

The mindful landscape: a healing outdoor experience for Weskoppies psychiatric hospital

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According to the World Health Organisation mental illnesses have consistently increased over the past century, resulting in undisputed social and economical consequences. The confinement of patients to mental institutions results in isolation, stigmatization by society and ultimately unemployment after treatment. The paper demonstrates how landscape design can aid people with mental disorders and even facilitate the process of healing through the creation of therapeutic outdoor environments. Weskoppies Psychiatric Hospital established in 1882 and situated in Pretoria West, South Africa, serves as a study area. A historical review of outdoor environments at psychiatric hospitals indicates that a restful physical setting with activities like farming, gardening and social outdoor interaction effectively assists in the healing process, and that this enlightened approach was followed at Weskoppies in the early days. Through theoretical and empirical research the specific needs of the mentally ill are investigated. Applications were then sought in which the physical environment can be designed to stimulate specific experiences that enhance psychological comfort and healing. The study recommends the limited confinement of patients, provision of work opportunities and greater social interaction with the public. Various forms of outdoor elements and activities are suggested that foster consciousness, independence, connectedness, a sense of purpose and rest.

Key words: Landscape Architecture, mental illness, psychiatric hospitals, healing, environmental psychology

El paisaje a considerar: una experiencia de saneamiento al aire libre en el Hospital Psiquiátrico de Weskoppies.

De acuerdo a la Organización Mundial de la Salud, las enfermedades mentales han aumentado en el último siglo con consecuencias incuestionables en el ámbito económico y social. La derivación de pacientes a instituciones de salud mental resulta en aislamiento, discriminación social y en última instancia, tras el correspondiente tratamiento, en desempleo. Este artículo demuestra como el diseño del paisaje puede ayudar y facilitar el proceso de recuperación a través de espacios terapéuticos al aire libre. El Hospital Psiquiátrico de Weskoppies, establecido en 1882, situado en Pretoria Oeste, Sudáfrica, sirve como el caso de estudio. Un recuento histórico sobre espacios al aire libre en hospitales psiquiátricos indica que un entorno tranquilo que cuente con actividades como agricultura, jardinería e intercambio social exitosamente asiste en el proceso de saneamiento, y que este inteligente método fue usado en Weskoppies en sus comienzos. A través de la investigación teórica y empírica, requerimientos específicos de personas con desórdenes mentales son establecidos. Programas son luego delineados donde el espacio físico puede ser diseñado para estimular experiencias específicas que mejoran el bienestar psicológico y la recuperación. Este estudio recomienda limitar el confinamiento de pacientes a espacios cerrados, proveerlos con oportunidades de trabajo y aumentar el intercambio con la sociedad. Diferentes tipos de equipamiento y actividades al aire libre son sugeridas para desarrollar la conciencia, independencia, pertenencia, propósito y descanso.

Palabras claves: Arquitectura del Paisaje, enfermedades mentales, hospitales psiquiátricos, saneamiento, psicología ambiental

Mental illness is argued to be one of the world's greatest public health epidemics with undisputed consequences in social and economic health. According to Torrey & Miller (2001: IX), the occurrence of mental illness cases tripled over the course of

the 19th century and consistently increased since then. Currently the World Health Organization estimates that 450 million people worldwide suffer from mental illness. South African studies reveal that one in five people suffer from life altering mental disorders locally (Dlamini 2006).

This rise in 'occurrence' of mental illness could arguably be attributed to many contemporary and fluctuating situations. Among these are diagnosis, recording and treatment methods that go hand in hand with altered medical and social perceptions and attitudes regarding mental illness. The confinement of patients that is still practiced today reflects a stigmatized perception held by society which leads to candidates refraining from seeking treatment (Dlamini 2006).

Environmental psychology has developed in the last fifty to sixty years as a field of research focussing on the role of the material and immaterial environment on people's mental health. From an architectural and landscape architectural point of view, this research enable designers to influence and aid mental distress. This paper will explore the possibilities and potential of the external environment to affect and improve healing of people suffering from mental disorders. Weskoppies Psychiatric Hospital (referred to as Weskoppies hence forth) served as a case study for the research. The research methods, historic, theoretical and empirical findings will be discussed. The aim was however to go beyond a list of findings and explore the practical implication of these guidelines in a physical landscape application. The outcome was an open space framework, master plan and sketch plan design proposal for the Weskoppies premises that will be briefly touched on focussing on the main design decisions made.

Research methodology and methods

When considering the design of an outdoor environment for human use, it is important to consider and address both basic human needs (functional) as well as the more specific socio-cultural needs (aesthetics and meaning). The research accordingly took on the form of a general theoretical enquiry as well as a specific empirical focus on Weskoppies Psychiatric Hospital.

As a point of departure, historical research regarding outdoor environments at psychiatric institutions (and Weskoppies specifically) was done to gain a better understanding of how outdoor environments were utilised throughout history as part of the healing process. Theoretical research was focused on the potential therapeutic benefits and inherent positive emotional effect of outdoor environments on human wellbeing. Specific challenges and needs of the mentally ill and psychiatric institutions were identified through personal interviews at Weskoppies in March 2009 with the C.E.O, the facilities manager, two occupational therapists, a psychiatrist, a psychologist, two nurses, and three medical students in training. Since permission could not be attained to formally interview patients, observation served as the main informant. Observation sessions (of two to four hours each) at different times of the day for a period of seven days were undertaken. However, approximately ten informal conversations (initiated by patients) did take place around the Cafeteria. The physical context analysis was done through collection and assimilation of available desktop data as well as on site observations. Typical movement patterns, behaviours and current land uses were identified through the in situ site investigation. This information was used to determine possible land uses, circulation patterns, conservation areas, stormwater runoff management systems and ultimately make optimal use of the available resources.

The theoretical and empirical findings were used as a platform to establish landscape design guidelines that support and accommodate the emotional healing of mentally ill individuals. These

guidelines were meant to inform the design decision-making process and guide the landscape design at different scales (Porter 2004: 22).

A brief history of outdoor environments at psychiatric institutions

Throughout history the way the outdoors was used to assist in the healing process of the mentally ill was directly influenced by the way the mentally ill was perceived at the time. During the 1400's colonial America regarded and treated the mentally ill as demoniacally possessed individuals and kept them in workhouses or prisons. In Europe the mentally ill was similarly classified as prisoners at the time, and was subject to beating and confinement. An exception for this period was the Hospital in Zaragoza, Spain, which followed a different approach by allowing patients to work in vegetable gardens, on farms and in vineyards, and serves as a historic example (Sachs, 1999: 237).

The 18th and 19th century Romantic Movement was a turning point in psychiatric care and sought to unite human emotions with morality and nature. The outdoors was highly valued for its ability to improve the mental health of psychiatric patients (Sachs 1999: 237). By this time nature was viewed as physically and spiritually restorative and hospitals were designed to allow patients contact with nature through decorative gardens, vegetable gardens, farming programs and views of nature from the building interior. Philippe Pinel (1745–1826) a French psychiatrist played a significant role during this time and advocated what he referred to as 'moral treatment', in which the social and physical environments at mental institutions were viewed as resources in the healing process. He believed that the physical setting should be restful and should accommodate activities that aim to 're-socialize' the patient, like farming, gardening and daily walks (Sachs 1999: 239). The Schleswig Asylum (1792–1820) in Germany and The Retreat in York, England (1796–present) are examples of asylums inspired by these views (see figure 1).



Figure 1
Aerial photograph of The Retreat, York, U.K (c. 1960) showing the buildings and extensive grounds. Over the 200 year history of the facility patients were encouraged to go outdoors in various ways. The historic photographs shows a farm area, bowling green , cricket pitch and tennis courts as well as several smaller more protected courtyards (images from Sachs 1999: 238).

During the same time in the United States, Dorothea Linde Dix and Horace Mann's writings about the philosophy of public welfare gained popular acceptance and led to establishment of many Mental Hospitals across the country. These hospitals were clearly inspired by the European model for mental institutions which included farming and other outdoor activities as part of the site design while characterized by rolling hills, groves of trees, paths and more intimate gardens close to the buildings (Sachs 1999: 241–242).

By 1880 the mental hospitals became larger, highly populated and more hastily constructed due to a significant increase in demand for hospital beds. Once again access to the outdoors became limited resulting in the increased use of physical and chemical restraints. After World War I occupational therapy and horticultural therapy became increasingly used in mental institutions and general care hospitals with the intent that veterans would turn their thoughts from their experiences of destruction toward acts of creation (Sachs 1999: 244). By World War II all aspects of the patient's surroundings came to be considered as therapeutic. This approach was referred to as milieu therapy. Scientific advances in health care as well as socio-cultural and economical forces in 1950 led to a shift from the emphasis on the physical and outdoor environment to technology and medication for the treatment of mental illnesses (Sachs, 1999: 246).

In the late 1950's and early 1960's the new academic discipline Environmental Psychology emerged. Its focus rests on the interplay between humans and their surroundings and stresses the profound impact the physical and social environment can have on human behaviour and mental health. This discipline laid the foundation for the growing interest in outdoor environments as part of the therapeutic environment for the years that followed (Sachs 1999: 247).

Outdoor environments and emotional wellbeing

The historical review clearly indicates that the importance given to outdoor environments for physical, emotional and intellectual wellbeing is not a new concept. Numerous writings have been published on research undertaken regarding the positive effects the outdoors can have on the human spirit. Similar to Victorian city planners that established their public park systems on the basis of this belief (Stoneham 2000: 23), the Tshwane Open Space Framework (2006: 26) today acknowledges that the natural environment (and open spaces) can increase self-esteem and reduce stress. Mankind has an overall positive response to nature which seems to be universal and not merely a cultural or learned one. The authors are of the opinion that this intense preference for nature indicates that a need for nature originates in mankind's deeply rooted collective unconscious (Gerlach-Spriggs, Kaufman & Warner 1998: 36). It is important for the designed outdoor environment to satisfy this need for contact with nature.

The main research question asks: how can Landscape Architecture through design elevate and highlight this inherent positive emotional effect of outdoor environments specifically for psychiatric institutions? When trying to answer this question one first needs to establish why humans in general have this innate preference for the outdoors and if certain kinds of environments are preferred over others. Environmental psychologists have done detailed studies over the last few decades to identify and explain the relationship between people and the landscape.

In a collective reading, outdoor environments give a sense of freedom because certain behaviours that are unacceptable in indoor environments are acceptable outside. Social expectations are different, it is acceptable to shout, run about and sit on the ground while indoors

these behaviours are generally unacceptable (Hagedorn, 1990: 21). Preference studies ¹ indicate that landscapes where information (needed to function properly) could be easily extracted were preferred. These include scenes that direct the attention to important areas through contrast, natural borders or lines that focus the attention on a particular point ² (Cave 1998: 120). This indicates that a healing landscape should be clearly legible and easily understandable to the patient which can reduce stress levels and increase comfort.

A large number of studies confirm that wilderness experiences have therapeutic benefits. One example is a study on psychiatric patients taken on a five day hiking trail. The patients showed improvements in less dependency and fewer feelings of helplessness (Cave 1998: 129). A study by Roger Ulrich has also shown that patients with a view of nature had reduced delusions and depression and recovered more quickly and easily (Gerlach-Spriggs et al. 1998: 35). These universal positive influences that can be derived from outdoor and natural environments, (including the readability thereof) were optimised in the design approach.

Mental illness is however as much a social problem as it is a physical problem. It is therefore important to realize that the focus should not only be on the physical environment but also the social environment. Landscape Architects should thus aim to design landscapes with a positive impact on social interaction. Through theoretical research, interviews and observations (see section on research methodology and methods) social problems were identified that are unique to mentally ill patients and psychiatric hospitals. Ways in which the landscape can assist in overcoming these problems were then sought.

Possibly most common and widespread is the social practice of group rejection. The stigmatization of mental illnesses negatively affects patients while they are ill, in treatment and in the process of healing. According to Scheffer (2003: 3), once the stigmatization has occurred it invades the identity of the one who experience it even after recovery. It not only prevents mentally ill persons from seeking the necessary treatment but changes the way those that do seek treatment perceive themselves and are perceived by others. This subsequently has a negative impact on a patient's ability to facilitate the emotional healing process. Public views about the dangerous nature of mentally ill persons are often exaggerated. For example, the majority (80-90%) of people with mental illnesses never commit violent crimes and are more likely to have acts of violence committed against them (Scheffer 2003: 6).

Changing this stigma is a difficult and complex process because it involves changing people's attitudes and understanding about mental illness. Scheffer (2003: 7) argues that the most promising strategy to change negative perceptions about mental illnesses is increasing contact between the public and persons with mental illness. Attitudes can be positively changed by increasing contact with mentally ill persons who fulfil 'normal social roles'. Contact and integration between the public and mentally ill persons can be facilitated through activities, job creation and unique aesthetic or meaningful experiences in the landscape design. This can lead to positive publicity, changed perceptions and increased understanding.

Being institutionalized is dislocating, and the patient is overwhelmed by the distortion of perception, sapping of identity and loss of connectedness to the external world. Due to heavy medication and a lack of understanding, psychiatric patients are often further emotionally distanced from the people around them. Rehabilitated patients often have no community support system to return to when they leave the institution. Many long term chronic patients have lost complete contact with any family or friends. This often has a further negative effect on the patient's mood and condition. Outdoor environments that encourage both formal and informal

social interaction between patients, staff and the public can assist in creating a sense of belonging or familiarity and establishing a support system. There is an opportunity for Weskoppies to accommodate more fundraising social events (for example outdoor music festivals) that involve the public.

Due to the inability to adapt in society, as well as difficulty in finding an appropriate job for the patient's mental condition and abilities, many rehabilitated patients end up on the streets or relapse after rehabilitation. To ultimately establish a sense of purpose and responsibility, it is important to include a skills and job creation component in the landscape design whenever possible. The advantage is that employed rehabilitated patients will learn to sustain themselves in a supportive and understanding environment.

Lack of motivation as a symptom of mental illness makes it difficult for staff members to get patients involved in activities and community projects (De Beer 2009). Vincent (2009: 24) states that an outdoor environment with a positive, inviting character and identity could provide an additional motivational component, a key ingredient to emotional healing. How to create this visual and emotional affirmative identity in the landscape is thus the challenge.

As another symptom of institutionalization, many psychiatric patients completely lose track of time, and have difficulty to determine how much time have passed since first admitted. An outdoor environment that emphasizes time and change can improve the patient's perception of time and prevent this from happening. Informal conversations with patients also revealed that a lot of patients experience boredom, due to their monotonous outdoor environment and daily routine. There is thus a need for a variation of exiting outdoor experiences and daily activities. Currently annual events like Christmas, Valentine's Day, Easter and Spring day are celebrated at Weskoppies and these events assist in animating patients and keeping track of time. However, daily and seasonal cycles need further emphasis and can be aided through events that also bring further mental stimulation.

Psychiatric patients also experience tiredness as a result of the medication, and often need to sleep or rest for longer. The outdoor environment can provide individuals with comfortable areas that accommodate rest during the day.

Contextual background and current outdoor activities at Weskoppies

The importance of Weskoppies as a precinct lies in its significance in the context of South Africa. The inaugural buildings of the Pretoria Lunatic Asylum date back to 1892 and have historical significance as the first and only psychiatric institution in the *Zuid-Afrikaansche Republiek*. Weskoppies is today one of the largest psychiatric hospitals in the country and has played a significant role in South African history and psychology. In May 1896 Dr. Smeenk from Holland was appointed as the medical director for the hospital. His approach required that every effort should be made to promote the eventual cure of patients (Plug & Roos 1992: 219). Proper physical care led to significant improvement in a number of patients. Yet, after a while it was noted that the patient's physical conditions improved during the first two months and stayed constant thereafter due to their unemployed existence. Dr. Smeek and Dr. Messum, a physician at the hospital, stressed the importance of various forms of work and recreation as part of their treatment (Plug & Roos 1992:219). Their aim was to counteract the harmful effects of institutionalization and the success of their approach was reflected in the amount of patients that passed through the institution.

The hospital was described as “*a beautiful building very healthily situated, with large gardens and cultivated fields*” (Plug & Roos 1992: 219). However, a lack of resources would later during the Anglo Boer war prove to be a limiting factor of the enlightened approach and was subsequently never truly reinstated (Plug & Roos 1992: 219).

Situated in the ‘Old Botanical Garden’ of Pretoria, the site still provides the ideal setting for a therapeutic outdoor environment but its inherent potential remains largely untapped. Today the 149-hectare campus contains a patchwork of 274 old and new permanent buildings, while vast underutilized open spaces remain. The view of the Langeberge Mountains to the South reiterates the natural tranquillity of the immediate natural landscapes.

In terms of activities, the patients and staff members at Weskoppies are currently involved in a variety of sport activities and the sports fields are also occasionally used by the general public. It is a common sight to see patients doing some physical exercise like push-ups and sit-ups on their own. Patients that need supervision are taken for walks in groups or individually, the frequency (daily or weekly) is based on safety considerations and the severity of their illness (Breedt 2009). Patients are often seen wandering around and strolling on their own or in pairs although there is currently no formal pedestrian walkway system.

As part of industrial therapy at Weskoppies, patients assemble plastic funeral flowers (for a plastic company named Pearl Plastics) for which they are remunerated (Mabena, 2009). This activity highlighted the opportunity to incorporate the production of real flowers through cut flower farming, due to the vast open spaces at Weskoppies. Other individual activities of patients include smoking, sleeping, contemplating, playing guitar, singing and pacing. The landscape can further provide patients with private areas that accommodate individual activities, personal reflection and contemplation which form an important part of the healing process.

Landscape design guidelines that support healing

The above findings inspired the establishment of six landscape design guidelines that aim to address the problems and needs of the mentally ill as identified through the research. These guidelines can assist Landscape Architects when designing outdoor environments that support and accommodate the emotional healing process at psychiatric hospitals or institutions. The guidelines are summarized under the following headings that describe their objectives: Independence; Connectedness; Consciousness; Purpose; Physical activity and Rest. The following section will explain the implications of each of these guidelines (or goals) in terms of landscape design decisions.

i) Independence

Institutionalized individuals are not only dependent on medication but also dependent on staff members for orientation, satisfaction of basic needs (possibly including feeding, medication and sanitation) or for permission in terms of actions, access and activities. The designed landscape should grant the users a sense of independence by augmenting their confidence to maintain their roles as independent individuals (Tyson 1998: 34). This implies in first place a sense of orientation and requires the landscape to be legible to the user. The landscape should thus be simplistic in layout and hierarchy and this should be clearly visible to minimize stress and allow patients to move through the landscape comfortably and independently. Besides the effective use of signage, attention and movement can be directed to important areas by making use of continuity and contrast in materials. Natural borders and sight-line views (encouraged by placement of

structures or planting) located along paths can lead the eye to an important focal point for visual connections between places (figure 2). In second place but equally important, this landscape should enable people from different abilities or disabilities to function independently. This can be achieved through the inclusive design of walkways that accommodates wheelchair users, and other differently abled individuals (figure 3). The inclusion of places where patients can sit in private, on their own or in groups, somewhat concealed from passersby while they can still have a view over the landscape and outdoor activities (prospect versus refuge theory) not only aids in establishing a sense of privacy but also safety and independence. Additionally, a landscape that visually communicates sense of freedom through the use of soft boundaries prevents patients from feeling caged in and controlled.



Figure 2
A visual illustration indicating how orientation and legibility can be enhanced through planting and change in paving colour or material, thus encouraging the user to explore (illustration: Van der Walt, 2009).

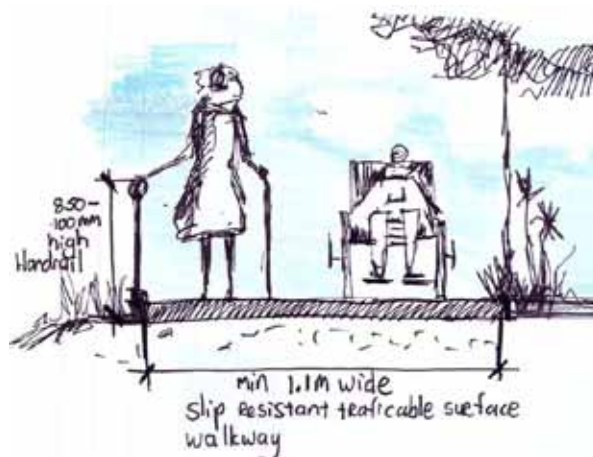


Figure 3
Walkways should be inclusive and accommodate independent functioning for differently abled individuals (illustration: Van der Walt, 2009).

ii) Consciousness

The landscape should also assist in making patients aware, attentive and conscious of their

physical surroundings. This can be achieved by stimulating the senses through the use of bright colours, different textures, calming sounds and fragrant and edible plants. These sensual experiences can make for an exciting and inviting landscape, offering the user a variety of experiences that counteracts boredom. The landscape should also heighten the user's awareness of time. This can be achieved by utilizing plants that accentuate daily (through shadows or flowering) and seasonal change throughout the year. A clock or outdoor calendar can directly communicate date and time, while a sundial has a more direct connectedness with the elements in the outdoor landscape.

iii) Connectedness

To counteract the physical and social isolation that is typical to psychiatric hospitals, the landscape should be designed to encourage a sense of connectedness by accommodating accessibility, social interaction and support, as well as contact with natural systems. This sense of connectedness can be triggered by design decisions that frequent chance encounters between patients but also patients and the public. Areas where people can meet or sit in groups to eat or participate in communal activities such as gardening or sport are essential for organized social interaction. The landscape design should allow and provide space for family members (or friends) of patients to be accommodated. This will help patients to adapt to their environment more quickly and also reassure the family member (or friend) that their loved ones are in good care. The public and surrounding community (including family and friends) can have planned access to the outdoor environment at Weskoppies, they can also be involved in the outdoor activity program. This will help overcome the stigmatization and skewed perceptions about psychiatric institutions and patients. However this should be well designed and managed to not compromise the safety of patients or the public.

Connectedness to natural systems should also be included to satisfy the basic human need for contact with nature. This can include hiking trails with lookout points in areas with natural vegetation which allow people to experience nature in its pure form. Stormwater runoff management and attenuation can create seasonal 'wetland areas' with bird hides that also bring people closer to natural systems. These are all opportunities which can be accommodated on the large premises of Weskoppies.

iv) Purpose

A sense of purpose should be encouraged in the landscape to assist the patients in establishing their role in society. To ensure continued life and growth the landscape needs the involvement of people. Besides the option for patients to be involved in the general maintenance of the outdoor environment, productive landscapes can provide further stimulation from boredom and provide possible income opportunities. The Blackthorn Medical Centre in England's garden project is a good example of how this can be implemented at a mental institution (figure 4). It provides a valuable social/physical setting that relieves the patients from the distressing symptoms of mental illness (Sachs 1999: 288). The landscape can thus provide patients and the surrounding community with work opportunities and responsibilities. One way to achieve this is to include an area dedicated to horticultural therapy where a therapeutic program can be accommodated. Patients can thus be encouraged to take ownership and responsibility for the garden. As part of the occupational therapy program, patients could also be involved in the construction and implementation process whenever possible. All of these have the potential to strengthen the healing process by providing the patient with a sense of purpose through responsibility, achievement and pride.



Figure 4
A co-worker in the garden at the Blackthorn Medical Centre
(photograph by Clare Cooper Marcus in Sachs 1999: 291).

v) Physical activities

Physical activities and exercise are as essential as a balanced diet in terms of basic health requirements for all people, but can also be specifically therapeutic for those suffering from mental disorder (Tyson 1998: 34). The landscape can provide opportunity for movement and activities at different intensities (meeting different abilities). Enough flat open space should be provided to allow for multipurpose sport fields and organized, active occupational therapy activities. The design can include a network of routes (for wheel chairs, walking or jogging) that expose the pedestrian to a variety of experiences and a degree of physical challenges throughout the site.

vi) Rest

Accommodating rest in the landscape is another important factor that should be considered at psychiatric institutions. Rest is vital for patients' wellbeing but requires comfort and safety to take place outside. In terms of basic comfort a combination of shaded and sunny seating areas should be provided for summer and winter conditions. Materials selected for seating should be comfortable to sit on for long periods of time, while hard materials should not cause glare. Patients and staff often need time alone for reflection and contemplation to regain composure after stressful situations. The landscape should have quiet places where people can comfortably sit in privacy away from the mainstream activities (Tyson 1998: 35). The patients' need for sleep during the day can be satisfied by including designated quiet outdoor sleeping areas with benches or mounds shaped for this purpose.

An intensive site analysis of the Weskoppies campus (see Van der Walt 2009) indicated that the site has all the potential to accommodate and enhance the psychological healing process through the application of the above design guidelines.

Design application for Weskoppies psychiatric hospital

The guidelines were applied at urban, campus framework and sketch plan level, to illustrate

their potential at different landscape design scales. Each of these scales at Weskoppies produced various challenges that will be discussed briefly to point out their importance in terms of the design guideline application. (For a more detailed discussion of the design proposal, see Van der Walt, 2009).

Urban scale

The isolated position of the Weskoppies campus within the city context (still today) reflects general perceptions about psychiatric hospitals. While most residents of Pretoria know what Weskoppies is about, very few know where it is located and what the actual campus looks like, since they have most likely never visited the premises.

On a regional urban scale Weskoppies is physically isolated from the rest of the city with the railway line and industrial zone at the northern boundary and the Langeberge Mountains on the southern boundary of the campus (figure 5). These boundaries will be difficult to overcome physically due to financial implications and the current established nature of the railway and industrial zone. This physical isolation of patients from the rest of the city results in social isolation which has negative effects on the psychological healing and rehabilitation process of patients.



Figure 5

The location of Weskoppies: the Pretoria Show Grounds are situated 500m to the north, Pretoria Railway Station 2km east and the Langeberge Mountains directly to the south. (map illustration: Van der Walt 2009).

At a city scale, the pedestrian movement system can be improved to establish a connection between the recreational activities at Weskoppies and activities at the Pretoria Show Grounds (for example). Another possible connection is the heritage buildings at Weskoppies. These have the potential to draw visitors and be linked to other surrounding places with cultural significance such as Freedom Park, the Voortrekker Monument and Church Square (figure 6).

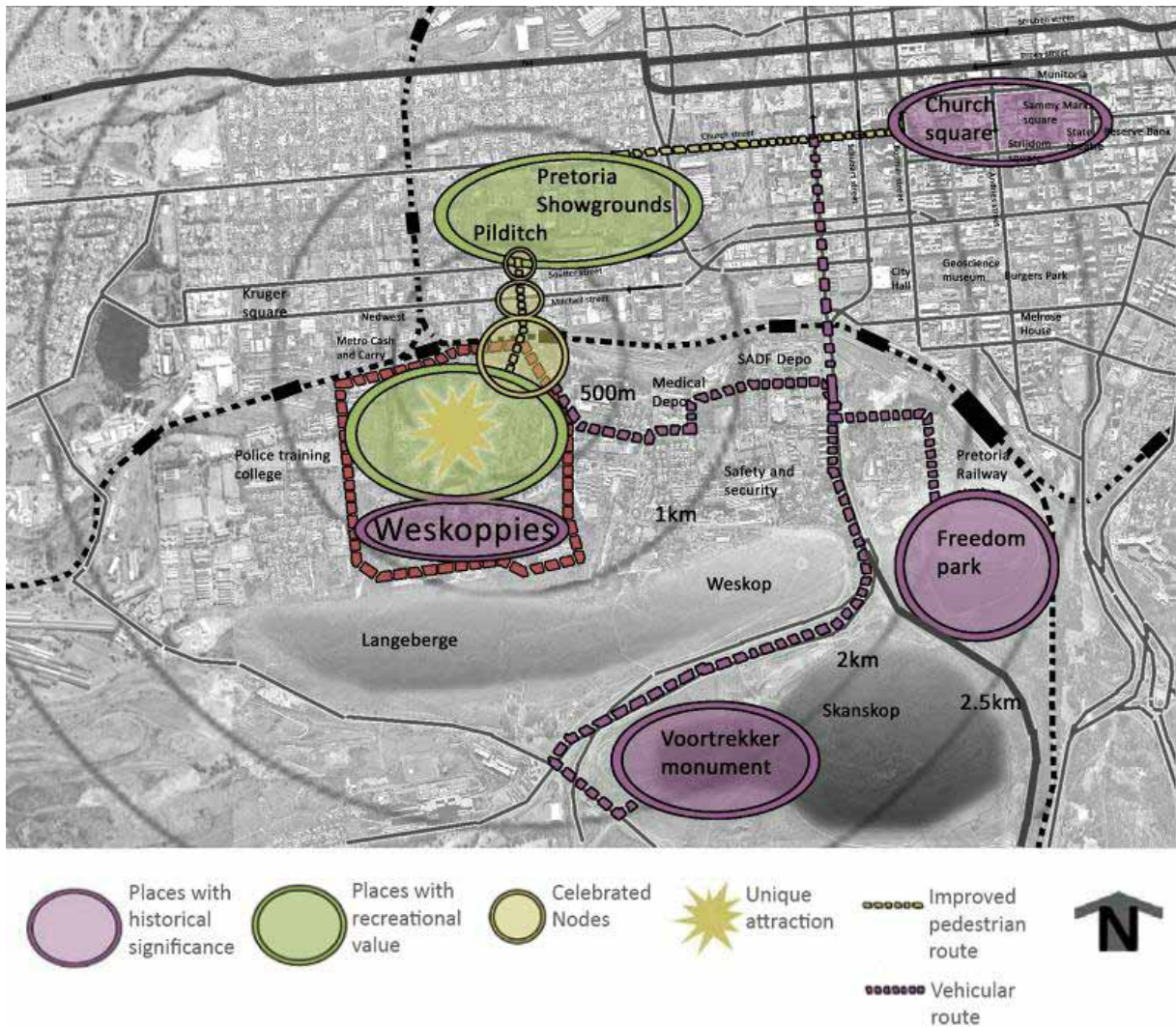


Figure 6
Urban opportunities and challenges for integrating Weskoppies
into the open space system of Pretoria
(map illustration: Van der Walt 2009).

Campus scale

To achieve a sense of connectedness, the open space framework at campus scale should aim for social integration between the patients and the public outside Weskoppies. Due to the nature of the institution, it is best that the campus should remain enclosed for the protection of patients. However, the open spaces at Weskoppies need to provide visitors with an exciting unique outdoor experience different from other open spaces in Pretoria to attract and encourage the public (up to regional scale) to cross the current physical boundaries. An open space framework was developed within the 149ha campus with the aim to attract the visitors over weekends when the campus will be open to the public and the necessary security measures are in place.

A variety of positive experiences and land uses were proposed such as: a wilderness trail and experience, cut flower farming, wetland areas with bird hides, social-cultural and sport activities (figure 7). The aim is to change negative perceptions about Weskoppies and mental institutions in general.



Figure 7
Proposed open space framework indicating land uses, vehicular movement, pedestrian movement and boundaries (open space framework: Van der Walt 2009).

On campus, the current road layout appears haphazard and does not promote legibility for visitors. The framework proposes that the highlighted route (figure 8) will be developed as a primary vehicular route with a tree boulevard, a pedestrian walkway, lighting and several bus stops adjacent to it. This will improve access to and inside the campus at different levels. All the secondary routes that lead to the semi-private outdoor areas surrounding the buildings are located along this route.

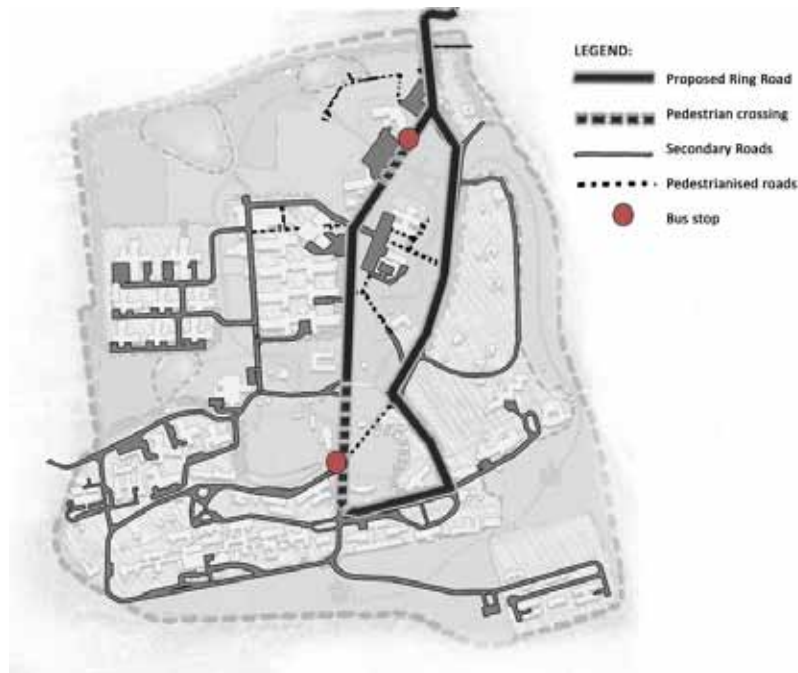


Figure 8
Map indicating the proposed primary and secondary vehicular routes with bus stops (map: Van der Walt 2009).

There is currently no formalized pedestrian movement system and pedestrians have to make use of vehicular routes and informal paths to reach destinations. The framework proposes that the different land uses will be connected by means of a pedestrian movement system to aid movement, orientation and legibility, and to expose the pedestrian to a variety of experiences (figure 9). The proposed circular primary walkway will provide the user with access to a social kiosk area, contemplative seating and sleeping spaces, a multifunctional sports field, a horticultural therapy garden, a flower experience, bird hides, a wilderness experience and lookout points. The secondary pedestrian routes connect pedestrians from all over the site to the primary route (figure 9).

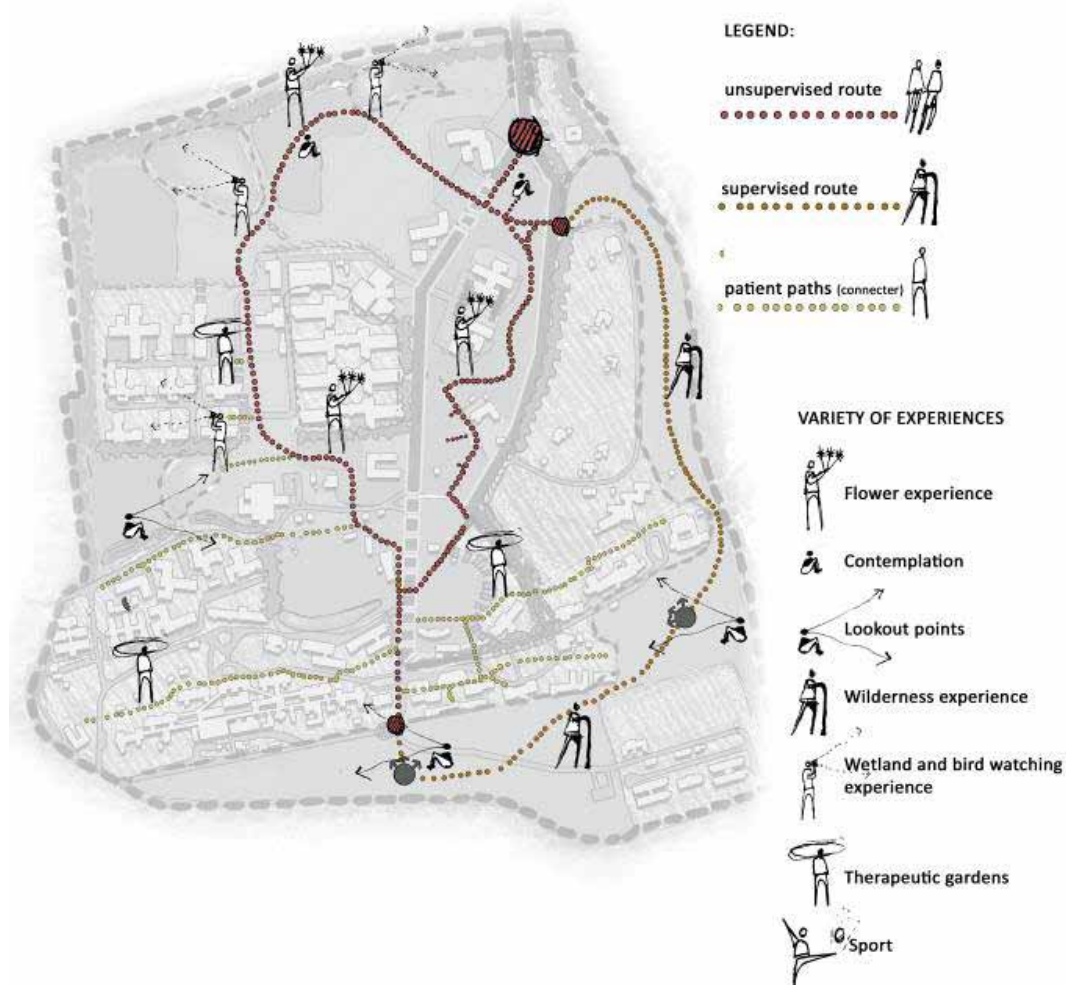


Figure 9
Pedestrian movement system that promotes physical activities and exposes the user to a variety of different experiences (illustration: Van der Walt 2009).

The campus was not developed according to a master plan, resulting in an unstructured current layout with no differentiation between public and semi-private areas. Therefore the framework proposes that the areas around the buildings with semi-private functions (like wards, staff housing and treatment facilities) will be developed as semi-private outdoor rooms (as an extension of the buildings) with soft boundaries which maintain a sense of freedom yet allow for privacy. Boundaries can be visual (like mounds and vegetation screens), physical (like ha-ha fences and retaining walls, figure 10) or emotional (the areas surrounding the buildings should have a distinct character with clear visible thresholds to communicate the fact that these areas are not free for all to enter).

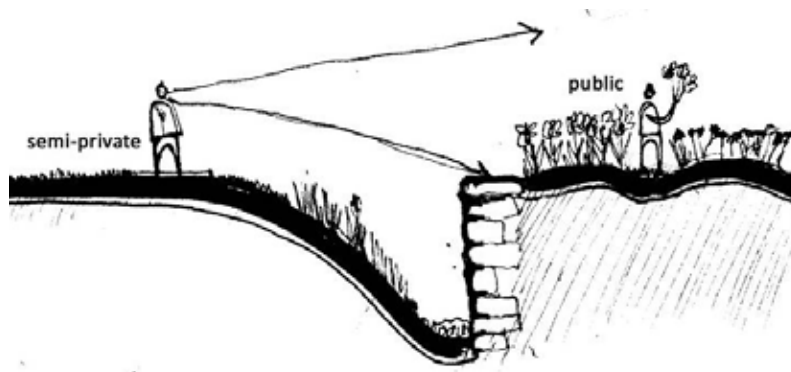


Figure 10

The ancient concept of ha-ha fences was combined with storm water detention systems. Although a person cannot physically cross this boundary, there is still the desired unobstructed view of the landscape (illustration: Van der Walt 2009).

The area at the southern edge of the campus which is currently covered with undisturbed bushveld vegetation (figure 7). is proposed to be rehabilitated and developed as a wilderness experience. This will include a hiking trail and lookout points (figure 11) over the city that can attract members of public but also provide contact with nature and physical activity for staff and patients.



Figure 11

Design vision for the wilderness experience: a lookout point on a trail provides a panoramic view over Weskoppies campus and the city in the distance (illustration: Van der Walt 2009).

Patients should be encouraged to work for remuneration at Weskoppies (as currently practiced in the industrial therapy program where patients assemble plastic funeral flowers for Pearl Plastics). It is proposed that the open areas currently covered with disturbed natural vegetation and invader plants are developed as a cut flower farm and community project. A cut flower farm will not only provide patients and the surrounding community with work opportunities, but will also be a unique attraction in the city over the weekend where people can picnic between the flower fields, buy flowers, or pay to pick their own flowers (figure 12). This will also encourage integration between the public and patients and give Weskoppies a strong positive identity allowing people's perception to change about psychiatric hospitals in general.



Figure 12
Sketch showing the design vision for the open space areas with pathways among the cut flower fields (illustration: Van der Walt 2009).

The three lower lying areas to the south and west of the campus (figure 7) are proposed to be developed as retention dams where stormwater runoff can be retained and used for irrigating the cut flower fields. However these dams should be enclosed with fencing to prevent accidents. The fences are proposed to be hidden in ha-ha fences (figure 10) and bird hides can bring patients closer to the water and birdlife.

The area between the different sports fields around the kiosk (figure 13) is proposed to be developed as the active and social heart of Weskoppies. Most social interaction between patients, staff and visitors are currently taking place here. Apart from sport activities other current social activities in this area include: socializing, gambling, eating sleeping, smoking, singing, playing guitar and contemplation. A detail design was done for this area due to its potential for acting as a catalyst for the open space implementation at Weskoppies. It is proposed as the gathering and meeting place for patients and staff, while being the arrival point for the public on weekends, from where they will explore the rest of the site. This catalytic area was also selected due to its prime location, roughly centrally situated on the site and in close proximity to most sport activities. It is at the furthest point of the proposed primary road and becomes its final destination. Its position is ideal to illustrate the transition between public and semi-private areas due to its proximity to the male ward.

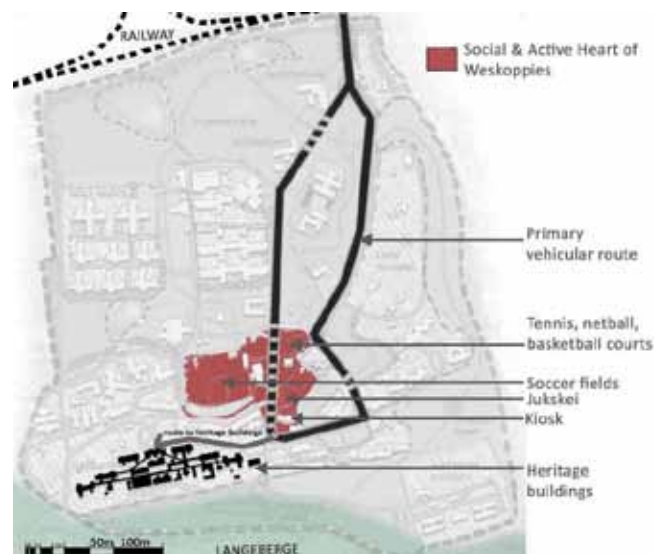


Figure 13
Map indicating the proposed primary and secondary vehicular routes with bus stops that will provide easy access to the proposed catalytic and social heart (map: Van der Walt 2009).

Catalytic sketch plan

The sketch plan proposes an improved kiosk exterior integration, seating and sleeping areas, a designated area for horticultural therapy, colourful private contemplation areas within the cut flower fields and a semi-private area as an extension of the male ward. These areas will be connected by means of a hierarchical pedestrian movement system (figure 14).



Figure 14

The proposed sketch plan shows the application of the road and pathways as structuring elements. The main experiences and spaces take place at the kiosk, sport field, horticultural therapy pavilion, cut flower pockets and male ward (plan: Van der Walt 2009).

The kiosk is currently facing towards the old jukskei court (to the north, figure 14) which is being used as a multi functional sports field, however the direct northern sun exposure makes this area extremely harsh and uncomfortable. The sketch plan proposes that the northern facade of the kiosk should be opened to activate it and allow better transition between the interior and exterior (figure 15). People can purchase food and snacks directly from the outside of the building on the primary route. Shading at this area is proposed by means of a pergola with fragrant climbing plants that stimulates the senses. At the eastern side of the kiosk exterior (figure 14) the facade is proposed to be softened and seating to be provided. This can be shaded in summer and sunny in winter by planting indigenous deciduous trees.

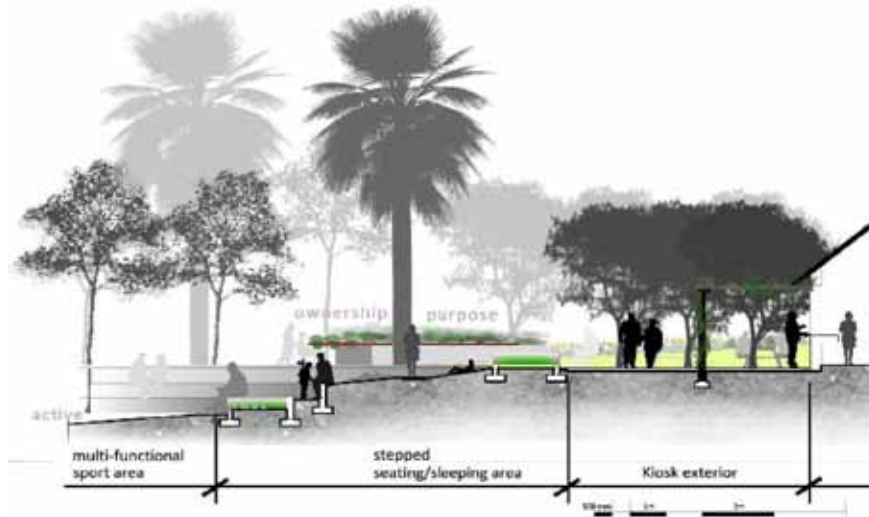


Figure 15
Illustration showing the relationship and thresholds between different spaces and experiences accommodated in the sketch plan area. From the kiosk (right) to the multi-functional sports area (left) (section: Van der Walt 2009).

A stepped seating and sleeping area is proposed to separate (and connect) the social kiosk exterior and the multifunctional sports field (figure 15). This area can provide a space where people can sit or lie comfortably while observing others participate in sport activities. Seating is accommodated by making use of terraced lawn with retaining walls. The lawn and retaining walls are proposed to be undulated at some places to provide comfortable beds for patients to sleep or lie on. Mosaic work with positive slogans (potentially done by Weskoppies patients) can be encouraged on the retaining walls.

The horticultural therapy garden will facilitate activities as part of the occupational therapy program. Herbs, vegetables and fragrant plants are proposed to be planted to maximize the sensory experience: touch, smell, taste and sight. The horticultural therapy garden will include a central gathering pavilion with working tables shaded with a pergola that is covered with fragrant climbing plants. The central pavilion is proposed to be enclosed with planters at various heights. Precast concrete slabs with holes for pots are proposed to be attached to the edge of the planter, where patients starting with small responsibilities can place their individual pots (figure 16).



Figure 16
Design vision for the horticultural therapy garden with working tables and a central gathering pavillion shaded with a pergola at the back (illustration: Van der Walt 2009).

The sketch plan also proposes three colour pockets: yellow, red and blue (or purple) connected to each other with a flower walkway. These colours were selected because they fall within the colour range of most open air cut flower species. These pockets are somewhat removed from the mainstream activities to provide more private intimate places for reflection and rest (figure 17). Each of the pockets is proposed to have a seating and undulated sleeping bench and a lawn area adjacent to the flower walkway. Brightly coloured strips of semi-glazed ceramic-tile-inserts heighten the colour experience of each individual pocket. These colour strips can also visually lead people from the primary pedestrian route to the colour pockets through strips of colour tiles at the perpendicular crossings of the secondary path.

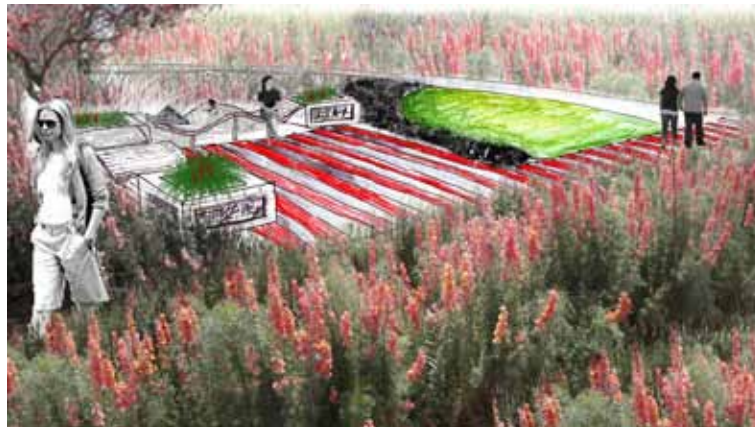


Figure 17

Colour pockets in flower fields proposed to have a seating and undulated sleeping bench for private reflection and rest (illustration: Van der Walt 2009).

At the male ward, a retaining wall combined with a vegetation screen and a terraced lawn is proposed to function as a visual, physical and emotional soft boundary between the public and the semi-private outdoor room around the male ward (figure 18). Patients can still have a view over the public landscape from the top terrace of the outdoor room, while being invisible to the public at the lower terrace. By means of this, patients have choice and control over when they want to participate and explore activities at the public area or stay within the familiar boundaries of the semi private outdoor room.



Figure 18

Semi-private ‘outdoor rooms’ at the male ward, providing patients with choice and control over when they want to participate and explore activities at the public area (illustration: Van der Walt 2009).

The design proposal illustrates the application of the design guidelines (at different scales) that aim to develop an outdoor environment at Weskoppies that enhances and supports psychological healing. The focus of the proposal was mostly on social sustainability by encouraging social integration, ownership and a sense of purpose through job creation and other participative practices. The proposed cut flower community project can contribute to economic sustainability. Indigenous trees and shrubs are proposed that with the cut flowers can be irrigated from onsite stormwater runoff captured through the proposed retention ponds. This will also create new wetland habitats. These design proposals will thus work towards environmental sustainability in the long run, optimizing and using the resources on site sustainably and creating economic viability where possible (see Van der Walt, 2009 for more detailed explanation of these components).

Recapturing

The human body is and has forever been connected to the landscape that it inhabits. The pleasures brought about through experiencing natural or manmade landscapes and the art and gratification involved in making these landscapes are equally ancient in different cultures and traditions. In a time where modernity beseeches the functional nature of produced goods in terms of pressing needs, we sometimes forget the emotional value and greater power of *that* which is perhaps *as* valuable, but in a less direct or measurable way. The qualitative value of landscapes seems to weigh less than ever before and the way its importance can be quantified in terms of foreseen urban population explosions are currently at the forefront of research and attention.

Although the possible real quantitative value of landscapes for human health cannot fully be fathomed the research has focussed (following the current paradigm) on qualitative aspects that can be quantified and made practical for design purposes. The paper demonstrates that landscape design can aid people with mental disorders and even facilitate the process of healing through the creation of outdoor environments that address the physical needs of the mentally ill for exercise and additional rest. The restorative value of nature as a wilderness or horticultural therapy experience was reiterated as well as the importance of time, change and other sensory experiences that are so prominent in nature and connect the user to the here and now. Various ways were explored to create therapeutic outdoor environments that can attend to the main emotional needs that were found to be: consciousness; independence; connectedness and a sense of purpose.

The main hypothesis however suggested that the outdoor environment can improve the social environment and thereby enhance the psychological healing process. The study therefore specifically considered the social needs of the mentally ill and further recommends the limited confinement of patients, provision of work opportunities and greater social interaction with the public to break the destructive influences of stigmatization and isolation that ultimately leads to unemployment after treatment.

Through focussing not only on physical human needs but also specific emotional and social requirements, Landscape Architecture through the aid of environmental psychology can improve human health and wellbeing in both direct and indirect ways. The aesthetics of nature (encompassed in these landscapes) have the power to further develop our understanding of this world through our experiences that influence our knowledge, our conscience and our perception (Middleton & Breed, 2010: 69).

Notes

1 In terms of preference studies, a large body of work exists on 'space syntax' which explains how spatial configuration alone can account for human movement rates in diverse locations in both urban and building interior space. Space syntax analysis represents and quantifies aspects of spatial pattern and has found that spatial arrangement compare convincingly with observed movement by pedestrians (Pen 2003: 31). Space syntax theory was not used in our study but rather observed movement, yet it can possibly contribute in similar research undertakings. For further

reading see Hillier, B., Hanson, J., Peponis, J., Hudson, J., & Burdett, R. 1983. Space syntax: A different urban perspective. *The Architects Journal* (30, November):47–63.

2 Studies in medial axis transformation have shown that empty space or distance between objects (as much as the objects themselves) have an impact on our visual perception. Medial axis transformation was not dealt with in this research. For further reading see: Van Tonder, G. J. & M. J. Lyons. 2005. Visual perception in Japanese rock garden design. *Axiomathes* 15 (3): 353–371.

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