental aspect human psychology. Every community, regardless of its particular faith, regardless of whether it even has a faith in any organised sense, needs some place where this feeling of slow, progressive access through gates to a holy centre may be experienced.

When a sacred site exist in a community, even if it is associated with any particular religion, the feeling of holiness, in some form or the other, will gradually come to life there among the people who share in the experience (Alexander *et al* 1977:334).

In each community and neighbourhood, sacred sites must be identified as consecrated ground. A series of nested precincts, each marked by a gateway, each one more progressively more private, and more sacred than the last, the innermost a final sanctum that can only be reached by passing through all of the outer ones (*ibid*).

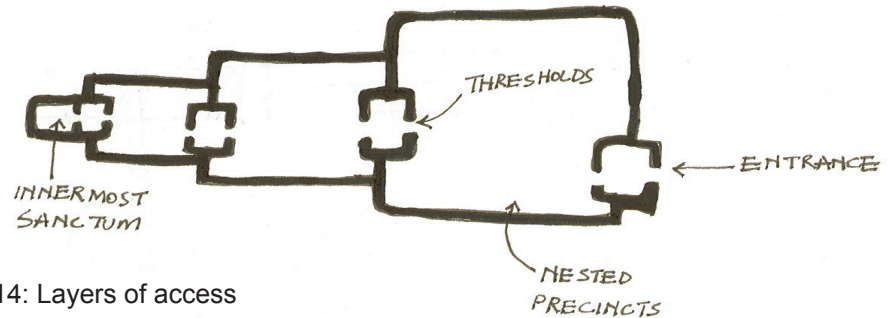


Figure 3.14: Layers of access



Fig 3.15 : Intricately carved door surround, Zanzibar.

3.4 Houses of God

Houses of God are “artifices of eternity.” Everywhere we find arresting evidence, from all times, of man’s acknowledgement of a power greater than human. And whether the god or goddess is found in a mountain, a stone, a bog, a tree, the inmost recess of a cave, or lodged in a temple or church, the deity’s presence sanctifies the place. Such sacred sites are a visible expression of man’s intense wonder and faith as well as his everlasting cry for help and hope (Mistry 1965: 1).

From the very earliest times, the houses of the gods are proof of man’s abiding effort to explain the mysteries of birth and life and death, increase and regeneration; to define behaviour as good or evil. Each place of worship can be seen as an attempt to translate myth and symbol, dogma and ritual, into earth and stone and wood (*ibid*).

Gods are not approached in an offhand manner, and their dwelling places are characterised by the serious, vital, sometimes lofty, sometimes dangerous purpose to which they are concentrated. Many such places are stupendous, overwhelming the eye and informing the imagination (*ibid*).



Fig 3.16 : Cave Church, Eastern Free State.



Figure 3.17: Sacred entrance of *Ga-Modjadji*, near Tzaneen.



Figure 3.18: Obelisk Axum, Ethiopia.

3.5 The Beginning . . .

*“In the beginning God created the heavens and the earth...
Then God said, ‘Let us make man in our image, in our likeness...’”
Genesis 1:1, 26 (Holy Bible)*

Man’s awareness of superhuman forces began in the dim period of the last interglacial age when a new human type, the beetle-browed Neanderthal Man, emerged. His skeletal remains show that he buried his dead according to ritual. In every civilization death is related to religion; the funeral observances imply a relationship among the dead, the quick, and the supernatural (Mirsty 1965: 1).

Long before colonialists and missionaries brought the concept of the Christian God to south-east Africa, *Umvelinqangi* or *Unkulunkulu* was the all-powerful Zulu creator. Humans could not approach *Umvelinqangi* directly, but had to approach him through the ancestors. Hence, indigenous churches today combine elements of traditional belief with Christianity (Derwent 1998: 140).

Therefore, from time immemorial man has always acknowledged the Creator or God in almost every culture. This creator is called by different names in different religions. The Muslims call Him Allah, Christians call Him God, and the Jews call Him Jehovah.

“Religion consists of explanations of existence based on supernatural assumptions & including statements about the nature of the supernatural and about ultimate meaning” (Stack 2003: 4).



Figure 3.19:
Dome of the Rock. Jerusalem

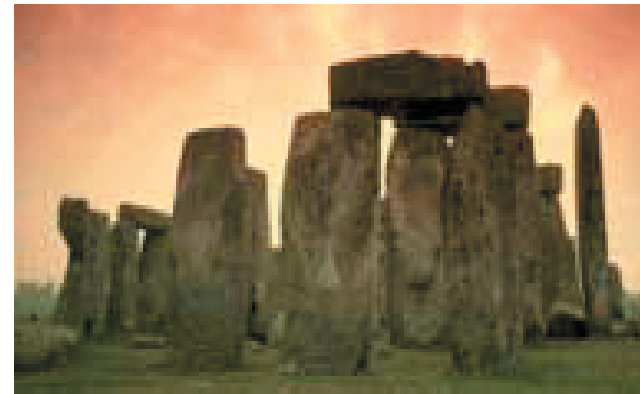


Figure 3.20:
Stonehenge. England

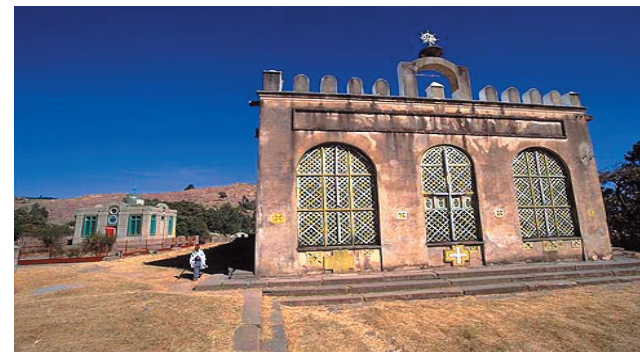


Figure 3.21:
Church of St Mary of Zion,
Ethiopia. Ethiopians believe
Biblical Ark of Covenant is
inside. Entrance is prohibited.

Saint Mantsopa Makhetha (1795-1906)



Figure 3.22: Mantsopa Makhetha, activist, diviner, and seer. She was also a spiritual advisor to King Moshoeshoe of Lesotho

“The way to heaven is not a narrow road. The missionaries are ridiculously mistaken in saying so.” Mantsopa Makhetha

4. Precedent Studies

4.1 Africa Centre for Health & Population Studies, Somkhele, KwaZulu-Natal.

Architects: East Coast Architects (2002)

The Africa Centre for Health & Population Studies is housed in a recently opened complex at Somkhele, northern KwaZulu- Natal. Funded since 1998 by the Wellcome Trust, London, the Centre was instituted to conduct and co-ordinate demographic studies in the surrounding Hlabisa district. It's work focuses on gathering longitudinal information about the 80 000 people who live in this distinctly rural area. The research focuses mainly in the area of health and population problems (Leading Architecture, 2003).

A number of low-tech sustainable design solutions have been incorporated into the centre, it is through these that the building begins to reflect a regional identity.

The design has been well thought-out and accommodating sustainable principles effectively. The design of the building works in harmony with the environment. The materials have been creatively used and are locally produced and cost-effective. The building has also been designed to accommodate people with disabilities (Digest 2003: 62).

The Africa Centre for Health & Population Studies is a colourful building that is in harmony with nature. Extensive consideration has been given to environmental preservation. Medicinal plants are also incorporated into the landscape to emphasise traditional healing methods (*ibid*).

Low-volume flush toilets and low-volume water showers are used to conserve water, along with the 'grey' water being used to irrigate the gardens. Sewage is treated on site and the purified water is used for the community vegetable garden while rainwater is collected and stored in tanks (*ibid*).



Figure 4.1
Perspective of building showing the tower at the back



Figure 4.2
Detail of timber suncreens



Figure 4.3
Timber & steel materials where carefully combined

4.2 Habitat Research & Development Centre, Katutura, Namibia.

Architect: Nina Maritz (2002)

The appointment of this project is a result of a design competition won in 2002. After the outcome of the competition, several changes were made to the brief, and the appearance of the building changed considerably. The Habitat Research & Development Centre's main function will be research and to promote sustainable housing in Namibia. It will also provide office space for related organisations such as the R3E (Renewable Energy & Energy Efficiency) Bureau and the country manager of the UNDP Habitat Programme (Namibian Digest 2004: 88).

The first phase comprising the administrative wing was completed early in April 2004. The second phase, the public wing, was completed in September 2004. The design focused on several sustainability issues, such as passive solar design, conservation and re-use of water, low embodied energy materials, recycling of waste and second hand materials (*ibid*).

Compressed soil-cement were made on site using the Hydraform system, a patent machine rented from a local builder and stockpiled sand from Otjomuise a few kilometres away. The bricks are profiled and dry-stacked, plastered only around window reveals and in corners (*ibid*).

Timber 'droppers' or 'latte' were cut from invader propolis trees in the valley north of the industrial area by local SMEs. They were debarked and treated on site by being soaked in a mixture of old motor oil. These 'latte' are used extensively for shade and security screens in front of windows, extensions of overhangs and walkway shading (*ibid*).



Figure 4.4: Elevation detail

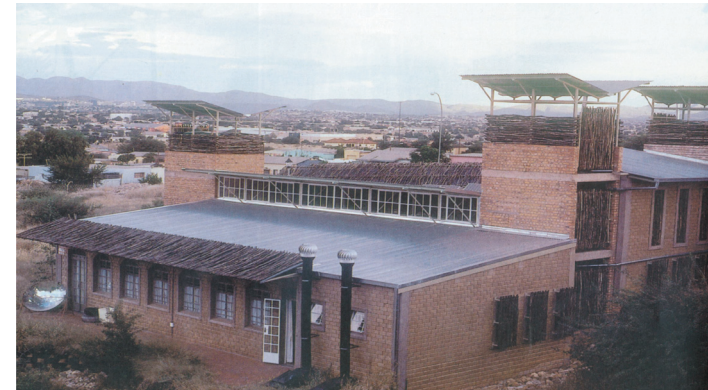


Figure 4.5: Bird's eye view



Figure 4.6: Sun-screen detail

The aim of the project was to integrate architecture and landscape, to relate to the scale of the local housing context, and to devise a building that is environmentally appropriate in the context of it's Windhoek location and the role in Namibia. The Centre had to respond to the social, economic and natural context of the Katutura and Okuryangava communities (Namibian Digest 2005: 74).

The green spaces act as connectors between the buildings and also as outside rooms that can be used as gathering and teaching spaces of various kinds (*ibid*).

The natural watercourse courtyard between the wings of the main building fulfils the role of a garden lung of and showcase for an entirely indigenous garden. The garden flows out into the landscape and integrates the main building with the site. The shape of this courtyard was adapted to include several existing trees located during the survey (*ibid*).

The internal circulation takes place around an undisturbed natural courtyard by means of gradually descending ramps following the natural gradient. Although roofed, these walkways open to the sides as interface spaces (*ibid*).

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Figure 4.7
Tower detail



Figure 4.8
Sun-screen detail

4.3 Mautemanene Fire Station, Walvis Bay, Namibia

Architects: Mackintosh Lautenbach Architects

The Walvis Bay Municipality commissioned a modern fire station, to be centrally located at the entrance to the Kuisebmond suburb, close to the high-risk areas like the port, industrial and high density residential neighbourhoods (Namibian Digest 2005: 39).

The brief called for a building that represented the modern requirements of a fire station in a dynamic way and continued the rich tradition of the Walvis Bay Municipality's impressive civic architecture. Thus it was attempted to address the pragmatic issues yet provide a building of dynamic interest (*ibid*).

Due to the harsh Namibian climate, the request for a low-maintenance structure and the nature of the building it was felt it should have a red facebrick structure. The traditional building material is given a contemporary African twist by the use of an angled soldier-course corbel that caps the building all the way around (*ibid*).

The building relies on the juxtaposition of materials and volumes for its visual impact and definition. For example, teak timber sleepers are set in exposed aggregate concrete to define the main entrance (*ibid*).

The main entrance is a sleek timber pivot door, set in a scratch plaster box, in turn set in a curtain wall façade, all framed on either side by the red facebrick walls and overhead the double-storey timber Pergola element. Consideration was also given to the prominence of the building along a major traffic artery, and the visual dynamic of the building from a moving car (*ibid*).



Figure 4.9: Entrance of the building



Figure 4.10: Perspective of the building

2.4 Casa da Musica, Porto, Portugal

Architects: Office for Metropolitan Architecture (OMA)

After Porto was selected as one of the two cultural capitals in Europe in 2001, the Minister of Culture and the City of Porto founded Porto 2001, an organisation which was to initiate and prepare different urban and cultural interventions for the city of Porto. In this context five international architectural firms, amongst which was OMA, were invited to participate in a restricted competition for a new concert hall to be positioned in the historical centre of Porto, the Rotunda da Boavista. The Office for Metropolitan Architecture (OMA) won the competition (GA Document 84).

Urbanism

Since this part of Porto was still a city “intact”, OMA chose not to articulate the new concert hall as a segment of a small scale circular wall around the Rotunda da Boavista but to create a solitary building standing on the new, more intimate square connected to the historical park of the Rotunda da Boavista and enclosed by three urban blocks. With this concept, issues of symbolism, visibility and access were resolved in one gesture (*ibid*).

Through both continuity and contrast, the park on the Rotunda da Boavista, after the intervention, is no longer a mere hinge between the old and the new Porto, but it becomes a positive encounter of two different models of the city.

Acoustics

This century has seen architecturally frantic attempt to escape from the tyranny of the notorious “shoe-box” shaped concert hall. But the best concert halls in the world have a “shoe-box” shape.



Figure 4.11: Bird's eye view showing Casa Da Musica next to Rotunda Boavista

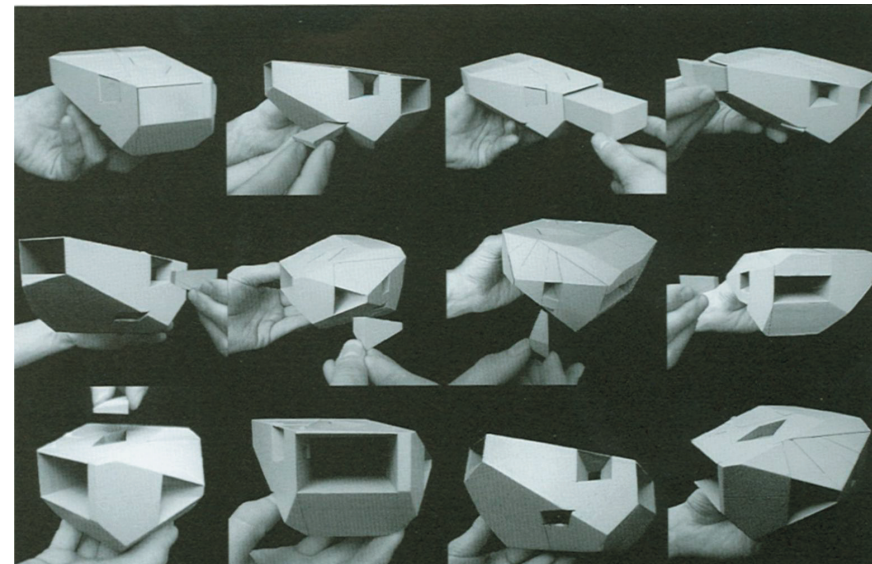


Figure 4.12: Concept models

Architectural concept

OMA addressed the relationship between the Concert Hall and the public inside as well as outside the building by considering the building as a solid mass from which were eliminated the shoe-box shaped concert halls and all other public program creating a hollowed out block. The building reveals it's contents to the city without being didactic; at the same time the city is exposed to the public inside in a way that has never happened before.

A continuous public route connects all public functions and “remaining spaces” located around the Grand Auditorium by means of stairs, platforms and escalators: the building becomes an architectural adventure.

During the design phase OMA researched new materials and new applications of existing and portuguese materials exclusively for Casa da Musica such as; the corrugated glass for the windows of the Auditorium, the used tiles for different rooms (*ibid*).

Structure

Casa da Musica is visually and spatially defined by it's striking faceted exterior from which it's conventional interior spaces have been extracted. The building's 400mm thick faceted shell and two 1m thick walls of the main auditorium are the building's primary loading bearing and stability system. The auditorium walls act as internal diaphragms tying the shell together in the longitudinal direction. Arup and OMA researched the concrete mix for external facades. (*ibid*).



Figure 4.13: Elevation of Casa Da Musica

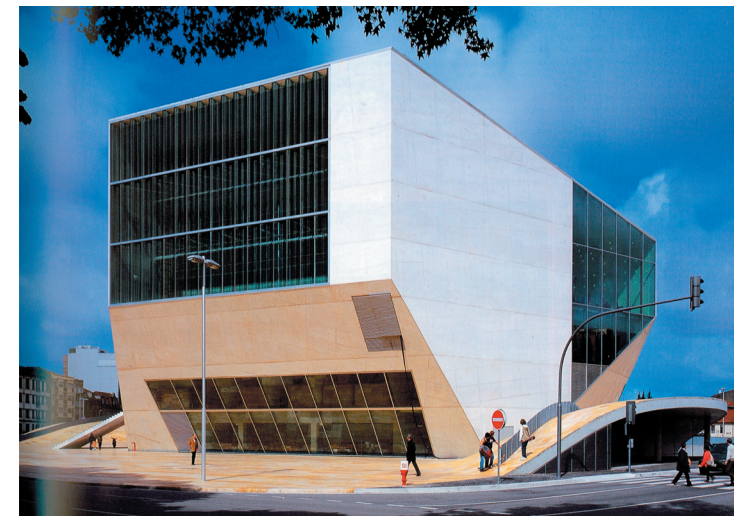
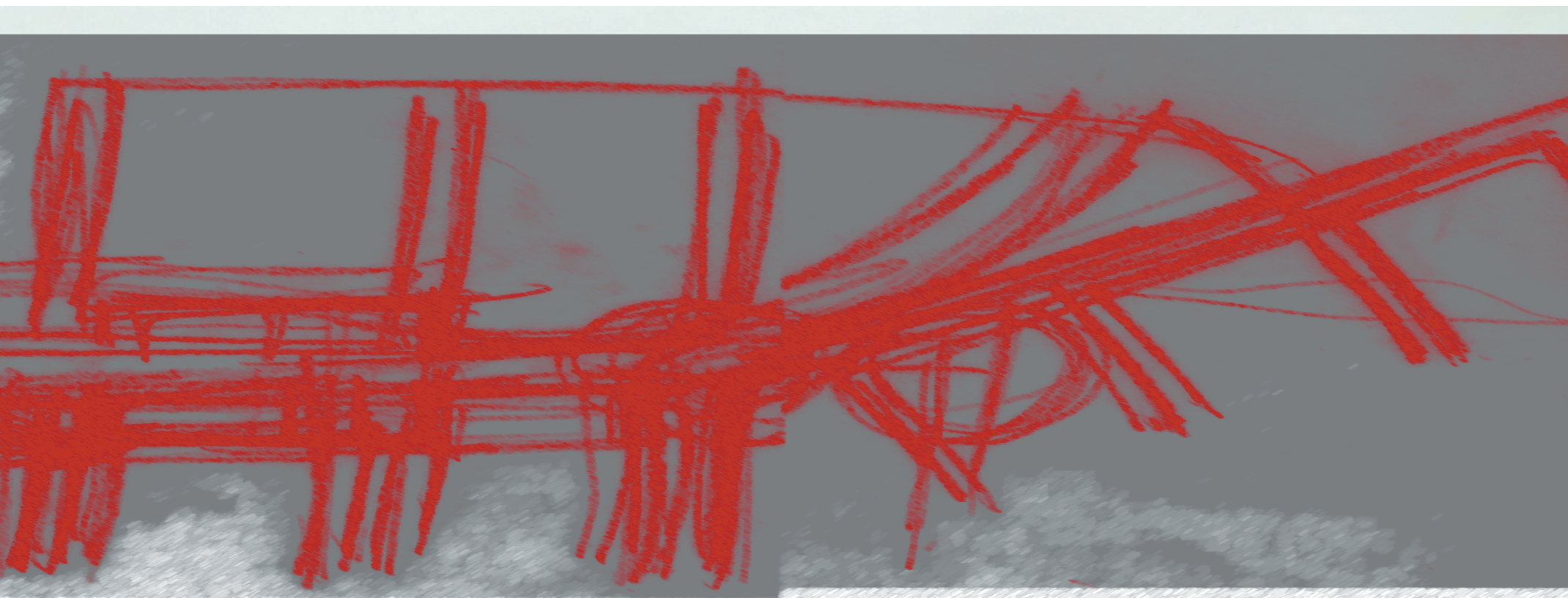


Figure 4.14: Perspective of the building

TECHNICAL INVESTIGATION



5. Baseline Criteria

5.1 Principles

The design principles behind Dingakeng Centre are based on designing a facility which is going to reflect the indigeneness of traditional medicine. Again it is to create a strong relationship between traditional and modern/western medicine. Since the facility is going to be built within the hospital boundary, it should not have a negative impact.

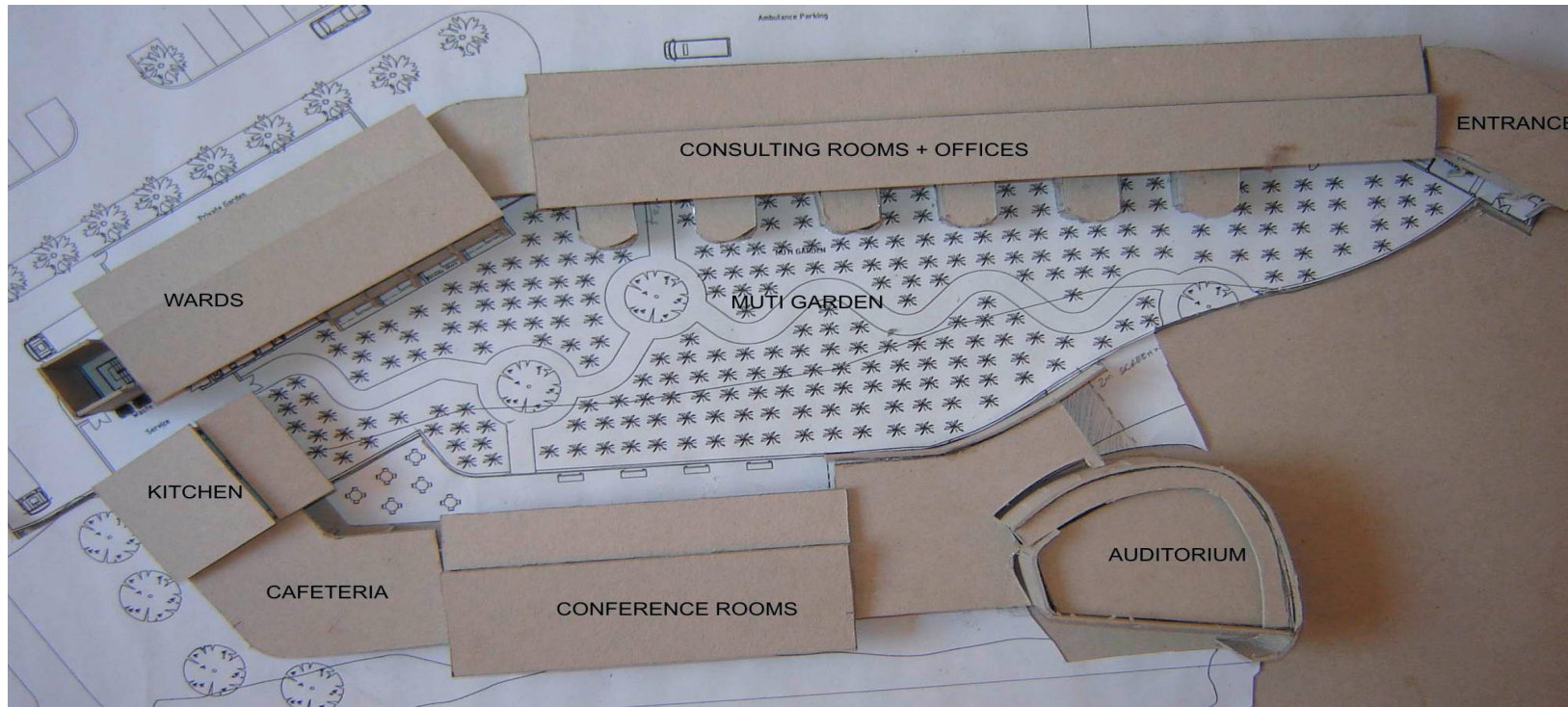
Since Dingakeng Centre is mainly going to have consulting and conference facilities, the centre should also be educational. People who are ignorant about traditional health practice will be free to come and learn about the practice. The purpose of a muti garden within the site will be mainly educational. People will have the privilege of learning about traditional herbs. In the past practice of traditional medicine used to be private, traditional health practitioners were not willing to share their knowledge with anyone. Therefore, the centre is going to encourage transparency about traditional medicine.

5.2 Occupant Comfort

Ventilation

Dingakeng Centre is going to be ventilated through natural means; the areas that require artificial ventilation is the auditorium (including projector room and translators' booth). The rest of the building is designed such that it can be ventilated naturally. The rooms are oriented so that cross-ventilation can take place through openable doors and windows.

High-level windows will be helpful to get rid of hot air especially during summer. Pretoria has very low wind speeds which is ideal for the wards on both floors. The cold room need desired temperatures to remain constant and therefore has a separate HVAC.

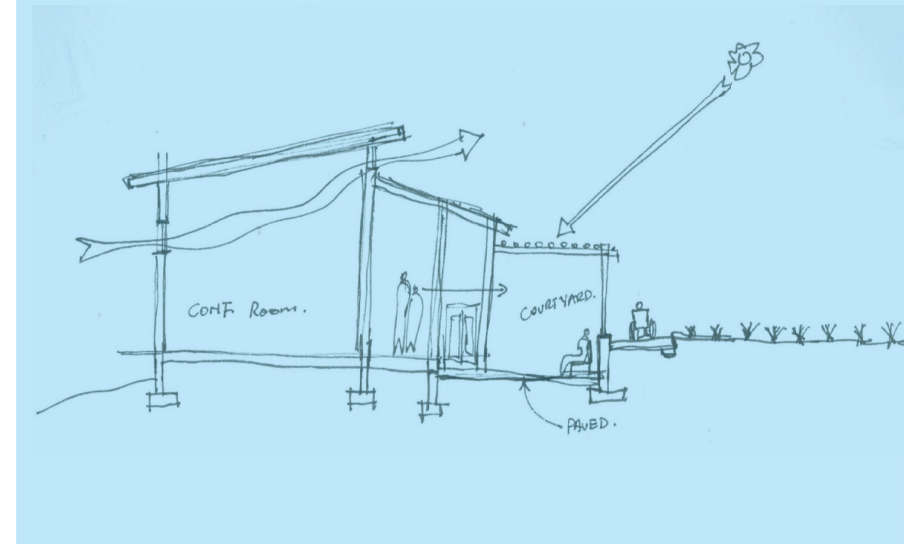
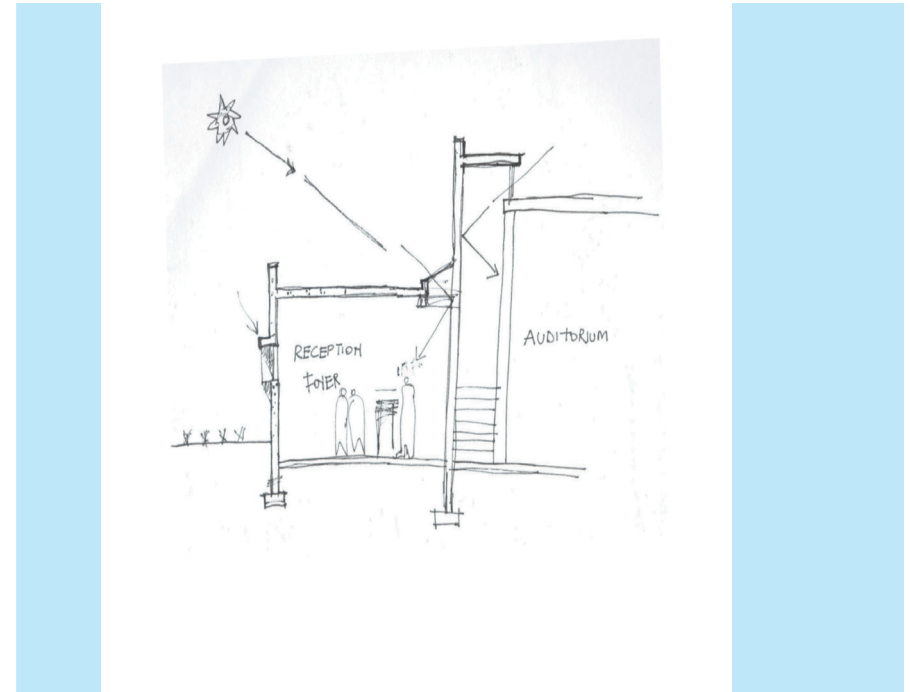
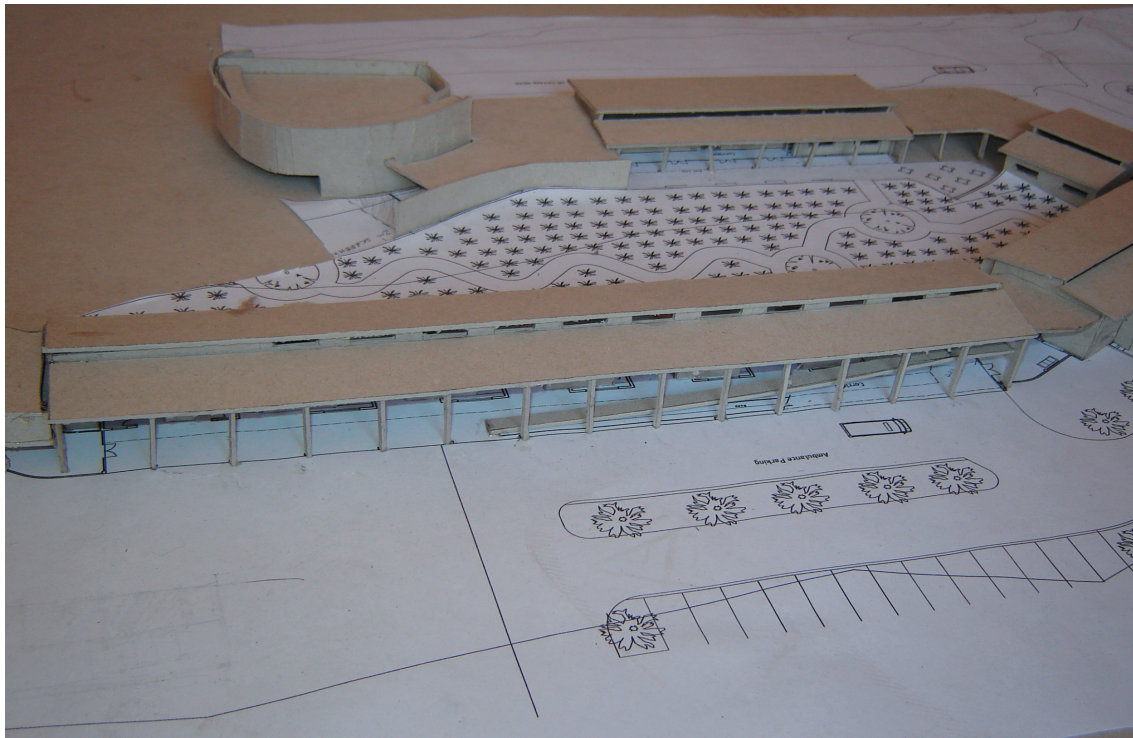


Thermal Comfort

It is envisaged that rainwater in the detention pond will help reduce heat through evapotranspiration. The windows will also be screened to avoid direct sunlight during summer. The sun screens are designed in such way that they can allow winter sunlight to penetrate into the rooms.

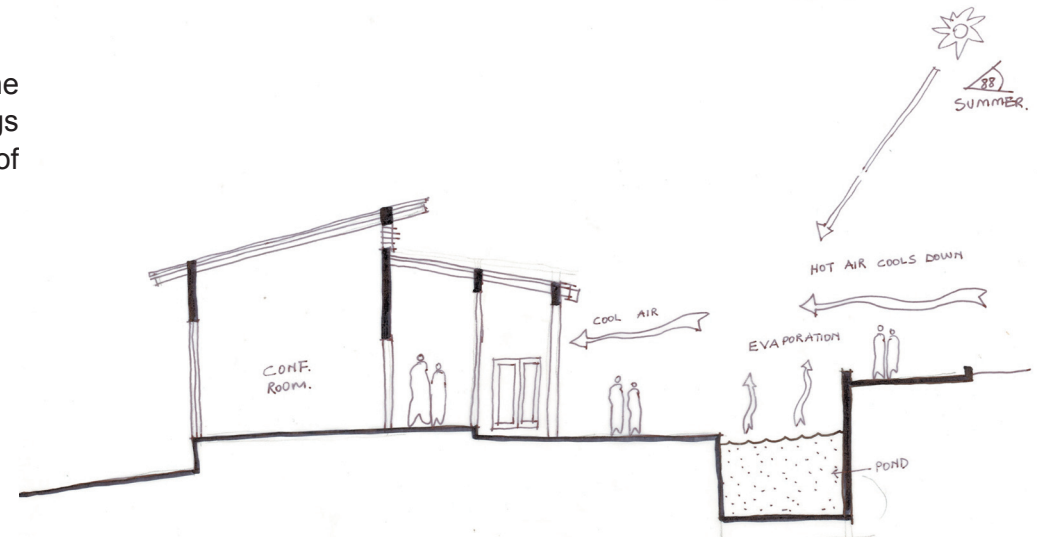
Lighting

Glare causes high occupant discomfort and occurs when a bright source is viewed from an area in relative darkness. A room of 3m high and 6m depths should achieve a daylight factor of 1.5 - 2% at the back of the room to eliminate glare. This is achieved through a 20% glazing to wall ratio (Daniels 1998: 72).



Views

The site is on the edge of the Hospital Hill, therefore, there is a clear view of the CBD on the south. UNISA and Reserve Bank are some of the visible buildings from the site. The North/South orientation of the building also allows views of the Apies River. The Nursing College is also visible on the south-east.



Noise

The only areas of Dingakeng Centre susceptible to traffic noise are the restaurant, kitchen, and conference rooms on the south. The auditorium is going to be sound proof and it is not going to have openings facing the street. The wards and consulting rooms are not going to be bothering by noise, therefore, they are going to be more private.

Indoor/ Outdoor connection

The stoep and balconies create a strong visual connection between the internal and external environments and blur the boundary between the two. Physical connections are made by having sliding doors opening to the outside on both floors, especially in the wards. Patients will be able to access the muti garden directly from their rooms. It is envisaged that this continuous interaction with the garden will speed-up the healing process.

5.3 Inclusive Environments

Transport

There is a proposed formal taxi rank next to Dingakeng Centre. The proposed taxi rank is going to be linked to Bloed Street taxi rank and the long distance taxi rank along Dr Savage Road. Next to the proposed taxi rank there is going to be a *muti* and fruit/vegetable market. There is a lot of public transport activity already along Dr Savage Road already, therefore, a public transport terminus will be a good idea. This will also ease traffic along the road.

Pedestrian movement is encouraged along the building; and between the building and the hospital.

Circulation

The maximum height of Dingakeng Centre is two storeys, therefore, vertical mechanical circulation is unnecessary. A ramp and three staircases provide vertical circulation. Horizontal circulation is mainly outside preventing artificial lighting and ventilation. These walkways are weather protected by a number of screens. All routes between and within buildings are smooth and navigable by wheel chair.

To Marabastad



Changes in level

Dingakeng Centre is a two storey building. Therefore, there is a provision of 1:12 ramp to cater for the disabled people on wheel chairs.

Toilets

Toilets are located on each floor and on every wing of the building. There is sufficient number of toilets for the disabled people.

5.4 Access to Facilities

Childcare

The close proximity of the childcare facilities in the Femina Clinic omits the need for such a facility at Dingakeng Centre.

Banking

Secure banking facilities are located at Sancardia shopping mall 2km away from the site.

Retail

There is going to be retail facilities next to the proposed taxi terminus. Therefore, people will be able to buy *muti*, vegetables and fruits on their way home.

Communications

Personnel will have access to the internet and telephone facilities in their offices. Major postal services are offered at the main post office at Church Square about 1,5km away from Dingakeng Centre.

5.5 Participation & Control

Environmental control

Opening windows and adjustable screens will give occupants a certain amount of control over ventilation and lighting. Task lighting will give occupants control over their immediate space but ambient lighting will be sensor activated at night, which can achieve energy savings between 25-50%.

User adaption

Furniture and fittings (i.e. chairs and tables, etc.) to be arranged by the tenants especially in the consulting rooms. Provision made for the personalisation of spaces if desired. This may include pin boards, choice of colours, etc.

Social spaces

Stoops, balconies, and courtyard provide spaces for interaction. This social spaces are designed to engage with the muti garden.

Local community

Dingakeng Centre is based around awareness of cultures and knowledge transfer so that community in general is encouraged through the centre. Almost every area of the centre is open to the public.

The auditorium is open for public use as long as it is booked in advance. The public is welcomed to view the muti garden and ask questions.

5.6 Education, Health & Safety

Education

Public tours and exhibitions through Dingakeng Centre will provide information on medicinal plants and their medical properties. A strong emphasis will be made on origins of use, i.e. the communities that use them, spiritual associations, ceremonies, etc.

Visitors will also learn about different types of traditional health practitioners. They will learn that different traditional healers specialize in different sicknesses. For example, there are *inyangas* who specialize in headache, heart disease, skin disease, etc.

Health

First-aid kit to be available at the reception areas. Information to be available on issues of health, safety, and career development

Indoor air quality

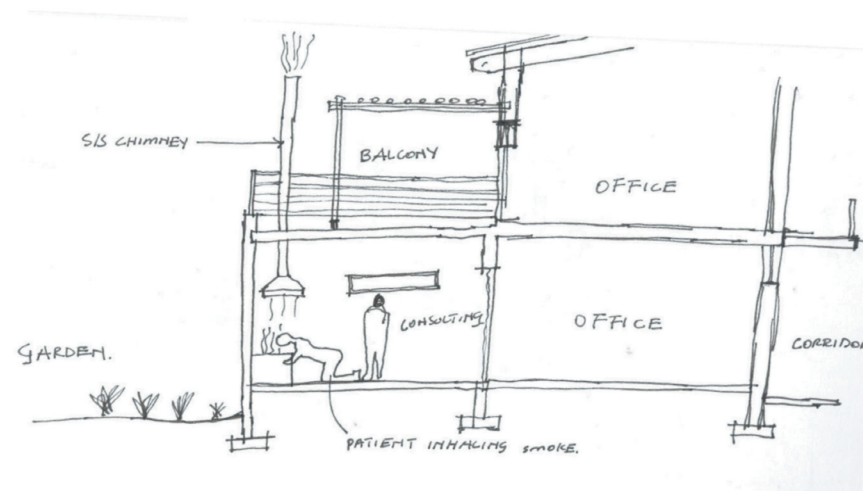
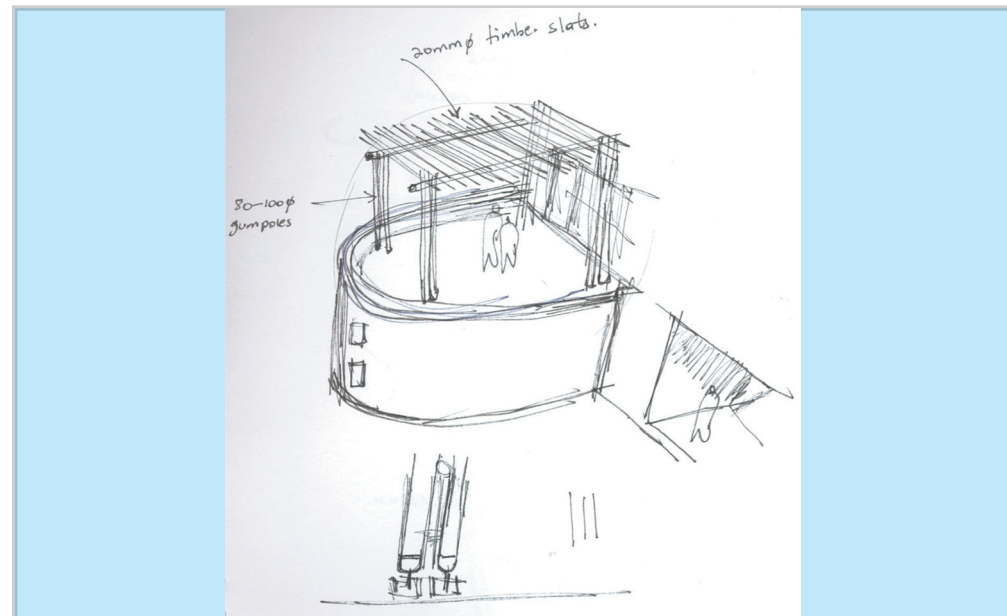
Cross-ventilation will be encouraged through the design of the building. Windows are positioned to encourage ventilation. Air will be taken from outside and the use of recycled air will be avoided. This will ensure human comfort inside the building. Only the auditorium will use artificial ventilation due to the size and number of people who are going to utilize it.

Exercise & recreation

Large green open spaces that already exist will be retained allowing occupants to utilize it.

Safety

The building to comply with health and safety requirements. Regular checks in place to ensure these are complied with.



5.7 Local economy

Local contractors

80% of contractors and workforce based within Tshwane not more than 40km away from the building.

Local materials and components

80% of materials and components are to be sourced within 200km radius from site. Only special materials and components not available around may be sourced from suppliers more than 200km away.

Repairs and maintenance

All repairs and maintenance required by the building (including servicing of mechanical plant) can be carried out by contractors within 200km of site.

5.8 Efficiency of use

Occupancy schedule

Both male and female wards will be used during week days and weekends. The offices and consulting rooms have been intergrated to be effectively used by the occupants. The auditorium will be effectively used by the occupants and the public. Obviously, the public will have to book the auditorium in advance. The occupants and public will eat at the cafeteria. Therefore, the entire building will be effectively used.

Management of space

The offices are the only non-shared working spaces.

Disruption & downtime

Photovoltaic panels are used in Dingakeng Centre for electricity generation and to serve as back-up during power cuts.

5.9 Adaptability & Flexibility

Structure

The structure is based around a concrete column and slab system. The structure is permanent but allows for flexibility through the in-fill panels. The auditorium is less flexible which is constructed of concrete.

Service spaces

Services run through a series of vertical and horizontal ducts. There is a suspended ceiling in the auditorium to allow service space above ceiling. All horizontal and vertical ducts are to be accesible.

5.10 Ongoing Costs

Maintenance

Materials specified on the building requires low maintenance. All plant and fabric have maintenance cycle of at least two years. Low or no maintenance components selected (doors, windows, iron mongery, etc.). Maintenance can be carried out cost effectively (e.g. replaceable fttings such as light bulbs can be easily reached and replaced).

Cleaning

Measures taken to limit requirement for cleaning. Hard wearing solid flooring specified (limited carpet spicified). Windows are easily accessible for cleaning.

Security

Measures are taken to limit requirement and costs of security. Therefore, Dingakeng Centre is going to make use of the security of the Tshwane District Hospital

5.11 Capital Costs

Consultant fees

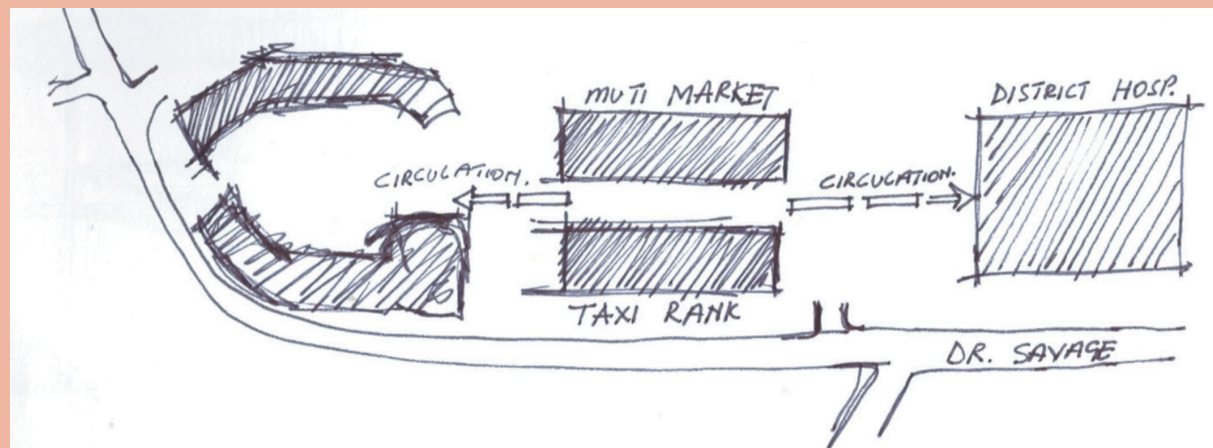
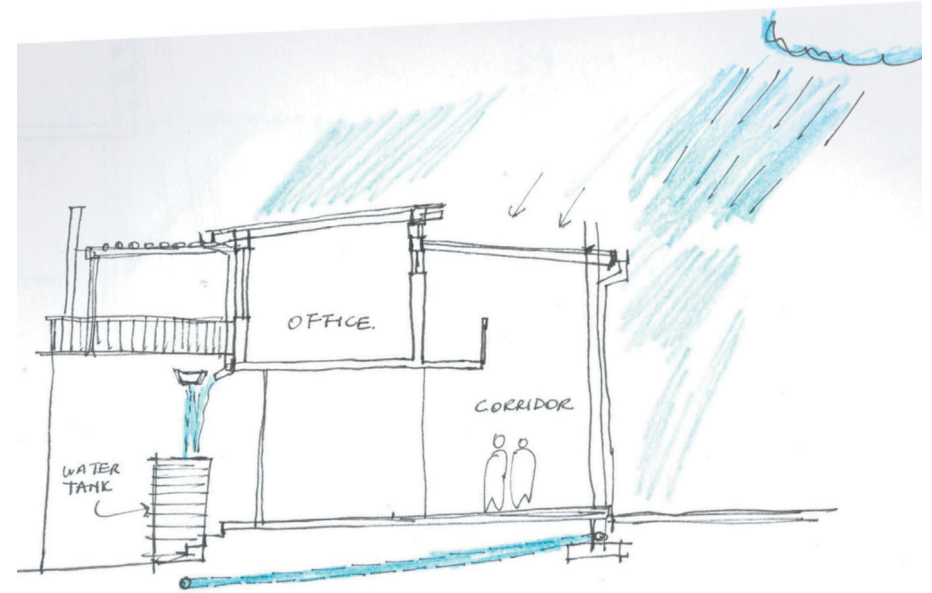
Consultant fees not just calculated on total project cost basis. Incentives provided to consultants to reduce capital cost and ongoing costs.

Build-ability

Building designed to be easily and cheaply built. Building form simple. Replication of elements and components.

Construction

Construction approach designed to reduce initial capital cost of the building. Building undertaken in a series of phases. Building built as shell first with finishes to be added later.



5.12 Water

Rainwater

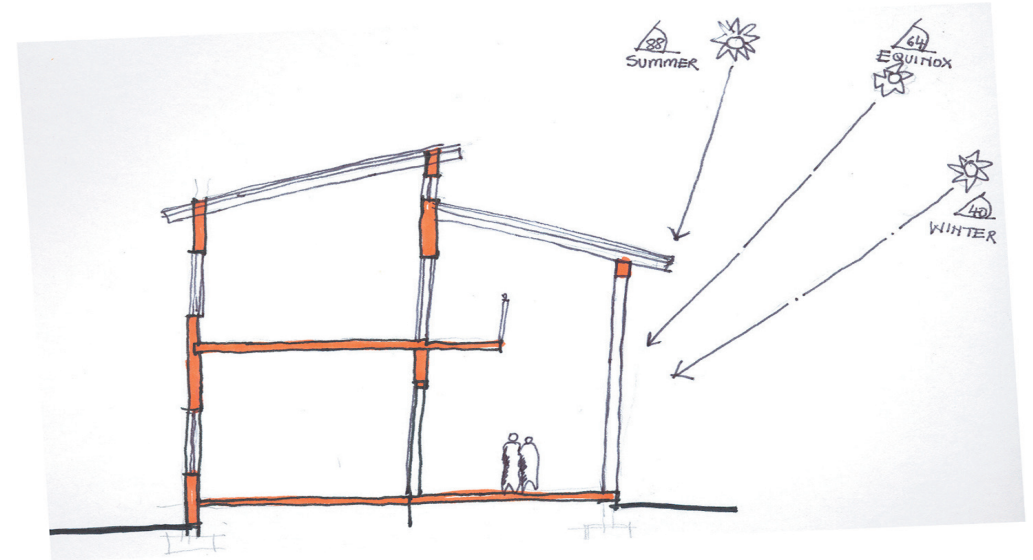
The relatively high amount of vegetation throughout the project requires large amounts of irrigation, it is therefore important to collect as much rainwater as possible. Therefore, rainwater will be collected from the roofs of the buildings and later used in the muti garden for irrigation.

The annual amount of rainwater that can be collected as runoff from the roof is indeterminable as many factors influence, namely:

- amount of rainfall in one shower;
- temperature

Runoff

Impermeable surfaces are limited to walkways and parking spaces. This allows for rainwater to filter back into the water table. The water on social spaces will be directed towards the detention pond. The water will then be released when needed for irrigation on the muti garden.



5.13 Energy

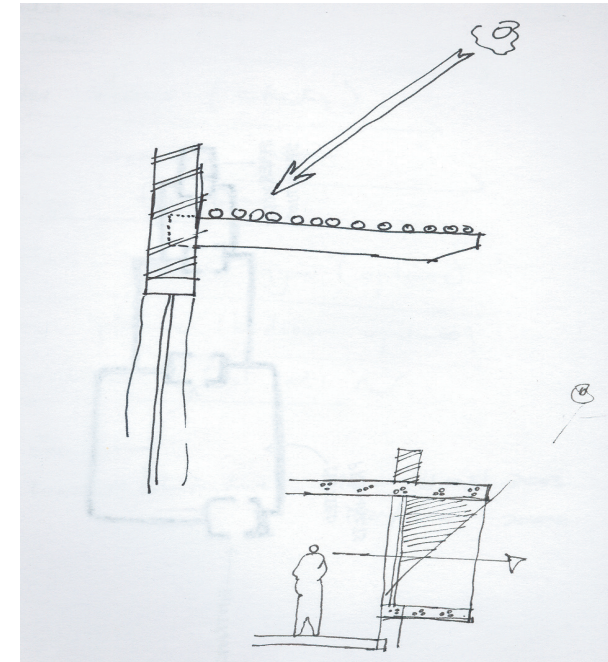
Location

Building located less than 400m of taxi terminus

Appliances & fittings

15W fluorescent light bulbs are used instead of regular 75W light bulbs. The lux provided is the same but the fluorescent bulbs produce 60W less heat energy.

Throughout Dingakeng Centre, reduced flow-rate taps are used which contain a spray nozzle that reduces the water flow rate by 70% (Edwards 1999: 123). 6Litre flushing toilets are used of the regular 7.5 litre toilets.



Renewable energy

Pretoria offers little opportunity for wind-generated power but great potential for the use of photovoltaic cells as a renewable energy means. The effective implementation of needed renewable energy measures requires the immediate and sustained installation of renewable energy sources. Photovoltaic cell systems resist vulnerability to power loss, are reliable, low maintenance, easily expanded, and incur little operating cost.

5.14 Recycling & Reuse

Organic waste

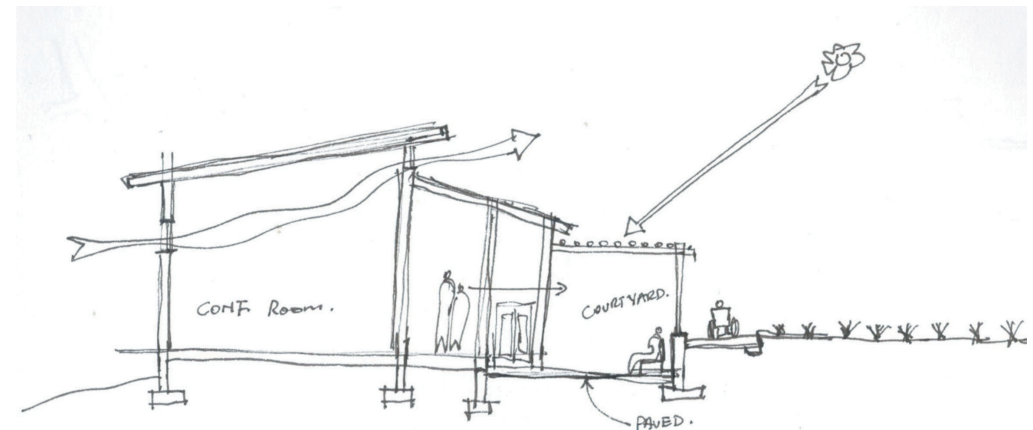
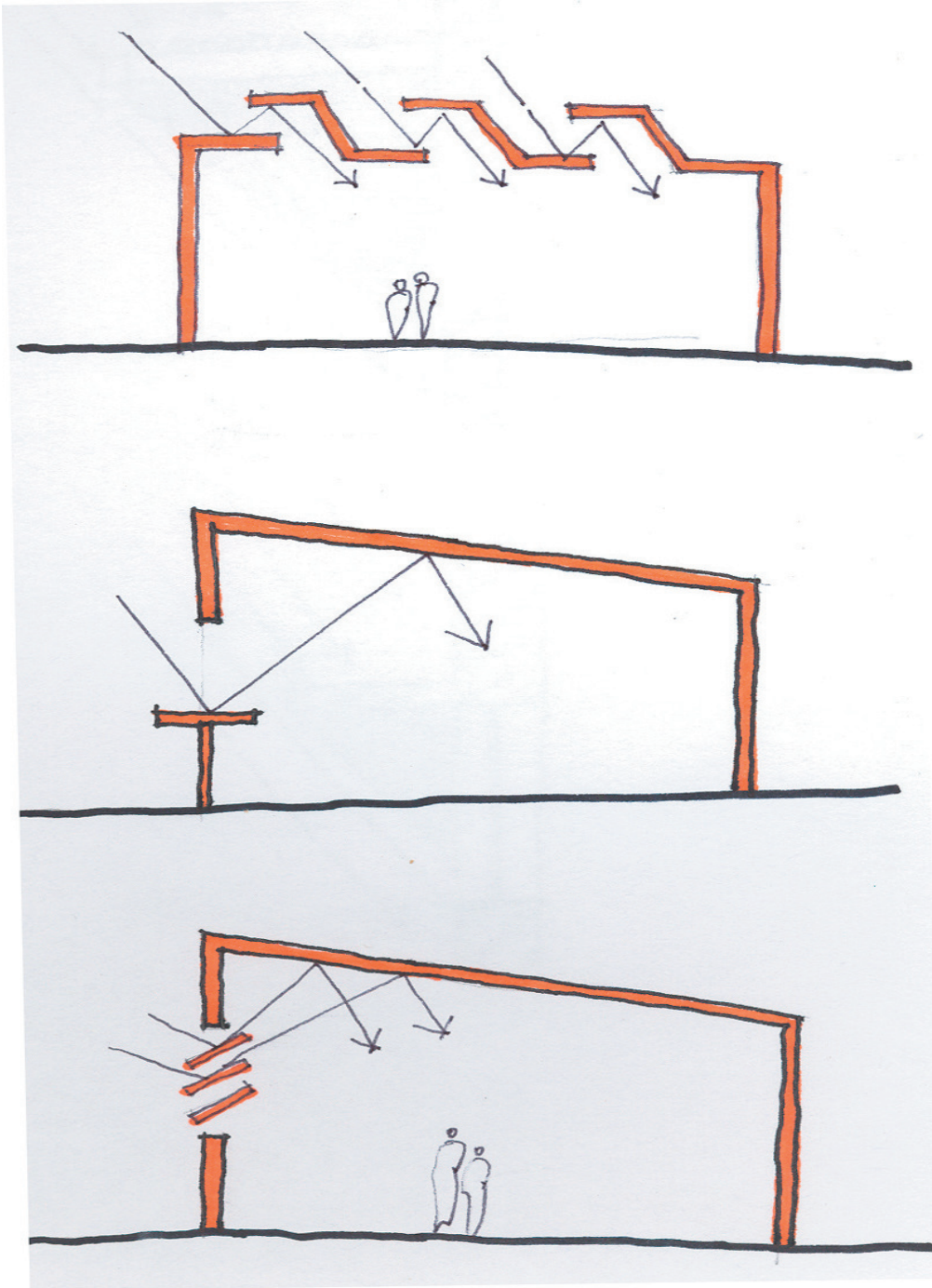
Organic waste from the building and the garden will be collected and used as compost for the muti garden.

Inorganic waste

Inorganic waste will be sorted on site at the source through the use of recycling bins

Toxic waste

Arrangements are made for the safe disposal/ recycling of harmful substances.



5.15 Site

Brownfield site

Dingakeng Centre is going to be constructed on a site already previously built on.

Neighbouring buildings

Dingakeng Centre does not have harmful effect on neighbouring buildings (e.g. over-shading) where access to light is important.

Vegetation

The site has extensive vegetation. Vegetation around the building can improve the microclimate control within the building.

5.16 Materials & Components

Embodied energy

80% of the building materials and components are made from materials and components with low embodied energy. Materials used are locally made and sourced like timber, concrete, and brick masonry.

Concrete

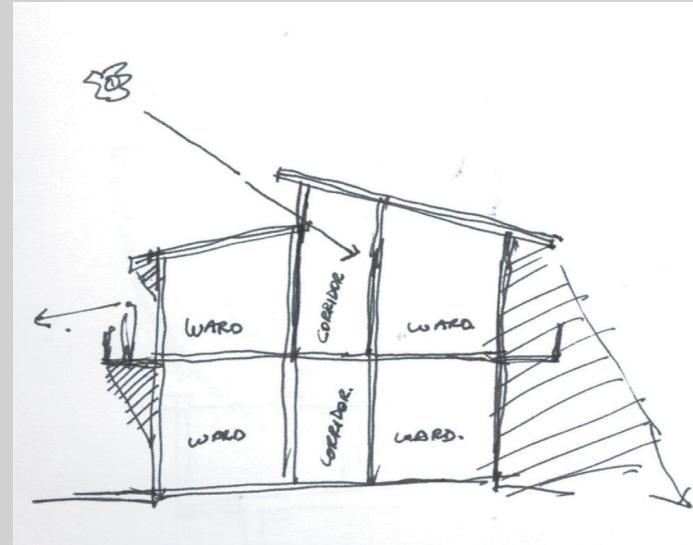
Reinforced concrete boasts high specific heat capacity, very high compressive strength, and the ability to span large distances. Whilst it is non-renewable, it is a low-demand material to manufacture; it is also re-usable (e.g. gabion walls). Concrete requires high energy during production process.

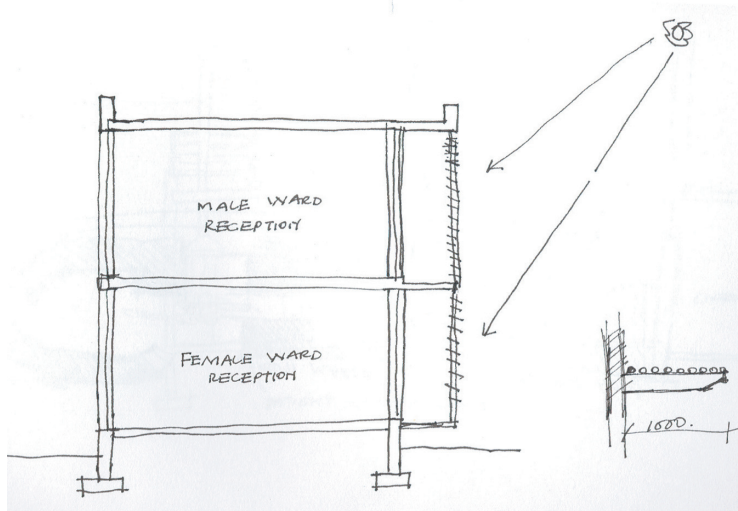
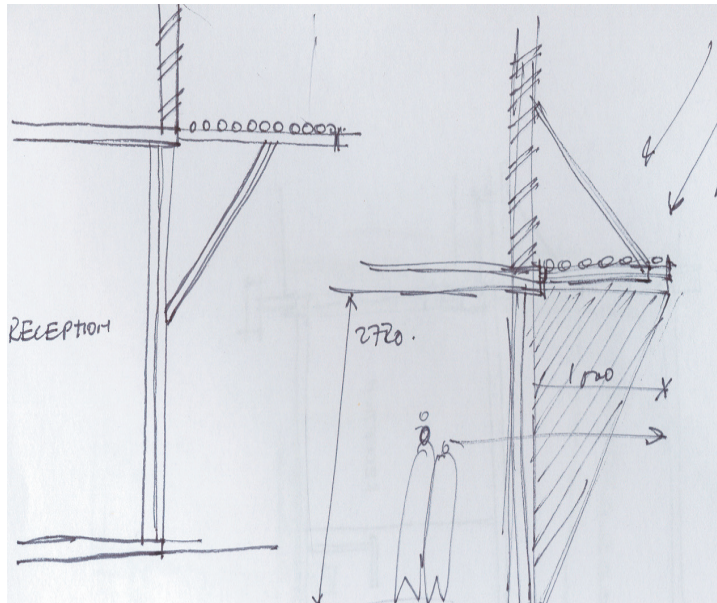
Timber

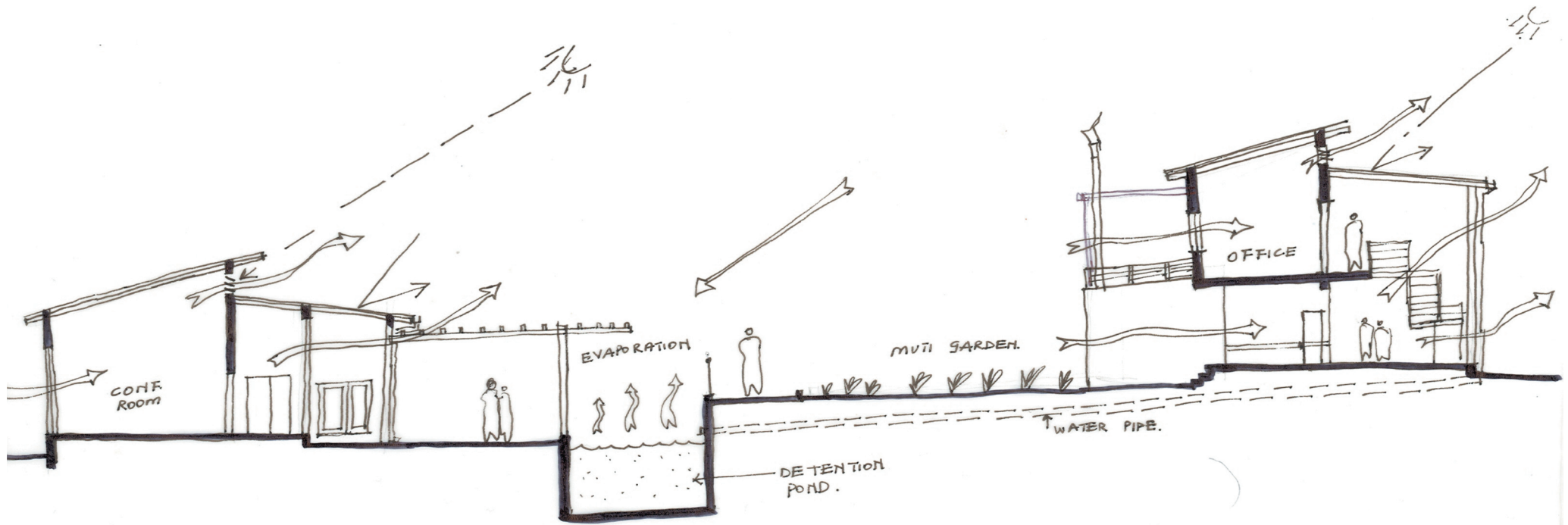
Timber is an environmentally friendly material and has low embodied energy. The advantage of timber is that it is a renewable material. During production it does not produce harmful gases and it does not pollute the environment. Timber has to be treated before it can be used. It also has to be maintained to increase the lifespan.

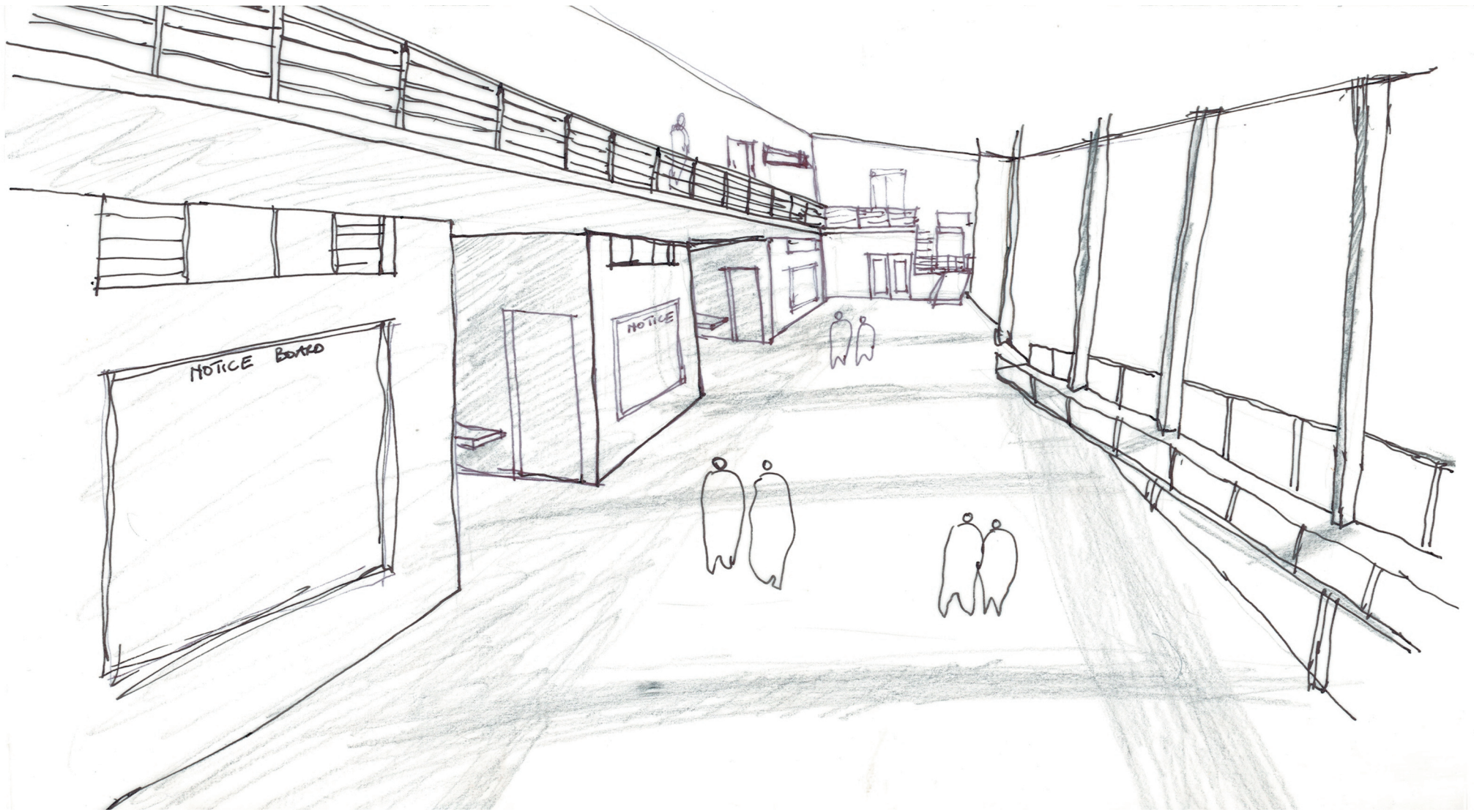
Brick masonry

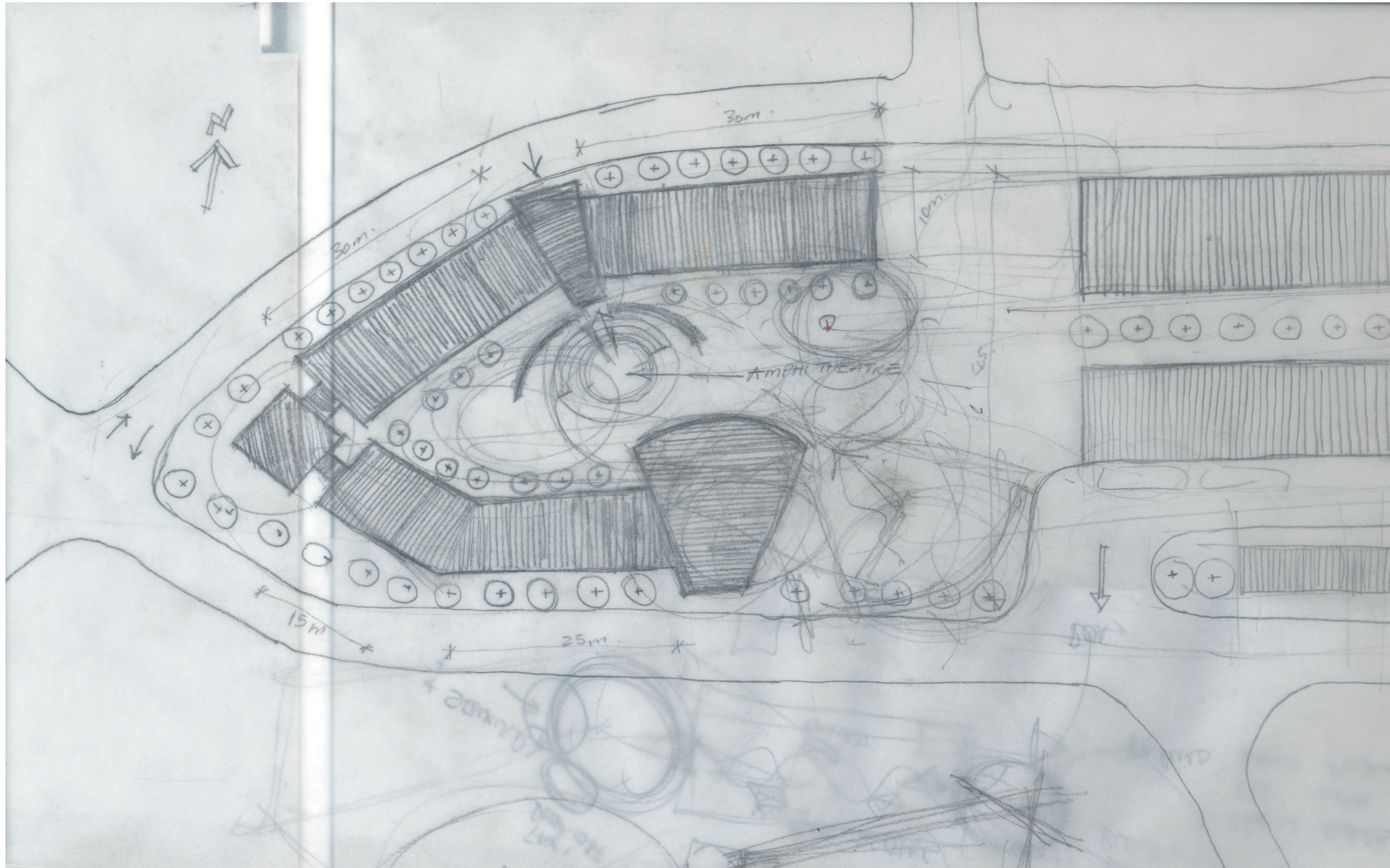
Brick masonry has high heat capacity and high compressive strength. Brick masonry is also re-usable. The disadvantage is that it is a non-renewable material and requires high energy during production. Facebrick, which is used on the elevations, require low maintenance. Just like concrete, brick masonry has no energy-generating qualities but can be used as heat store.

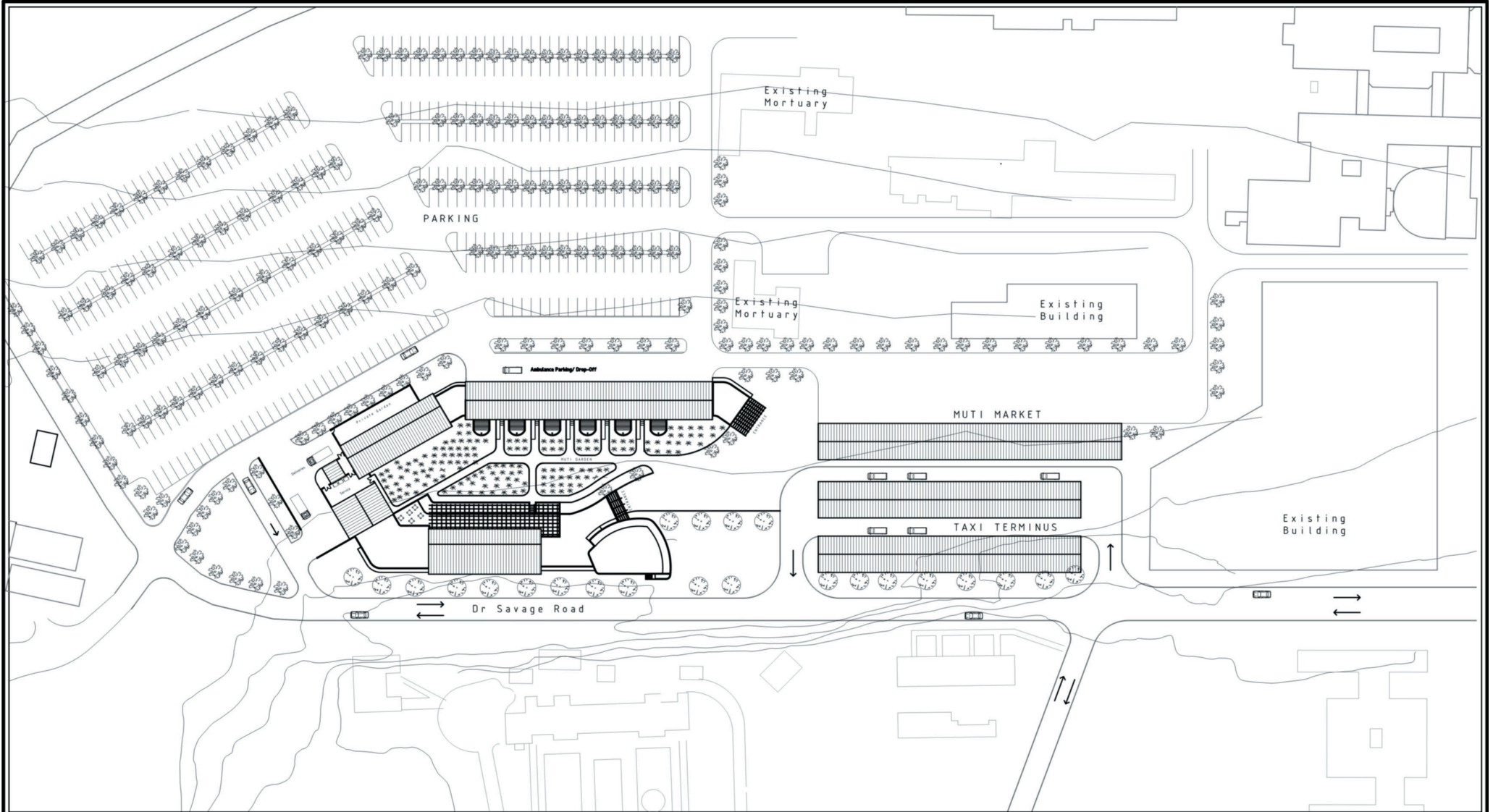










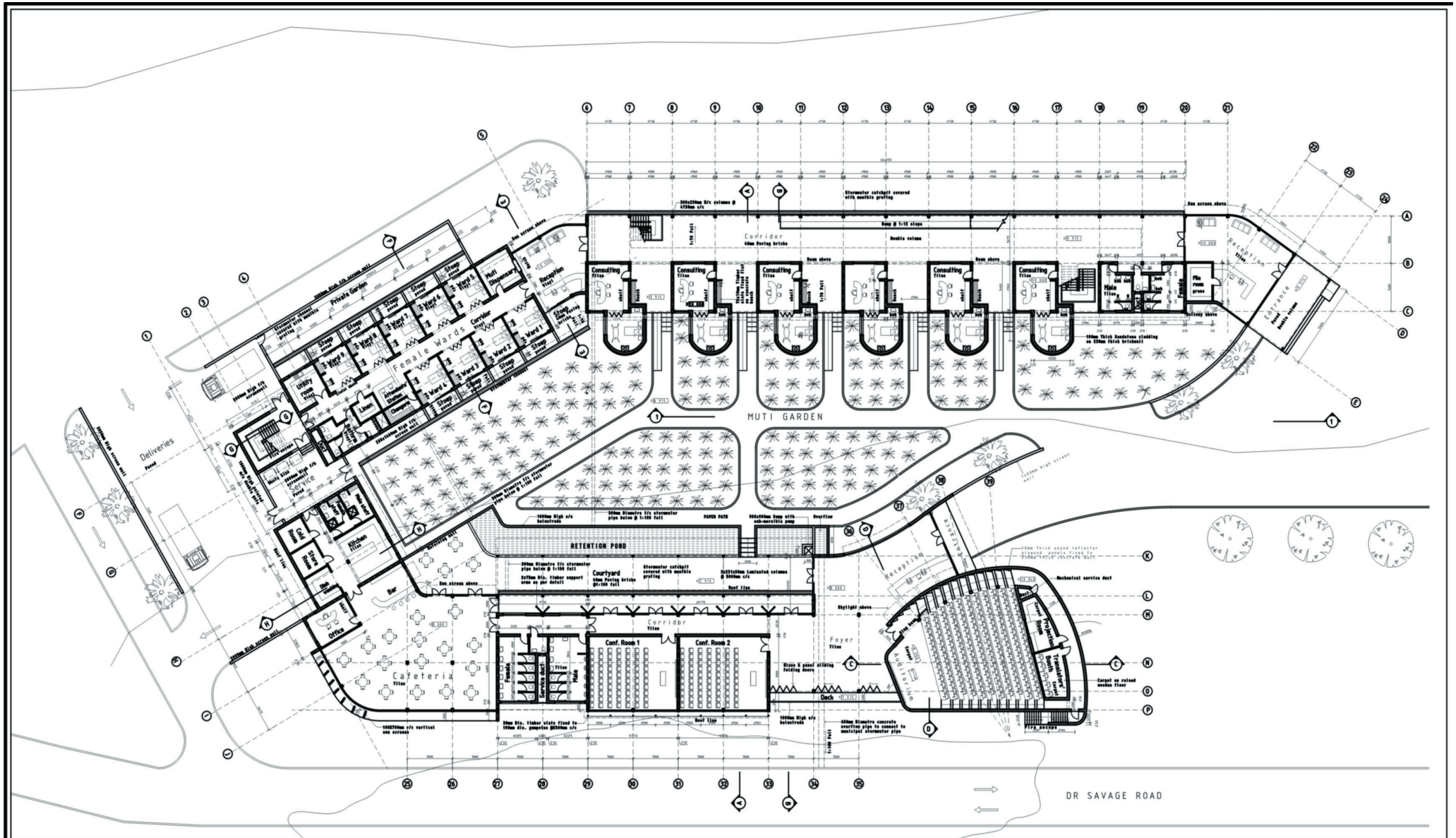


Project:	DINGAKENG: CENTRE FOR TRADITIONAL HEALTH PRACTITIONERS	
Drawing:	SITE PLAN	
Scale:	1:500	

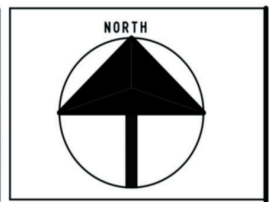


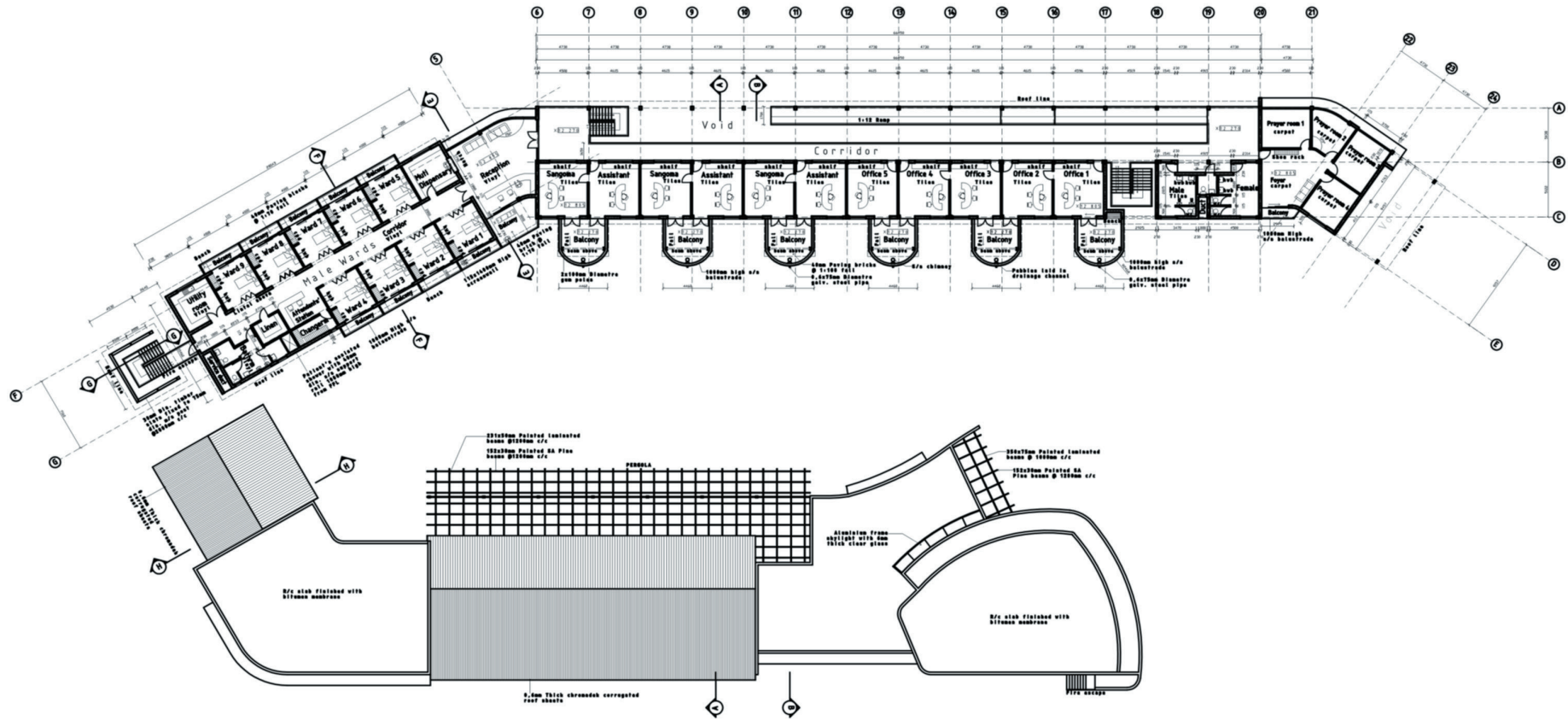
NORTH

01/10



Project:	DINGAKENG: CENTRE FOR TRADITIONAL HEALTH PRACTITIONERS	
Drawing:	GROUND FLOOR PLAN	
Scale:	1:200	



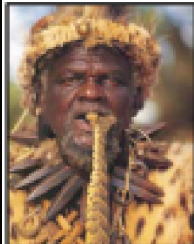
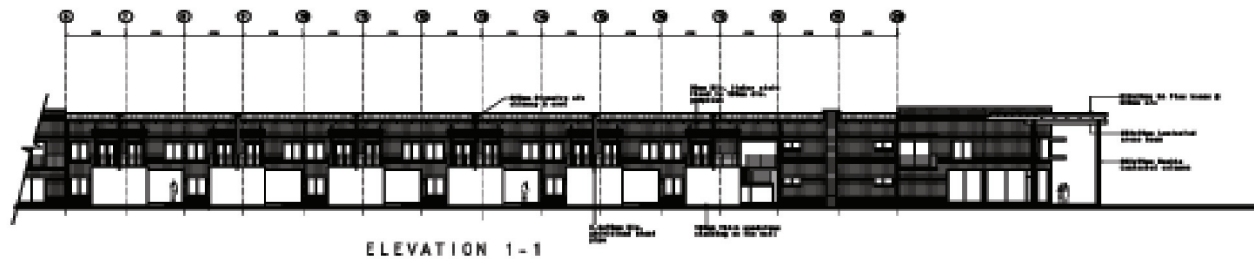
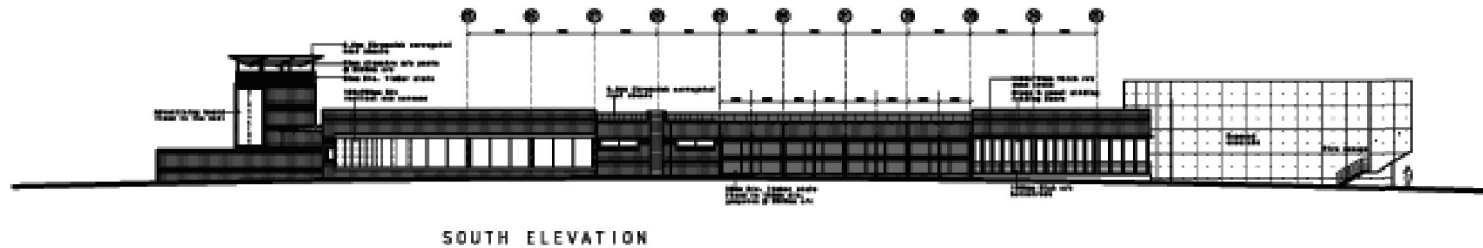
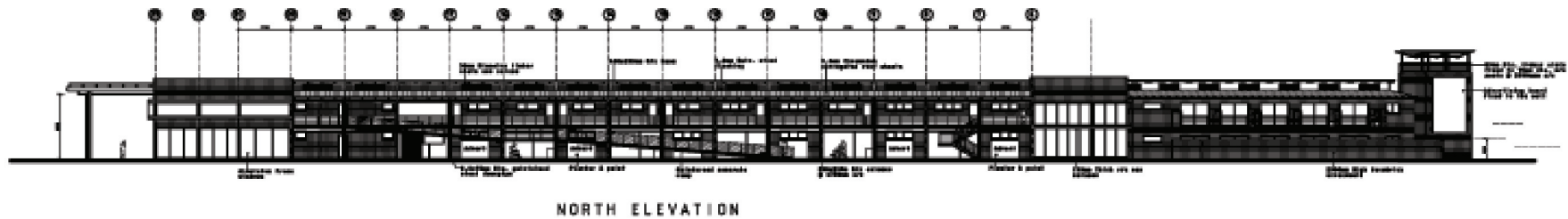


Project:	DINGAKENG: CENTRE FOR TRADITIONAL HEALTH PRACTITIONERS	
Drawing:	FIRST FLOOR PLAN	
Scale:	1:200	



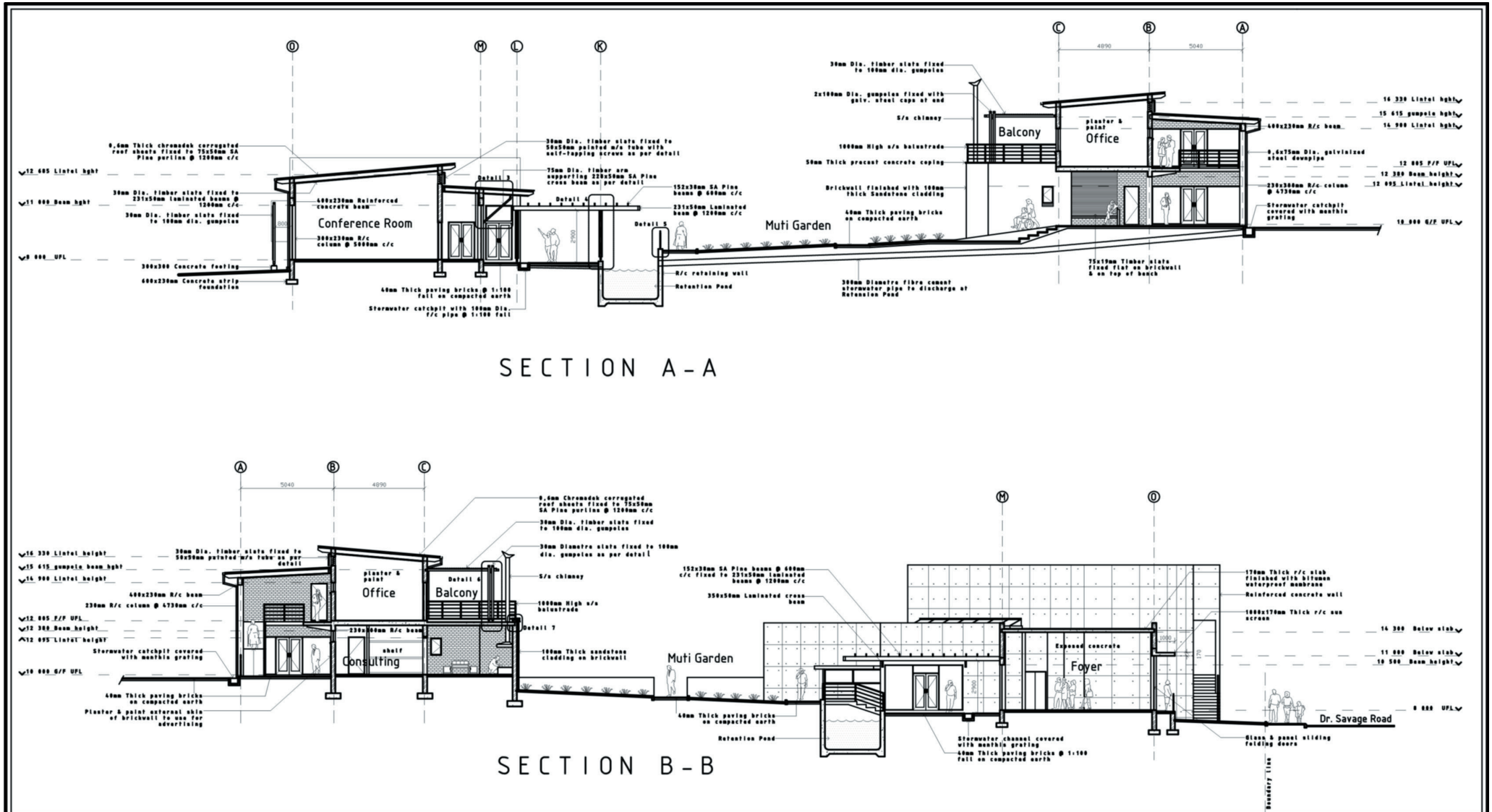
NORTH

03/10



Project:	DINGAKENG: CENTRE FOR TRADITIONAL HEALTH PRACTITIONERS	
Drawing:	ELEVATIONS	
Scale:	1:200	



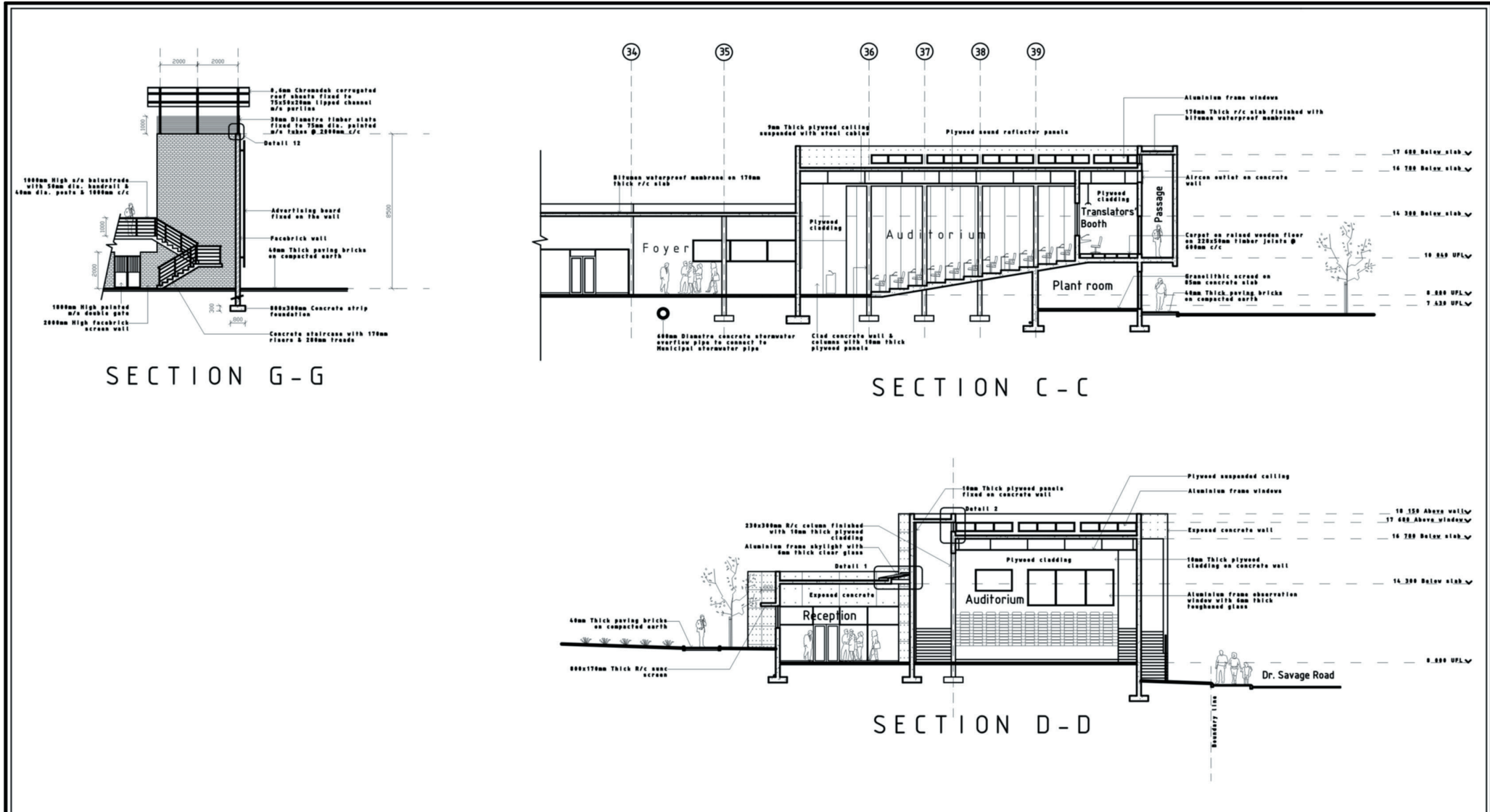


Project:	DINGAKENG: CENTRE FOR TRADITIONAL HEALTH PRACTITIONERS	
Drawing:	SECTIONS A-A & B-B	
Scale:	1:100	



NORTH

05/10

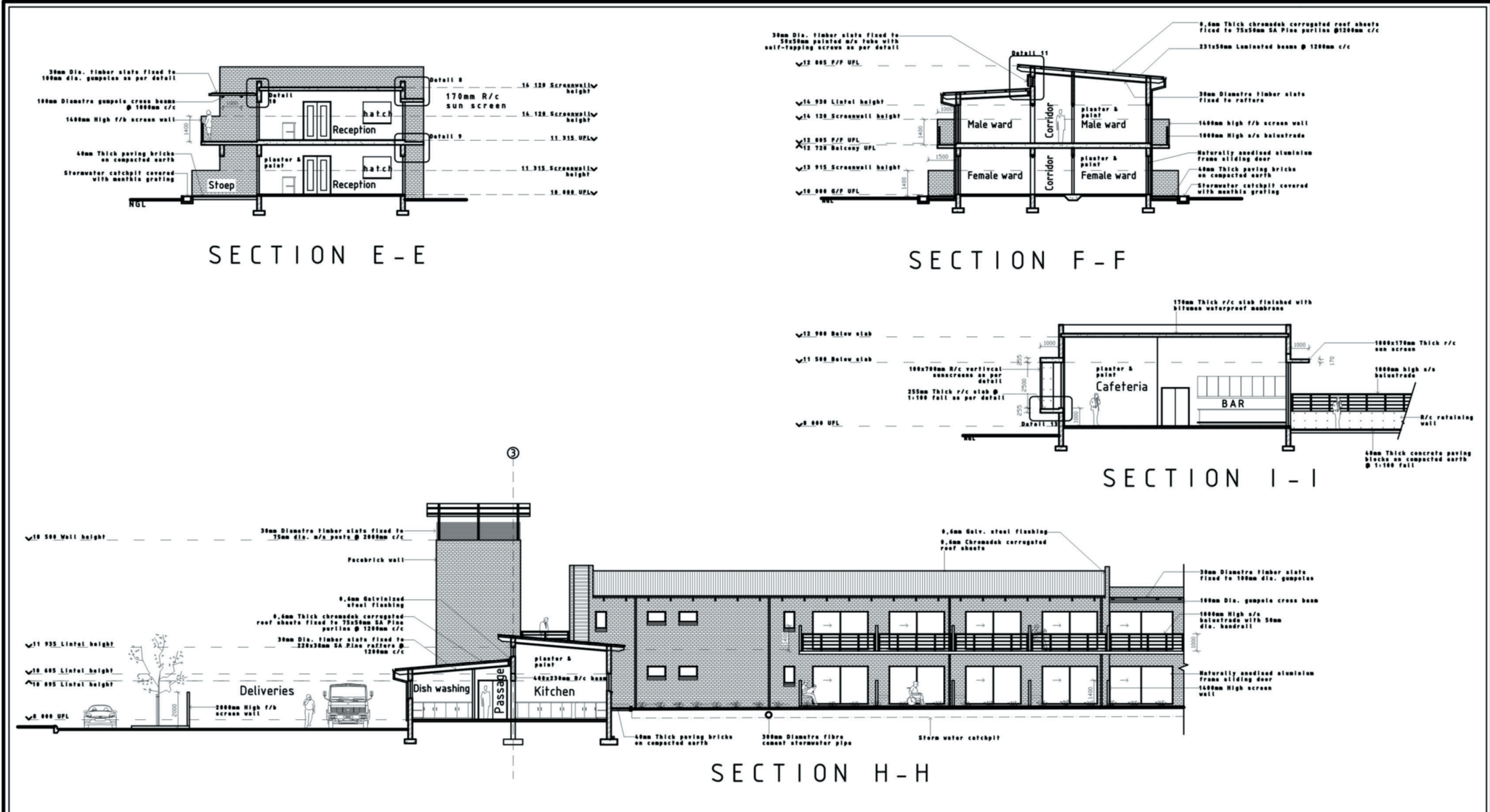


Project:	DINGAKENG: CENTRE FOR TRADITIONAL HEALTH PRACTITIONERS	
Drawing:	SECTIONS C-C, D-D, & G-G	
Scale:	1:100	



NORTH

06/10

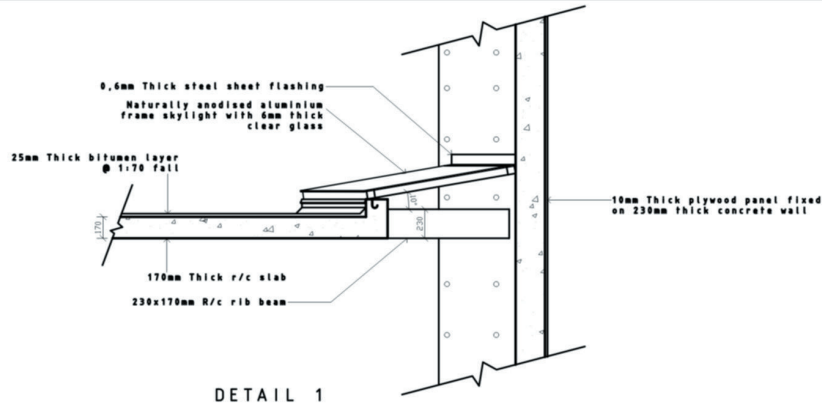


Project:	DINGAKENG: CENTRE FOR TRADITIONAL HEALTH PRACTITIONERS	
Drawing:	SECTIONS E-E, F-F, H-H, & I-I	
Scale:	1:100	

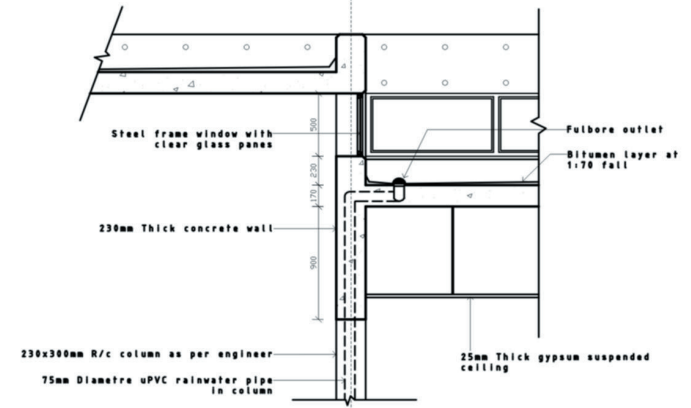


NORTH

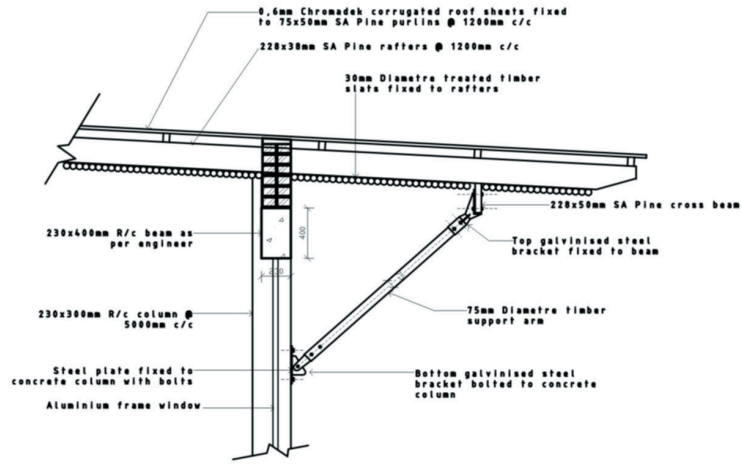
07/10



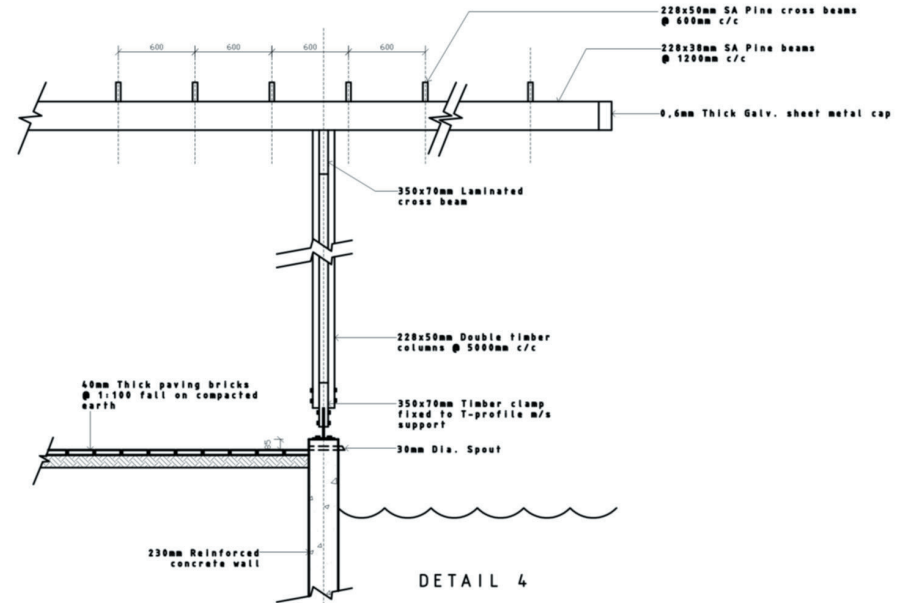
DETAIL 1



DETAIL 2



DETAIL 3



DETAIL 4

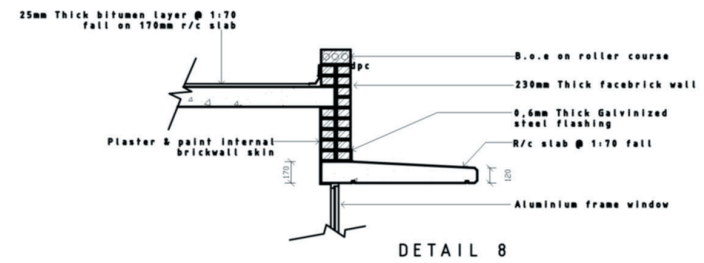
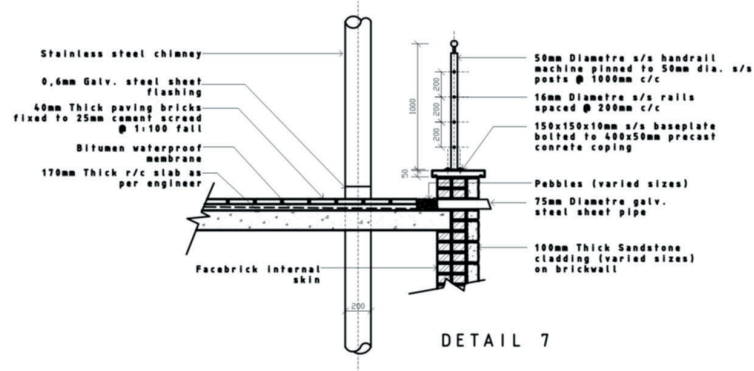
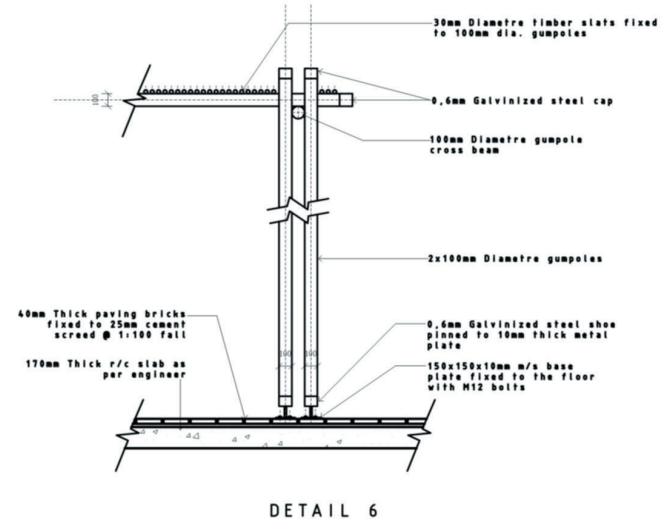
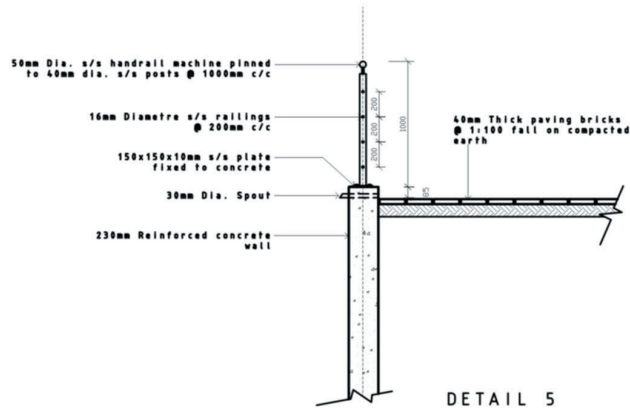


Project: DINGAKENG: CENTRE FOR TRADITIONAL HEALTH PRACTITIONERS

Drawing: DETAILS 1-4

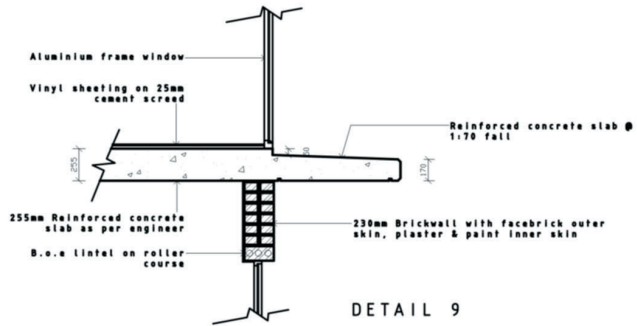
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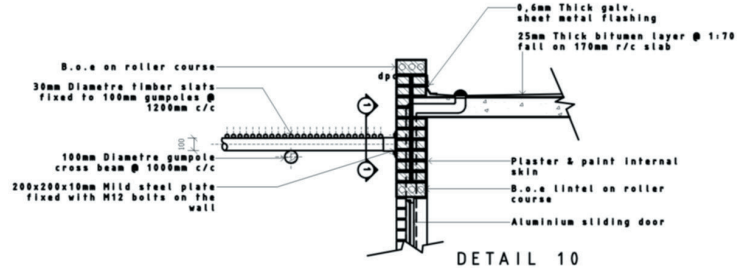


Project:	DINGAKENG: CENTRE FOR TRADITIONAL HEALTH PRACTITIONERS	
Drawing:	DETAILS 5-8	
Scale:	1:20	

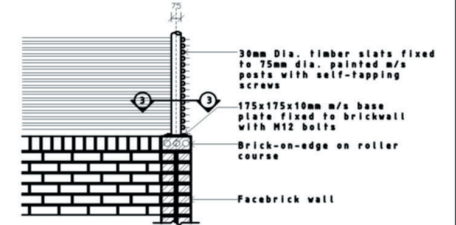




DETAIL 9



DETAIL 10



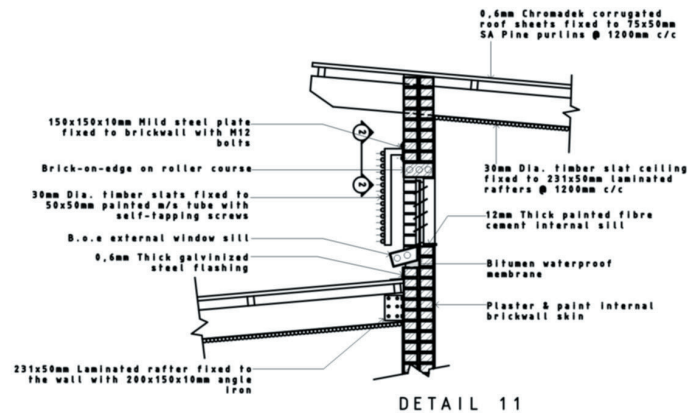
DETAIL 12



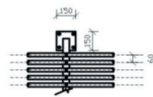
ELEVATION 1-1



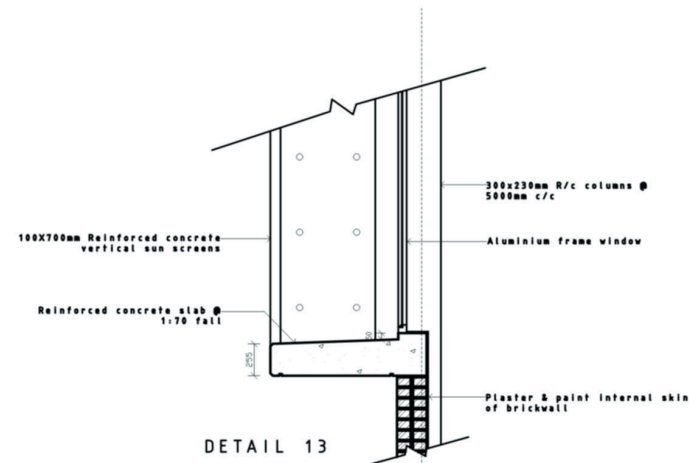
ELEVATION 3-3



DETAIL 11



ELEVATION 2-2



DETAIL 13



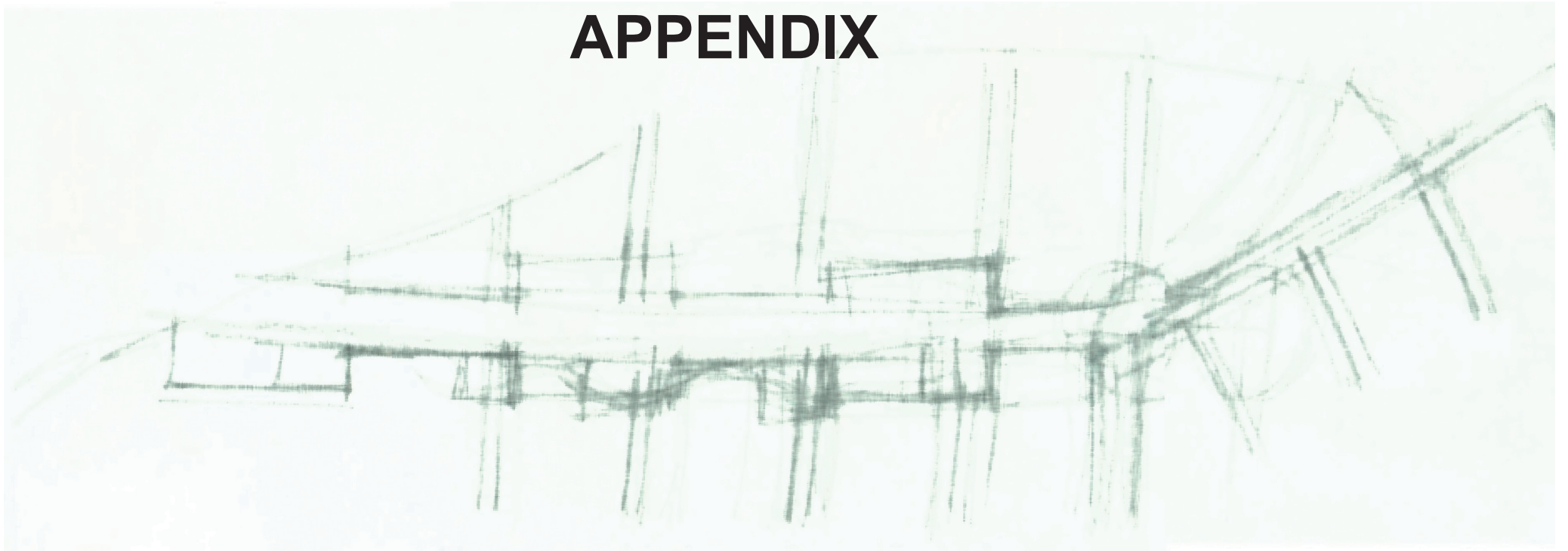
Project:	DINGAKENG: CENTRE FOR TRADITIONAL HEALTH PRACTITIONERS	
Drawing:	DETAILS 10-13	
Scale:	1:20	



NORTH

10/10

APPENDIX



Appendix A

College of Nursing

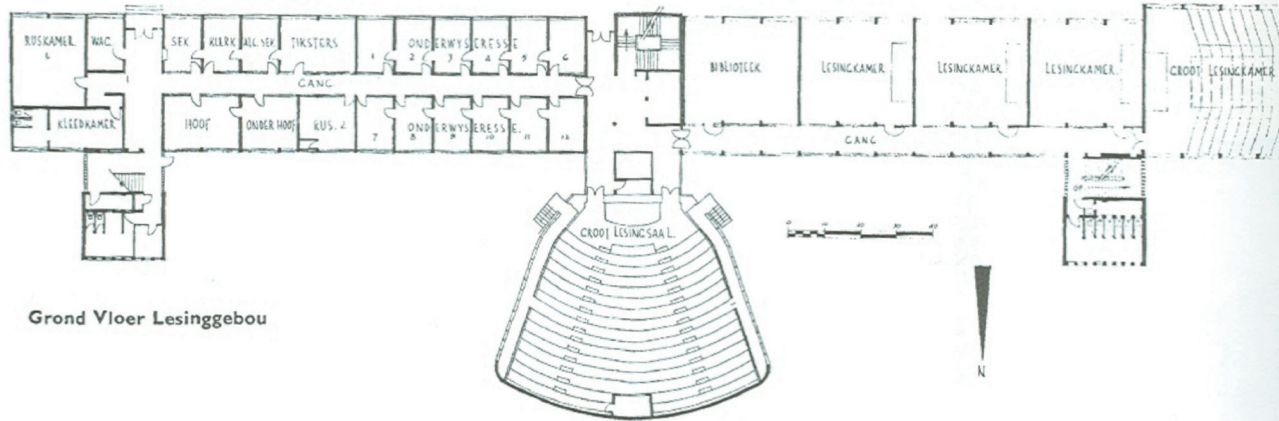
The Transvaal Provincial Administration, then the most important patron architects in the Province, was one of the first public bodies to sponsor modern design. As early as 1940, Sir Hugh Casson commented favourably of their buildings "...work which is considerably more lively and enterprising than that of the Public Works Department whose architecture is usually dull and always conventional" (Mare *et al* 1998: 218).

The biggest biggest South African contract of the decade, the Transvaal Administration Building, occupies most of a city block on the western boundary of Church Square, Pretoria. Here restraint supplanted Brazilian exuberance (*ibid*). Another big Provincial Administration project of unequivocal Brazilian parentage was the Pretoria Nurses's College, built on Dr Savage Street, on the eastern side of Apies River.

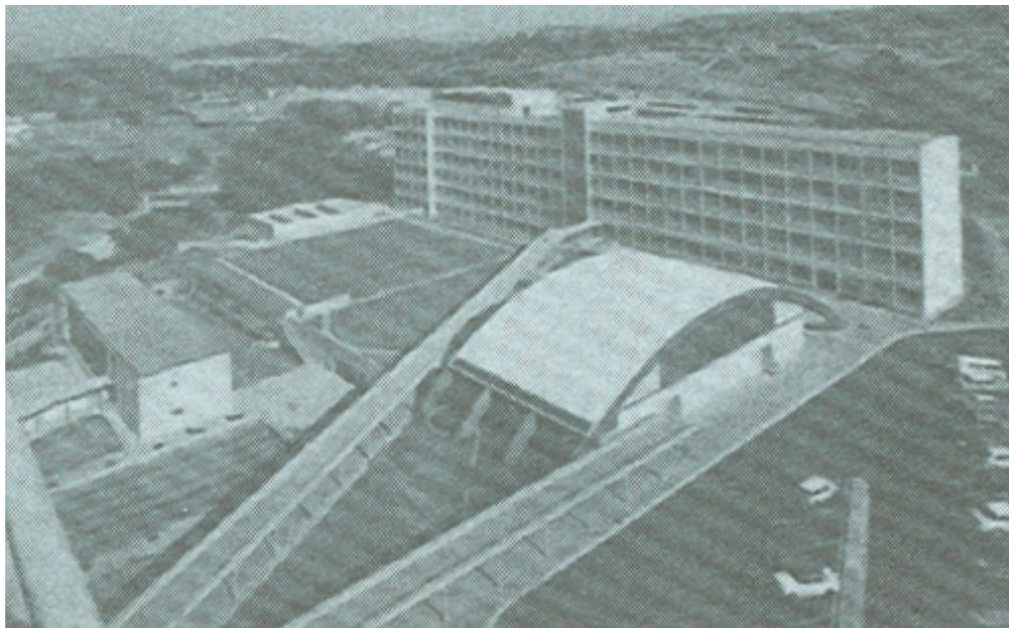
The College of Nursing was designed in 1965 by Joubert, Howie, Owens & Van Niekerk and is an exemplary of Brazilian modernism with it's open staircase, brise soleil, pilotis and the organic form of the lecture and assembly halls (*ibid*).



A. 01: Lecture Hall elevation. (Mare *et al* 1998: 228)



A. 02: Lecture Hall ground floor plan. (Mare *et al* 1998: 228)



A. 03: Bird's eye view of the College of Nursing. (Mare *et al* 1998: 228)



A. 04: Perspective of the College of Nursing. (Mare *et al* 1998: 228)

Appendix B

Geology

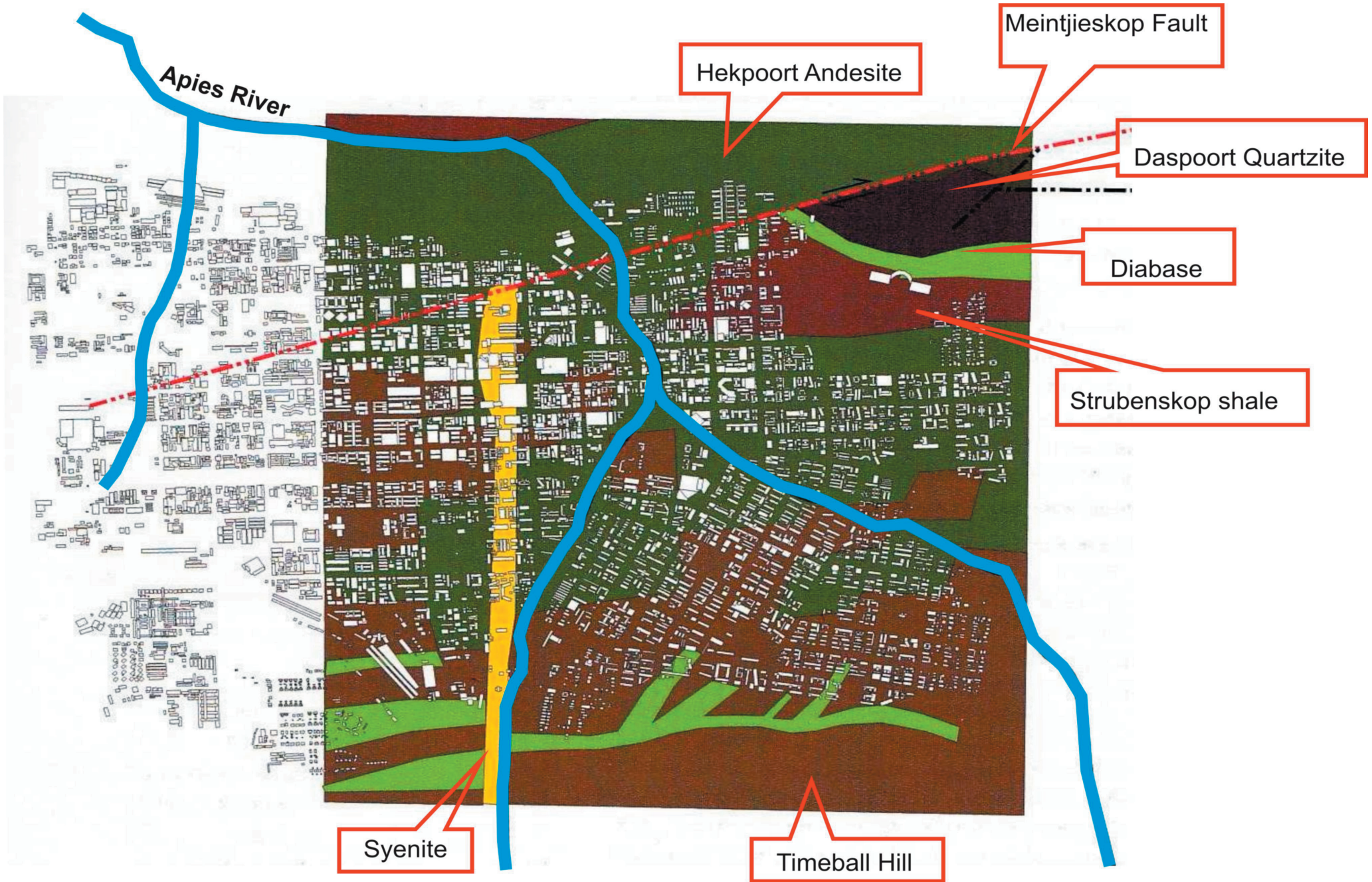
According to (Figure C. 01), the geology of the proposed site is predominantly made up of Igneous rock, more specifically, Hekpoort Andesite. In an un-weathered state, Hekpoort Andesite is extremely hard with a bearing capacity of 1,5Mpa, providing a good footing for structures. Unfortunately, this does make excavating the rock very difficult.

The rock type is very susceptible to chemical weathering, resulting in the formation of residual soils made up of red and yellow zones, both containing active clays. These usually have a depth of 10-30m and are medium active. This means that they will produce a heave of 15mm-20mm at the ground surface resulting in the cracking of walls and floors.

This chemical weathering gives Hekpoort Andesite a highly variable soil profile over very short distances. A layer of solid rock can be within a few metres of decomposed rock, therefore, extensive tests should always be taken before construction. Change in amounts of water in the clays due to climatic effect will cause swelling and shrinking of the soil mass, contributing further to heave or settlement (Purnell 1994: 16).

Other problems in this region would be that the rock-bed dips northwards at 30 degrees resulting in the southern face of an excavation to slide. The presence of water contributes greatly to this process; fortunately, the water table in the Andesite is around 6m depths. This is season dependent so excavation in the drier months would be favourable (*ibid*).

The other problem in the area is Pretoria's major fault line, the Meintjieskop Fault that bisects the study area. The fault line is not a threat in terms of seismicity, but it is a strike fault, so any structure spanning over the fault will be 'pulled' in two directions (*ibid*).



C. 01: Geology map of Pretoria (Purnell 1994:49)

Acknowledgements

Firstly, i would like to thank my Lord and saviour, Jesus the Christ. Secondly, I would like to thank the following people:

- Prof. Roger Fisher, my mentor, thanks for your patience and wisdom.
- Gift Phalatse Setshedi, your assistance and insight helped me a lot.
- John and Ruth Tibane, you have been there for me since the beginning
- My parents, Samuel and Naomi. Thanks for your support.
- My friends Xolisa, Mpho, and Chris, you guys are going to be great architects!
- And last but not least, I will like to thank the love of my life, Olga. You have been very supportive throughout the project. You are appreciated my love!

Kagiso

*“Bless the Lord, O my soul;
all my inmost being,
praise His holy name.
Praise the Lord, O my soul,
And forget not all His benefits-
who forgives you all your sins
and heals all your diseases,
who redeems your life from the pit
and crowns you with love
and compassion,
who satisfies your desires
with good things,
so that your youth is renewed
like the eagle’s.”
(Psalm 103:1-5)*

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