REGENERATING BEREA PARK

[Design in pursuit of rekindling appropriation]
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Submitted in partial fulfilment of the requirements for the degree of Masters of Architecture, MProf(Arch), Department of Architecture Faculty of Engineering, Built Environment and Information Technology University of Pretoria, South Africa

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Study Leader: Derick de Bruyn

Programme: Sport and recreational centre
Site description: Berea Park Clubhouses, Berea Park neighbourhood, Tshwane
Site location: Erf R/2375
Address: 600 Lillian Ngoyi Street
GPS Coordinates: 25° 75' 80.49" S, 28° 19' 39.31" E
Research field: Heritage
Clients: Department of Sport and Recreation South Africa Tertiary institution (Unisa or University of Pretoria) Individuals from the Berea Park neighbourhood
Keywords: regeneration, belonging, heritage, adaptive reuse, sport, recreation
Premise: Design in pursuit of rekindling appropriation

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PRETORIA 2013
This dissertation aims to address actual needs/issues identified within Pretoria.

The Berea Park precinct has become a proverbial rotten apple. The negative connotations linked to this site are tainting the image of the area. It is also having a negative effect on the safety and social grain of the neighbourhood.

The neglect and vandalism that Berea Park has suffered can in part be contributed to a lack of ownership accountability. To address this, an appropriate, relatable architectural intervention is required. The theory of “Belonging” is explored as an approach to inspire the appropriation of Berea Park. The theory is based on the premise that architecture is informed by the activities that occur within the spaces. This is partially because the activities associated with a space contribute to the identity we attach to this specific space.

Identity becomes particularly important when working with a site with such a rich heritage, a site that has featured extensively in the development of Pretoria’s sport and recreational scene. Both the tangible and intangible heritage of the site should play an imperative role in informing the new design.

The intention is to regenerate Berea Park by means of small scale interventions. This is done by inserting activity and ritual driven architecture into the existing fabric of Berea Park. The tangible and intangible heritage of Berea Park act as guiding grids that inform the arrangement of these interventions. Design is further informed by the fact that sport is still actively being practised at this damaged, dilapidated site. This clearly reflects the need for publicly accessible sports facilities within Pretoria.

Sensitive interaction between the new and the existing architecture is required. To achieve this a contrast between old and new is created to ensure that both are celebrated and clearly distinguishable. The current structural grid and planning are offset by a strict set of zones that run horizontally across the site. These zones become lightweight steel boxes that either fit into the existing stereotomic building envelope or extend out towards the sport fields.

Ideally the architectural intervention will strengthen the relationship between architecture and users.
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Background
Great changes have been experienced in the context of South Africa and specifically Pretoria over the past decade or two. The end of apartheid can be seen as one of the major turning points in our history. (Amoateng & Heaton 2007) With this came a change in social structures as well as a shifting of demographics (South Africa National Planning Commission 2011) One of its symptoms is that certain areas of Pretoria have suffered degeneration and neglect.

Berea Park was identified as one of these neighbourhoods. (Figure 1) Central to this area is the old Berea Park sport facilities. The condition of this site is having a negative effect on the Berea Park area. Currently several squatters have taken residence in the damaged structures of the old clubhouses. Berea Park is also renowned for the amount of drug dealers and users that make use of the structures for questionable activities. (Batt 2013: 1)

Both the tangible and intangible memory of the once sophisticated sports club has been severely tainted in the past few decades. (Figure 8) The negative connotations linked to this site are in turn having a negative effect on the Berea Park area. Currently several squatters have taken residence in the damaged structures of the old clubhouses. Berea Park is also renowned for the amount of drug dealers and users that make use of the structures for questionable activities (Batt 2013: 1)

Neglect and ruination
A lack of accountability of Berea Park has contributed to the site’s neglect and vandalism. The interventions at Berea Park need to fit into the context. (Figure 3) It must also take the users and community into consideration.

Degeneration - General issue
Berea Park has become a proverbial rotten apple (Figure 2) The negative connotations linked to this site are in turn having a negative effect on its neighbourhood. It is tainting the image of the area, while negatively effecting the safety and social grain of the neighbourhood. (Figure 8)

Regeneration
The focus will be on regeneration of both the site and the neighbourhood. Ideally smaller interventions should be implemented, with the hope that they will have far reaching consequences. (Figure 5) The focus would also be placed on the relationship between people and place, as well as on architecture and nature. Thirdly the narrative of the site will be explored and accentuated.

Heritage
The past should not be ignored. This site has featured extensively in the development of Pretoria’s sport and recreational scene. Both the tangible and intangible heritage of the site should play a vital role in informing the new design. (Figure 4)

Belonging
To ensure appropriation of the site and the facilities, it will be important to instill a sense of belonging in the users (Figure 6) The theory of belonging is based on the premise that architecture is informed by the activities that occur within the spaces. This is partially because the activities associated with a space, contribute to the identity we attach to this specific space. The identity associated and perceived within these spaces will be of the utmost importance.
Research question
The following research questions arise from the background and problem statement.

- How can some of the principles of regeneration be applied to improve the conditions of the Berea Park site and by extension the neighbourhood?
- Can small scale interventions lead to big changes in the urban context of Pretoria?
- How can architecture be utilised to foster appropriation in the users and community?
- How can contemporary interventions fit into the heritage context to reactivate and reanimate Berea Park?

Hypothesis
Berea Park is in desperate need for regeneration. A sensitive and appropriate approach will be taken to utilise and preserve the rich heritage of Berea Park. In the current state of ruination a lot of the existing structure will be removed before inserting new small scale interventions into the existing fabric. New interventions will be done in strips light weight. The theory of Belonging will be explored as a means to foster appropriation of Berea Park through design. As part of the regeneration of the site, sustainable systems to limit the ecological footprint of the new design will be explored.

General intentions
The aim of this thesis is to address an actual need or issue identified in the urban context of Pretoria; an area that calls for regeneration; focusing on memory and heritage that act as guidelines for future activities and structures. The aim will also be to generate smaller, relatable architectural interventions; to strengthen the relationship between architecture and users.

Theoretical intentions
The theoretical discourse will be informed by the three intentions that were clearly identified. The three theoretical approaches that will therefore be investigated, will be: Regeneration, Heritage and Belonging.

Design intention
The design challenge includes formulating a programme appropriate approach. The challenge also includes designing an intervention that sensitively fits into the existing architectural-, site- and neighbourhood context.

Delineation and limitations
- The official drawings that exist of Berea Park does not reflect current conditions.
- Existing drawings supplemented by findings and descriptions from a HIA report and an engineer’s report of Berea Park, as well as visual inspection, have been used to compile up-to-date drawings.
- These drawings are educated assumptions based on research and analysis by the author. They should not be accepted as completely accurate.
- For the purpose of this thesis, however, these drawings were accepted as accurate depictions of the existing structures to enable proposals of new interventions.

Research methodology
In-depth research on the heritage and current site conditions of Berea Park will be undertaken. Varied sources including books, journals, letters and articles will be referenced to ensure a comprehensive understanding of the context. This research, along with the relevant precedent and architectural interventions will be explored and developed by means of sketches and models. Hand-drawn and computer generated images as well as models built by hand or generated by means of computer will be utilised as design tools.
Discussion of the contents of the various chapters includes the four parts of the thesis as follows:

**Part 1: Approaches**

The "lenses" through which the research and context will be investigated. These three approaches will also shape the bases for informed decision making throughout this thesis.

**Chapter 1: Regeneration**
The principles or approaches from the movement of regeneration that become applicable to this context and the design discourse are identified.

**Chapter 2: Belonging**
Belonging as the theoretical intention of this thesis is described and explored as well as its application to the specific context.

**Chapter 3: Heritage**
The charters, approaches and principles that will be considered when working within the heritage context of Berea Park will be identified.

**Part 2: Research and analysis**
The research and analysis that were done to inform design decisions.

**Chapter 4: Heritage research**
Research done on the historical development and narratives linked to Berea Park. Special attention is given to the historical buildings located within the precinct.

**Chapter 5: Context and site**
Analysis of the urban context, site and existing structures is done at various scales. Numerous methods are used to gather and analyse the data. This data is used to formulate a framework proposal.

**Chapter 6: Precedents**
Precedent studies of a few applicable projects were undertaken to inform the design. The proposals currently being put forward for Berea Park are also considered.

**Chapter 7: Programme and client**
The programme and its requirements are researched along with possible clients of interested parties.

**Part 3: Design**
Concept, design and technical development.

**Chapter 8: Design theory**
The theory informing the design.

**Chapter 9: Concept**
The concept that will be informing the design is discussed and graphically explored.

**Chapter 10: Design development**
The early phases of the design development are explained. Both models and sketches were used in the design process.

**Chapter 11: Technical development**
Technical drawings and investigations of the design are presented.

**Part 4: Result**
Final designs and conclusion.

**Chapter 12: Presentation and final design**
The first part of the chapter consists of the visual summary and presentation of the information composed in chapters 1 to 11. Plan, section, elevation, detail drawings and models that follow are the result of the design development and technical development in chapters 10 and 11.

**Chapter 13: General conclusion**
Summary of the findings and conclusion of the thesis.
The principles or approaches from the movement of Regeneration that become applicable to this context and the design discourse are identified.
‘If a window in a building is broken and is left unrepaired, all the rest of the windows will soon be broken.’ (Broken window theory by Wilson and Kelling 1982)

The fact that Berea Park was deserted and left to decay not only had a negative effect on the image of the site, but also on the way in which the area is perceived. This in turn contributed to the demise of the Berea Park neighbourhood.

Regenerate:
to improve a place or system, especially by making it more active or successful
(Cambridge University Press 2013)

Regenerative architecture goes far beyond the sustainable focus of Ecological or “Green” design.

Regenerative architecture looks at the association between different aspects that influence architecture and design. Some of these aspects include: the relationship between nature and the built environment, people and place, humans and the natural environments and the social and cultural realms. Engagement becomes the focus of regeneration instead of the final product. “This process of engagement has significant environmental, economic, social and cultural benefits related to community building and participation.” (Sarutu 2012)

Regeneration is about looking at the story or narrative of the site and context (Figure 10). The relation we feel to a place is strengthened by the narrative and feeling part of the story. The story of a site includes both the tangible and intangible heritage, as well as the current events. The story of a place can “create collective identity, meaning, and purpose to bridging divides and fostering collaboration.” (Mang & Reed 2012)

Another important aspect of Regenerative architecture is the concept of “Urban acupuncture”, as advocated by Curitiba Mayor, Jaime Lerner (Fox 2008). This is based on the premise that certain small interventions could have rippling effects that lead to great changes. These changes could potentially spread beyond the boundaries of the intervention and site itself (Mang & Reed 2012).

Conclusion
It is clear that Berea Park is in desperate need of regeneration, especially in light of the social strains Berea Park and the area have suffered. (Figure 9) Ideally the design will be enriched by the tangible and intangible heritage of the site. The intervention itself will aim to act as urban acupuncture, contributing to positive change to the greater Berea Park neighbourhood and Pretoria.
Belonging as the theoretical intention of this thesis is described and explored, as well as its application to the specific context.
Belonging

Context:
Berea Park has suffered great neglect over the past decade. This can mainly be contributed to lack of ownership of the place that led to the neglect and damage suffered by the facilities located at Berea Park.

By creating a sense of belonging, architecture and design might be able to promote the taking of ownership by users.

Belonging is about forging an attachment to a certain space. It is about how you identify with a specific space.

To see how one can identify with a certain place, one first has to look at identity.

According to Judith Butler, identity is shaped by performances and not the other way around (Leach 1999: 77). She looks at performativity, or simply put: behaviour and actions, as the basis that informs identity. Identity is not an internal or physical attribute, but is rather based on the aspects of one’s behaviour or the way in which one perceives or expresses something. One’s identity is born from gestures or enactments of specific activities.

Sport has become an integral part of South African culture and cultural identity. Sport has the ability to unite us as South Africans (Hughes 2013). An example of this would be how we as South Africans stood together and took pride in hosting the Soccer World Cup in 2010 (Lenazo 2010).

Through performances a certain attachment to a place can be forged. Performativity is not based on a single performance, but rather consists of accumulative iteration of certain activities. If an action is repeated it has the potential to become a ritual. Butler grounds identity and performance in a space, by stating that objects cannot exist if they stand alone; they have to be in conversation with other objects as well as its surroundings (architectural setting).

If identity is performed, the space in which the ‘performance’ takes place can be seen as the stage. Architecture becomes the backdrop for the activities that occur in front of or within the structures. Through these activities or rituals, the architecture is imbued with meaning. Dormant or unused architecture only has cultural value once it is in use. According to Neil Leach (1999: 76) an object with cultural significance constantly awaits the opportunity for its old value to be utilized in determining its new value in the new market condition. This echoes with heritage movements that question the ‘museumification’ of buildings (MoMa 2010).

After a certain number of performances the stage or architectural setting can no longer be viewed as neutral. This is also true for Berea Park, where the rich history of activities and layers of memories cannot be ignored when the new context or programme is conceived.

A place becomes infused with associations by those who partook or witnessed the activities that occurred in the space. An example of this would be the great number of people that has memories of events or activities that occurred in the northern club hall. “Memories of associated activities haunt physical spaces like ghosts” (Leach 1999: 79).

The meaning of a place and by extent, a sense of belonging, depend on the memories associated with the space being kept alive.

Rituals or actions that are enacted within a space have the power to rekindle past memories associated with this space.

Conclusion:
Belonging is based on the premise that association of a place is formed through the layering of memories and rituals associated with a place. Architecture acts as a stage for these memories or rituals, becoming infused with their meaning. Activities or rituals therefore inform architecture, while architecture shapes or directs these activities or rituals (Figure 11).

Through the exposure to both current and past activities a sense of identification with a space is triggered. This in turn leads to a sense of belonging.
Chapter 3: Heritage theory

Part 1

The charters, approaches and principles that will be considered when working within the heritage context of Berea Park will be identified.
Approach to Heritage

Abandoned buildings are loaded with memory and inscribed with events that helped to shape our city. (Figure 12, Figure 13) The spaces bear witness to decades of activities that shaped the South African sport scene. To be able to realise the potential of the site, it is important that the new programme does not take away from the heritage associated with the site. This can only be done by acknowledging the existing to form an understanding what the new can become.

No general set of rules can be applied to all heritage interventions. Each intervention’s specific heritage and physical context plays a vital role when formulating an appropriate approach. There are numerous guidelines that have been accepted by the International Council of Monuments and Sites (ICOMOS) and that are prescribed by the National Heritage Resources Act (1999) that can be referenced as guidelines when working in a heritage context.

The following charters are relevant in the Berea Park context: the National Heritage Resources Act (1999), Venice, Burra and UNESCO Charters. Below are some of the most relevant guidelines from each charter that can be applied in this case:

The Venice Charter 1964

- Article 3. Heritage sites are conserved and/or restored, ensuring that they have the potential to serve as historical evidence.
- Article 5. Heritage sites can only be preserved by ensuring their utilization as socially useful sites. Adaptation of the site is only allowed if it serves to ensure its usability.
- Article 9. Utmost respect of the original must be prevalent during the restoration process. Restoration serves to preserve and celebrate the heritage and visual importance of a building. In cases where restoration could be seen as a questionable approach, it is important that additions must be distinct from the existing fabric.
- Article 13. Additions must not detract from elements of architectural importance, or relevant heritage spaces. Where additions are done, it must balance with the site’s setting and the composition of the existing buildings.

Burra Charter:

According to the Burra Charter places of cultural importance have the ability to enhance the connection people feel to their community and the history of the community. Places of cultural importance act as physical records of a community’s identity and the past events that shaped the community. It is important to preserve these unique places of cultural significance for current and future generations.

“The Burra Charter advocates a cautious approach to change: do as much as necessary to care for the place and to make it usable, but otherwise change it as little as possible so that its cultural significance is retained.”

(Burra Charter 1991:1)


- Culture and heritage can serve the stimulus for development.
- The heritage policies put in place must serve to benefit the community.
- It is important that the community is involved in the recovery and protection of the site’s narrative/memory.
- Improving a single site, especially public spaces, can have a positive impact on the ambiance and spirit of an entire neighbourhood.

(Figure 12: Detail of western facade of Berea Park (Author 2013)
Among other, the following objects or places could be considered to have heritage value:

- It the place played an important role in the community’s or South Africa’s history.
- The place embodies a certain level of skill or craft from an architectural movement in South Africa that is important to be retained.
- A community has a strong association with a specific place, because of its cultural, religious, or social significance.

From the Heritage Resources Act of 1999 it is important to note that:

- 5a) Heritage resources have value as documents of the origins of South African society. Yet it is important to note that these resources are finite, therefore we must take special care to guarantee their survival.
- 5c) These heritage resources have the ability to promote “reconciliation, understanding and respect”, resulting in unifying South African identity.
- 5d) It is also important to guard against abusing these resources for denominational purposes or political gain.

From the National Heritage Resources Act (1999) the new intervention should tap into the unifying ability of Berea Park’s heritage. Retaining this heritage is of the utmost importance.

This is in stark contrast to the current proposal for Berea Park, where there is no interaction between the existing structure and the proposed offices for the Department of Public Works. This goes against numerous of the statements from the above mentioned charters.

Building governmental offices on a current public space, is also in breach of principle 5d of the National Heritage Resource Act (1999).

Conclusion

It is important to realise and utilise the opportunities that arise when working in a heritage context. The above mentioned charters are used as mere guidelines. They should not be viewed as rules or regulations, but rather as possible approaches that one should be aware of. It is clear that it is important to fully understand and consider the history of Berea Park when formulating future interventions. Part of understanding the site will include capturing the story and past narratives of this site.
Part 2

Research on the historical development and narratives linked to Berea Park. Special attention is given to the historical buildings located within the precinct.
Introduction

One of the main aspects discussed in the charters (chapter 3) is understanding the place based on the physical and intangible history of the place. This chapter will focus on, collecting all of the relevant information to be able to make informed design decisions.

In 1848 the farm, later known as Du Preezhoek, was started on a section of what is now known as central Pretoria (Figure 15). The parcel of land was procured from the original Elandskloof farm (Punt 1951). The farm is ideally located next to the Apies River and the road running into Pretoria from the south (Figure 14).

The piece of land was originally used by Jan Du Preez for farming with cattle and fruit trees (Du Preez 2003) (Figure 16).
In 1855 Pretoria was officially declared a town. Pretoria had grown significantly by the late 1880s. (Figure 17) At this time town planning and layouts were also being proposed.

Before the 1890s, there was a mill located at the south eastern corner of du Preezhoek. (Figure 18) The mill ran on the channelled water from the Apies River. (Swanepoel 2009) Du Preezhoek still functioned as an active farm during this time, yet it also housed other functions such as a church and sport fields. (Figure 19)

After cricket and football were moved from Church Square to prevent stray balls from breaking the windows of the buildings around the square (Stigting Simon van der Stel 1957), many of the sport related activities relocated to du Preezhoek. Sport related events were frequently housed at the northern part of du Preezhoek, for example the "Voetsepeien". Numerous sport activities, formed part of these events, including athletics, duck hunting, swimming in the Apies, etc. (Swanepoel 2005)

In 1892 the Pretoria railway line was laid.

The location of the Pretoria station caused an increase of development surrounding Berea Park. (Figure 20) In 1897 the Berea Sports Club that included various sports, was founded by the Bourke Trust Company. (Jansen 2001)

During this year the facilities were used to house an event held to showcase the first automobile in South Africa (Swanepoel 2005). In celebration of this event there were bicycle races and a race between the automobile and a horse car, held around the athletics track of Berea Park (Figure 22). At this stage the mill had also been converted to a soda factory. (Swanepoel 2005)
In 1903 Berea Park was bought by the Pretoria Railway Institute to accommodate the growing number of railway employees that moved into the area. (Figure 23) Temporary facilities from steel and timber were erected to house the new sport clubs. (Figure 24) At this stage there were numerous sporting activities housed at the site, while there were still remnants of the old farming activities at the site. (Figure 25) There are also stories of a treasure hunt in 1903 to find Jan du Preez’ alleged lost treasure. Fifteen workers aided Mr Budke in his search but the gold was never located. (Swanepoel 2009)

In 1907 the southern clubhouse was erected. (Figure 26, Figure 27) Shortly after, in 1909, the Transvaal University College, now University of Pretoria, made use of the Berea Park sports facilities for the development of sport at the University. (Minaar 2009) The sport grounds were also frequented by numerous amateur sporting teams. (Figure 28)
The northern clubhouse was added in 1926 (Figure 29, Figure 30). At this time the club houses also accommodated other recreational activities, such as a music room, library and pub (Figure 31). There was also a formal dance hall with springs under the floors (Jansen 2001).

Other important activities associated with Berea Park during this period, was the formation of numerous clubs that are still in existence (Figure 31). The Northern Transvaal Cricket Club (1937), now known as Northerns, played numerous of their major international games at this venue (Wikipedia 2012). They used the facilities until 1986 when they moved to the new stadium, namely Super Sport Park in Centurion. The Pretoria South African Railway team, later known as Berea Park F.C, had its origins at Berea Park (Wikipedia 2013). The Northern Transvaal Rugby Club (1938) also actively used the facilities before they moved to Loftus and was renamed the Blue Bulls (Versveld 2013). The Berea Park Bowling club (1917) housed the headquarters for several national and provincial tournaments (Bowls Gauteng North 2011).

By 1950 numerous extensions had been done to the clubhouses (Figure 32, Figure 33), while other buildings were also added to Berea Park (Jansen 2001). It is clear that the area around the site had experienced a gradual growth and influx of residents (Figure 32). The facilities were also utilised as conference facilities during this time, and served as a popular location for recreation, including formal dances (Figure 34).
In 1996 the road link between Nelson Mandela and Lilian Ngoyi was built, cutting across two of the tennis courts and separating the remaining courts from the rest of the facility. (Figure 35) The dressing rooms and part of the pavilion that were to be removed to make way for the road, were relocated to a different part of Berea Park. (Jonker 1995)

In 1996 the Founders High and Primary School moved into the Berea Club buildings. At this time the buildings had already suffered some level of neglect. (Figure 36, Figure 37) (School 2008) The buildings were also used by the Seventh Day Adventist Church. (Figure 37)

In 2010 the Founders School relocated to an office building in Tulleken Street. (Figure 38) The major reason for their relocation was the state of neglect the clubhouse buildings were in. (Figure 39) (Batt 2013) Shortly after they abandoned the facilities, the squatters that moved into the buildings managed to burn down part of the southern clubhouse. (Figure 38, Figure 39, Figure 40) (Batt 2013)
**ALTERNATIVE NAMES:** Pretoria Railway Institute  
SAR & H Berea Park Institute  
Berea Park southern clubhouse

**PROTECTION STATUS:** It is older than 60 years and is therefore protected by the National Heritage Resources Act, 1999

**DATE OF COMPLETION:** June 1907

**ARCHITECT:** Thomas, A Moodie

**BUILDING TYPE:** Sports and recreational clubhouse

**BUILDING STYLE:** Cape Dutch Revival Style

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**Description of Architectural elements**

The southern clubhouse is a painted and plastered masonry structure with gables on the western facade (Figure 45, Figure 46). It was originally a single storey structure facing west, with open verandas on either side of the main entrance (Figure 41). The Gables were later rebuilt when an additional level was added. The arches on the western facade, between the precast profiled columns have been filled in (Figure 44, Figure 43).

Utilising the east-western slope a three storey structure on the eastern side was created, facing the sports fields. Projecting verandas run along the eastern facade of the building, creating pavilion spaces. Profiled timber supports, that were later replaced with steel ones, support the profile steel roof over the veranda spaces.

Other notable elements in the building include the stone plinth on the eastern facade as well as the use of two-coloured roof tiles.

In the interior there were quite a few notable furnaces, a variety of floor finishes as well as profiled cornices surrounding the ceiling (Le Roux 1992: 155-156; Jansen 2001).
Statement of significance

The main entrance of the building is placed on axis with Clara Street, that acts as a symbolic link to the Pretoria Railway Institute. The importance of the link was accentuated by the balconies (that were later enclosed) facing onto Lillian Ngoyi Street. These verandas echo the verandas of the railway houses. Examples still exist in Lillian Ngoyi Street and Tuiken Street. The purpose of the verandas was to create a dialogue with the public domain.

The original southern clubhouse, finished in 1907, consisted of a ground and first floor veranda that looked out onto the football and cricket fields. Numerous facilities, including a bar, billiard room, library, reading room and classrooms were also housed in the structure.

In 1926 a second storey was added to the building, and the seating of the ground floor veranda was extended.

During the 1930s the southern clubhouse was further extended, by adding a double storey to the south. (Bruwer & Paine 2009)

The importance of the southern clubhouse within the historical landscape of Pretoria is in part contributed to the building’s association with the architect Thomas Moodie, as well as to the structure’s relation to the Pretoria Railway Institute and its history. The historical use of the clubhouse also contributes to its cultural and historical value.

Some elements of the core buildings are still in existence. These elements have great historical value. There are also some of the later additions, such as the grandstands, that now contribute to the cultural significance of Berea Park (Figure 47).

The placement of the southern clubhouse, along with its visual links to its surroundings, including the northern clubhouse, the Apies River and the sports fields, are extremely important. (Bruwer & Paine 2009)
ALTERNATIVE NAMES: Berea Park Club Hall  
SAR B H Berea Park Institute Hall

PROTECTION STATUS: It is older than 60 years and is therefore protected by the National Heritage Resources Act, 1999

DATE OF COMPLETION: 1925

ARCHITECTS: Unknown

BUILDING TYPE: Sports and recreational clubhouse

BUILDING STYLE: Cape Dutch Revival Style / Art Deco influences

Description of Architectural elements

The northern club hall is a u-shaped building on a red face brick plinth, later painted white. It is two storeys high on the western side and three storeys high on the eastern side. (Figure 50, Figure 51) Although it is a later addition to Berea Park than the southern clubhouse, the architecture was clearly sensitive to the existing architecture. The western entrances were prominently celebrated by built-up, profiled masonry pilasters and frames. (Figure 54)

The internal space has a flat roof and high ceiling. This was used as a dance hall, and therefore had a suspended timber floor, that “floated” on steel springs. The interior was highly decorated, with timber panels and profiled cornices. (Figure 50, Figure 53) The entrance foyer that is accessed from the lane between the club hall and the clubhouse was decoratively treated. It has black and cream acoustical floor tiles, and a coloured, terrazzo covered portico along the walls. (Figure 52)

The celebration of movement within the building by the staircase and overhanging balcony contributes to the stately atmosphere of the interior. The play of light from the atrium further adds to the ambience. (Figure 53) The bathrooms had remarkable imported ceramic fittings from different eras that have since been lost. (Le Roux 1992: 155-156) (Jansen 2001)
Statement of significance

The northern clubhouse was completed by the Pretoria Railway Institute in 1926. The building was designed around the Main Hall that formed an integral part of the building’s design and function. In the original design of the northern clubhouse the facade facing the fields consisted of a ground floor balcony for spectators. Yet this spectator balcony was sacrificed when the central stairwell and two small balconies were added to the eastern gables.

The sport and recreational function of the northern clubhouse, forms part of its historical and cultural significance. This significance is strengthened by its visual links to the site as well as the link to the neighbouring southern clubhouse. The northern clubhouse, as well as the few buildings still located north of the structure are remnants of the Cape Dutch revival style that was popular during the period in which Berea Park flourished. (Bruwer & Paine 2009)

The Cape Dutch gables as well as the proportioning of the doors and windows form an intricate part of the design. Some of the later additions were done insensitively, and does therefore not contribute to the heritage and cultural significance of the building. These elements could be removed or sacrificed to enhance the integrity of the building. The later additions include: the northern mono-pitch addition, partitioning and false ceilings, in most cases these elements have suffered extensive damage. (Figure 55)
Bowling clubhouse

Figure 56: Plans, sections and elevations, Annexure B, 1935 (Bruwer & Paine 2009)

Figure 57: Location of bowling clubhouse (Author 2013)

Figure 58: Plans, sections and elevations, Annexure A, 1934 (Bruwer & Paine 2009)

Figure 59: Sections and elevations, Annexure E, 1968 (Bruwer & Paine 2009)

Figure 60: Plan, sections and elevations, Annexure, 1971 (Bruwer & Paine 2009)

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ALTERNATIVE NAMES: Bowling Pavilion
Bowling Green Pavilion

PROTECTION STATUS: It is older than 60 years and is therefore protected by the National Heritage Resources Act, 1999

DATE OF COMPLETION: 1920s

ARCHITECTS: Unknown

BUILDING TYPE: Clubhouse

BUILDING STYLE: Utilitarian and typical clubhouse with some Art Deco overtones

Description of Architectural elements

There are aerial photographs from as early as 1937, showing the bowling greens already laid out as they are currently. The bowling clubhouse was built perpendicular to the axis of the walkway, running between the bowling greens. Originally the bowling clubhouse comprised of a modest single storey masonry structure with a double pitch roof. (Figure 58, Figure 59)

Two dressing rooms and a small verandah made up the original functions of the building. During the numerous additions that were implemented over the years, the dressing rooms and verandah were extended and enlarged. Some of the latter additions and extensions included an office, kitchen and tea lounge. (Figure 56, Figure 58, Figure 59, Figure 60)

Statement of significance

The integrity of the original clubhouse has been sacrificed through the numerous extensions and additions. Little is left of the original building therefore, according to the Heritage Impact Assessment done by Dr Johann J. Bruwer & Henry Paine in 2009 (Bruwer & Paine 2009: 75-77), the clubhouse has less historical or cultural value than the bowling greens.

The importance of the bowling club is centred around its relation and visual link to the northern and southern buildings and the remaining railway houses, and how together they tell the tale of the historical and cultural heritage of Berea Park.
Models: summary of damage suffered

Physical model mapping damaged and removed elements (Figure 62, Figure 63, Figure 64) based on HIA done by Bruwer and Paine and structural analysis by engineer Carl von Geyso, as well as visual analysis done by author. (Figure 47, Figure 55)
Conclusion
It is clear from the data collected in this chapter that the history of Berea Park renders it an important heritage building (Figure 65). Berea Park is relevant in both the context of Pretoria and the sport development of South Africa. It is also clear that the site has suffered extensive damage due to neglect and misuse. A suitable heritage approach to deal with the removal of damaged or lost elements will have to be decided upon (Figure 64), as well as an approach to restoring the remaining fabric. It is also important to acknowledge the past programmes and events associated with Berea Park when formulating future interventions and programmes.

Figure 65: Old structures state before extensive damage: cleaned up structure; important elements (Author 2013)
Analysis of the urban context, site and existing structures is done at various scales. Numerous methods are used to gather and analyse the data.
Site Analysis

Berea Park, the neighbourhood, is located at the south-eastern corner of Central Pretoria. Central to this area is the Berea Park sports grounds, that are as old as the neighbourhood itself.

Berea Park is one of the first sites you are confronted with when entering Pretoria from the fountains circle. The site itself does not fully conform to either of the two urban grids (meeting at Nelson Mandela Street) that it interacts with. It is also clear that the Apies River, railway and train station played a central role in the development and layout of this area (Figure 66).
Urban green spaces

There are quite a few green spaces located in Central Pretoria. Most of the recreational spaces were developed around important governmental buildings and sites, while the older major sports facilities are located in close proximity to the Apies River. The remaining sports grounds are all affiliated with urban schools and are therefore not accessible to the public, due to security reasons. (Figure 68)

Building functions surrounding Berea Park

There are numerous building functions surrounding Berea Park. The residential aspect is mostly made up of smaller houses that were built by the South African Railways for their employees. Some of these smaller residences have been replaced by apartment blocks, especially along the north-western corner of Berea Park. There are also a few old age homes located north of the park. On the south-eastern edge there has been substantial commercial development. The commercial buildings facing Lilian Ngoyi are almost completely inactive, being used for small offices or storage spaces. The retail along Thabo Sehume Street, facing the Gautrain and train station is faring considerably better. There is also the educational element, with two schools and Unisa that are within close proximity of Berea Park (Figure 69).
Photographic analysis

A photographic analysis of the urban context was done.

These are photos of a few of the buildings located across from the site. There are quite a few multi-storey apartments located near the site, especially to the north and the west. (Figure 70, Figure 72) The majority of these structures are over 40 years old and could certainly use some maintenance. There are also a few abandoned apartment structures located east of Berea Park. (Figure 71)

There are still some of the old houses left, built by the Railways for their employees. These are scattered between the apartment blocks in the Berea Park neighbourhood. Some of these houses have become quite dilapidated (Figure 73). The construction of the Gautrain Station, has caused economic growth in the area. This in turn has led to the renovation of some of these houses.

To the south-west of the Berea Park sports facility, Fountains Motown, a retail centre, was built between Lillian Ngoyi Street and Thabu Sehume Street. The shops along Lillian Ngoyi have been generally unsuccessful, with the majority of retail spaces being used as offices or for storage (Figure 74). Some of the spaces stand completely empty and deserted. Even the garage located on the site has failed (Figure 75).
Surrounding Berea Park, quite a few informal trades have emerged. This includes food stalls on the pavements along Scheiding Street (Figure 76) and small businesses located in some of the houses in the area (Figure 80, Figure 81).

Rhodes Avenue, a street that has been closed off, located on the northern edge of Berea Park, is being utilised as a taxi stop during the day (Figure 79, Figure 78). This in turn has created job opportunities for the residents living in this street, for example backyard mechanics and food sales (Figure 82).
Interviews were conducted with various people on and around the Berea Park sports precinct. The interviews took place on three different days in March 2013.

John Mokoni
John Mokoni is a taxi driver that stops in Rhodes Avenue for up to seven hours a day.

Q: What is your perception of the area, and in particular the Berea Park site?
A: I am very worried about the high number of kids who get involved with naope (heroin). Kids as young as eight to fifteen years old start using drugs. The area is very unsafe. I feel something drastic should be done about this.

Petri
Petri is a taxi driver that uses the side street as a stopover point during the day.

Q: What is your perception of the area, and in particular the Berea Park site?
A: I am worried about the state of the buildings at the old school. The damaged, burnt building attracts a lot of squatters. This increases the drug and crime rate in the area.

Q: What would you like to see happen to the site?
A: It would be nice if there was cricket fields on the site, where we could play during the day.

Vincent
Vincent is a security guard that was appointed to watch over the Berea Park site.

Q: What were you appointed to do?
A: We are two security guards that watch over the site. We try and avoid further vandalism and we ensure that people are using the site correctly.

Q: Who uses the site?
A: Unisa students play soccer here, as well as a lot of people living in the city or in Sunnyside.

Anonymous
He was a young man (visibly intoxicated) who approached us while we were visiting the site, unwilling to divulge any personal information. He warned us that:

You must be careful with that (pointing at the camera). There are a lot of people around here desperate for some money, and that (the camera) will go for quite a few rands. You must watch out: there is a drug dealer on that corner (pointing at the corner of Willow and Lillian Ngoyi Streets), and a drug dealer on that corner (pointing at the corner of Lillian Ngoyi and Walker Streets); and everyone in between are drug users.

[These were his words, and should not necessarily be taken to be true]
Northern extension—The northern extension has suffered great damage from water and neglect.

Western facade—Gutter pipes are missing or damaged. The entrances had been closed up with bricks and the profiled brick material has suffered damage.

South-western room—The interior spaces have suffered from neglect and vandalism. In this room, the floorboards have been removed and interior finishes are damaged and broken. Electric fittings have been removed.

Walls and ceilings—A lot of the ceilings and walls have suffered severely from water infiltration, this is clearly visible when looking at the peeling paint.

Windows—Most of the window frames have been removed by vandals.

Roof—The roof of the southern clubhouse caved in after it suffered damage in a fire.

Internal walls—Most of the internal walls have also suffered extensive damage in the fire and from water.

Gable—The southern gable of the clubhouse has been removed after extensive damage.

Fireplaces—There are numerous fireplaces that used to be important architectural elements. Currently, they are damaged and vandalized. The tiles have been removed and other interior fittings have suffered damage. The floor boards are also missing.

Windows—Most of the window frames have been removed by vandals.

Cable—The southern gable of the southern house has been removed. Other extensive damage.

Ceilings—Moulds and interior structures have been removed or damaged during the past few years. Unauthorised occupation of the buildings. The fire and further neglect have also contributed to the miserable conditions of the buildings.

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Analysis of site and surroundings

Typography of site
Berea Park is located in a natural basin, with the Apies River running along its eastern perimeter. A steep slope forms the western boundary, while the central area of the site is relatively flat. (Figure 90)

Figure 90: Model of site contours (Author 2013)

Energy levels
Energy is mapped according to activity levels and frequency. The current energy on and around Berea Park was mapped. There is energy focused near the soccer field where matches are still frequently played. Most of the other energy is located on the major vehicle routes, especially Nelson Mandela Drive. The rest of the energy comes mostly from the north or north-west, from central Pretoria. (Figure 92)

Figure 92: Energy map of site (Author 2013)

Context of site
Berea Park is located in the Berea Park neighbourhood, with high rise residential areas along the north-west and north. There are also some of the smaller residential units left along the northern edge. (Figure 91)

Figure 91: Model of site contours, buildings and roads (Author 2013)

Site edges or boundaries
Different natural and civic boundaries enclose Berea Park. Nelson Mandela Drive acts as a major boundary. The other surrounding streets, including Lillian Ngoyi Street, and Clara Street, act as secondary boundaries. Natural boundaries include the slope along the western edge, the Apies River along the eastern edge, as well as the shrubbery and trees that grow along the river banks. These boundaries affect easy access to the site. (Figure 93)

Figure 93: Mapping of boundaries around Berea Park (Author 2013)

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Linkages onto site

These are proposals for linkages to weaken some of the boundaries surrounding Berea Park. One of the proposed linkages, is to create structures that draw activity from the street into the site along the western edge (where current structures are located). Other links include accentuating the entrance in the north-western corner of the site, which is in line with energy sources surrounding Berea Park. Further smaller links are proposed along the east, crossing Apies River. (Figure 94)

Areas with potential

White indicates opportunities for architectural interventions, while orange marks areas with potential for natural development. Architectural interventions are focused around the current architectural fabric on the site. Building sites coincide with structures or remnants of structures. Along the south western-edge, architectural interventions, such as housing units are proposed. (Figure 95)

Intentions

Possible intentions based on the above mentioned site analysis are depicted here in diagrams. (Figure 97)

Past programming of Berea Park

Past programmes associated with Berea Park are depicted in iconographies. The placement of these graphical representations, roughly indicate the location of these programmes. (Figure 96)
Site analysis conclusion
The area in which Berea Park is located is in desperate need of regeneration. There are numerous deserted, underutilised and damaged structures in the vicinity. Yet there is also the potential for positive urban growth, especially with the new Gautrain station and the energy and revenue it brings to the area. The site typology and natural elements can definitely be seen as inherent potential of the site. These elements in collaboration with the rich tangible and intangible heritage of the site serve as ideal informants for new interventions.

Proposed site framework
A framework serves to propose the location of architectural interventions, walkways, landscape design and access points to the site. (Figure 102 - Figure 110)

Proposed programming
The proposed programming or possible programmes are listed over the different areas of the site. (Figure 99)

Rough framework proposal
White area indicates proposed architectural development. Light and dark hatching of structures indicate permeable and less permeable areas in the architectural interventions. The framework also indicates proposed development surrounding the Apies River that include walkways and water crossings. The central area of the site is divided into structured and informal green spaces. (Figure 98)

Figure 98: Proposed urban framework for Berea Park (Author 2013)

Figure 99: Proposed location of programmes on site (Author 2013)
Green space layout: formal sports fields
Sports fields including bowling greens, soccer fields and rugby fields are laid along the central area of the site. The location of these fields (and greens) are informed by current or past sports fields/greens (Figure 100).

Proposed location of sport facilities
Sports facilities are proposed in areas where there are already existing architectural interventions. These areas spread along the western edge of the site (incorporating the northern and southern clubhouses) and east-west across the site between the bowling and soccer fields (including the bowling clubhouse) (Figure 102).

Green space layout: landscaping
Designed and natural landscape areas are proposed along the Apies River and the western edge of the site. These areas will form part of the recreational spaces of Berea Park. As part of the designed landscape area, outdoor gym areas and jungle gyms are proposed as part of the Apies River boardwalk (Figure 101, Figure 109).

Proposed location of housing units
Future development of Berea Park include building housing units on the southern corner of the site. These units will serve to house sponsored developing athletes, coaches and caretakers of Berea Park. Ideally students studying sports management and psychology courses at the University, housed in these units, actively participate in the sport development (Figure 103, Figure 108).

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New walkways
Walkways serve to link the structures and entrances with the proposed structures. The walkway that interacts with the clubhouses run at street level linking with the main entrances located between the clubhouses and those at the north-western corner of the site. Organic walkways meander along the eastern edge of the site, interacting with both the designed and natural landscaping elements. Development of the servitude that runs through the Fountains Motown retail centre is proposed to serve as a linking walkway between the site and the Gautrain station. (Figure 104, Figure 109)

Off site access
Accessing the site is made possible by the existing taxi rank, parking lots, Gautrain and Bosman stations. The northern parking lot is mainly being used for driving lessons, while the southern parking lot stands almost completely deserted during the day. A taxi rank is proposed in Bosman Street, that currently serves as a taxi stop during the day. The site is ideally located for access from the stations located a mere block away. (Figure 106)

New walkways that can accommodate vehicles
Wider walkways are introduced at field level. These walkways are able to accommodate vehicles. Ambulances can move through the site to treat injured athletes. The north-south route also allows easy access for delivery and service vehicles. While the route along the south-western edge allows access to the housing units. Access to these routes are gained through existing vehicle gates. (Figure 103, Figure 108)

Access to site
Access to the site, for both vehicles and pedestrians is proposed. The entrances marked "a" serve as the main entrances. The entrances marked "b" will serve as the secondary entrances, that can be closed when controlled access to the site is required. For security reasons, the possibility will exist to close off any of the entrances when needed.
Framework conclusion

This thesis will not attempt to fully resolve all of the above mentioned proposals. The proposals that will form part of the future development include:

- the housing developments,
- a fully functional taxi rank,
- enhanced walkways between the site and the stations,
- resolution of secondary entrances; and
- walkways and landscape design and development along the Apies River.

The main aspects that will be addressed in this thesis are the resolution of the sports facilities and walkways directly associated with these buildings.
Precedent studies of a few applicable projects were undertaken to inform the design. The proposals currently being put forward for Berea Park are also considered.

This museum forms part of an urban redevelopment project located in the Red Location Township. Red Location township is one of the oldest townships in South Africa and featured in the anti-apartheid movement from as early as 1948. The museum not only commemorates the heritage importance of the site, but serves to capture the experience embodied in this site of resistance that served as the background to various protests and anti-apartheid movements. (MoMA, 2010)

The concept of the building was based on challenging the notion of a museum. The museum becomes a central element in the urban development, introduction of infrastructure and the cultural development proposed for the Red Location Township. Through the development of public amenities, that includes communal areas, housing, a library and archive spaces, previously absent in the township, Wolff aims to reverse the isolation associated with the site.

Neoro Wolff Architects were faced with the challenge to ensure that the institution would be accepted by the community of Red Location who usually struggles to accept outsiders. Community involvement and weekly community-based committee meetings were held to ensure that the project truly adhered to the communities’ needs. Community members were hired and trained to partake in the construction of the museum.

Visitors become participants in the rituals enacted within the building. Different narratives of history and their links are explored in the "memory boxes" or exhibition spaces. (Figure 112) (Red Location Museum 2006)

The Red Location museum forms part of an urban vision that aims to reverse the "segregation that has so long characterized the site." (MoMA, 2010) Ideally the township could become the centre for new urban development. Through small interventions they hope to achieve big changes. (Figure 114)

Utilising natural lighting within the building also played a major role in the design. Not only does the roof design reference the typical saw tooth profile associated with the commercial setting. (Figure 111) It is also utilised for optimal interior lighting. (Figure 113)
The Drill Hall was originally built by the British to serve as barracks that supplied the soldiers during the Anglo Boer War (Figure 115). The structure was later used for recreational purposes such as a dance venue. But during the 1930s to 1970s, the hall functioned as a court for preliminary treason hearings. As many as 156 accused, including Nelson Mandela and Walter Sisulu appeared before a judge in these facilities (Johannesburg Development Agency 2004).

Over the years the building has sadly suffered from numerous damaging incidents. In 1968 a gas cylinder exploded within the building and in 2002 ten homeless people lost their lives when the Drill Hall partially burnt down. (Figure 116, Figure 117, Figure 118)

The Johannesburg Development Agency appointed Michael Hart Architects and Urban Designers to restore the building. Intensive research was done to ensure that an acceptable approach was taken and to set up a conservation plan for the Drill Hall. Part of the intention of the new intervention was to make the building more accessible to the public. (Wilkinson 2012)

By opening the building to the community, the architects created a platform for interaction between the building and its users. The aim of this was to create the opportunity for the community to form an association or link to this heritage building. This was not necessarily as successful as envisioned, due to shortcomings in the management of the building. The buck does not stop with the architects. Once the project is executed, it becomes the responsibility of the users and management to ensure the successful implementation of the vision for the site.

The architects proposed that the Drill Hall should house various community orientated, nonprofit organisations. The building housed child-care facilities, programmes for skills training while also serving as a platform for emerging artists from the community. Sadly most of these tenants and users have since vacated the premises. (SAPA 2013)

Extensions to the existing structure were done in steel and glazing to allow for optimal light and to ensure that the new structure acted as a standalone structure that could aid in supporting the damaged remains of the existing building. (Figure 119, Figure 120) (Wilkinson 2012)

The structure now leads to public square where the columns were placed along the footprint of the demolished building. (Figure 121)
The old butter factory looks like the surrounding single family houses. (Figure 122) The architects tried to preserve the visual association with the surrounding houses, by preserving the characteristic image of the neighbourhood with minimal, simply constructed houses.

The old buildings are all in bad shape. The new intervention would aid in strengthening the existing structure while adding to the available space in the interior. (Figure 125) The roof needs repairing, while the interior will be refitted. (Dezeen magazine 2010)

The gap created between old and new is animated by the light that is allowed to penetrate from the upper level to the ground floor. (Figure 125) The new floor seems to be suspended, with the structure clearly exposed to contrast with the old. (Dezeen magazine 2010)

In the case of the next door building, the old bakery was beyond rehabilitation, and was therefore replaced by a completely new structure. (Figure 122)
KUBIK EXTENSION, Palma de Mallorca, Spain, 2013 by Guillermo Reynés con Álvaro Perez from GRAS Arquitectos

GRAS Architects were given a project to extend a traditional detached house, Mallorca. The client required the addition of numerous spaces and facilities to the existing building (Figure 128, Figure 129, Figure 130). The new facilities include an indoor pool, spa and game room.

The larger new spaces, including the swimming pool area, utilise natural day lighting by orientating the spaces so that they face south (Figure 134).

Spaces are specifically designed according to the needs of the client. Internal spaces are designed to ensure a cosy and comfortable, well lit environment for the users. The subterranean rooms are clad in wood for a warm finish to these cold concrete spaces (Figure 134).

The existing building with white painted walls, timber carpentry and Arab tile roofs was kept unchanged (Figure 131) (Dezeen 2013).

The new boxes, made from corten steel, slots into gaps created by the existing structure, or latches onto the exterior walls. The new boxes “surround and embrace” (Archdaily 2013) the old structure and frames new spaces surrounding the building (Figure 132).

The heritage approach that was taken was to create a clear contrast between the old and the new (Figure 126, Figure 127). Extreme contrast is achieved by inserting numerous new volumes. This was executed in a contemporary aesthetic to maximize the contrast (Figure 133). The style, material usage and colours of the old and new buildings are just some of the contrasting elements.
Gleneagles Community Centre, West Vancouver, British Columbia, Canada, 2011 by Patkau Architects

The Gleneagles Community Centre is located in close vicinity to existing sports facilities, including a public golf course. The community centre interacts and services these sport facilities (Figure 139).

Similar to the Berea Park site, this building also utilizes the existing slope for varying levels (Figure 27). The level that faces the street is populated with recreational spaces, such as “living rooms”, coffee shops and child day care facilities. The bottom level interacts with the outdoor sports facilities, while the upper level houses a gym (Archdaily 2011).

Multi volume spaces link various levels visually and ensure cross programme interaction (Figure 25).

The building inserts itself into the community’s everyday lives through the programming of the facility, especially on the street level (Figure 26). The building is also designed to interact not only with pedestrians on street level, but also with athletes on the bottom/field level. Open views from the building to surrounding programmes enrich its involvement with the community and existing sport facilities (Archdaily 2011).

The programme of the building was organised into three levels, to minimize the footprint of the building. The weight of the in situ cast concrete structure and heavy roof serves as a climate control mechanism. Additional thermal energy is provided by water-to-water heat pumps that run through the ground and into the walls. The building is protected from winter rains and summer sun by the roof overhangs (Figure 28).

The site conditions are similar to that of Berea Park and therefore serves as a good precedent. It is also important to consider the way in which this facility speaks to its pedestrian and athlete users and passersby. For regeneration, the way in which the structure was designed to ensure optimal interior climate, serves as a good example of a sustainable sport and recreational facility.

Current proposal for Berea Park

The current planning for Berea Park includes a Government Office Development (Boogertman + Partners 2013). Boogertman and Partners has submitted a proposal for numerous multi-storey office blocks and parking garages that cover the site (Figure 142).

Their proposal shy away from interacting with the existing structures on the site, except for the bowling clubhouse and other smaller structures that they plan to demolish.

This development is part of numerous new proposed government buildings that are proposed as new office spaces located at the perimeter or outside of Central Pretoria. Some of the other offices are being proposed for north of Marabastad. The problem with this is the fact that instead of fixing and renovating existing government structures so that they can be utilized to their full potential, the government chooses to build new structures further from the central business district of Pretoria. The fact that the new interventions do little to acknowledge the important role Berea Park has played in the history of Pretoria and South African sport, can be seen as questionable. Furthermore, this proposal intends removing much needed publicly accessible sport and recreational space within Pretoria, instead of restoring and utilizing it.

Current heritage approach for Berea Park

The heritage proposal was set forward by Henry Paine and Partners (Figure 141). This proposal entails restoring as much as possible of the old fabric of the building, while removing some of the internal walls to enable re-use of the structure (Paine + Partners 2013). This proposal is no longer viable, since the structures have suffered extensive damage, since the report was originally drafted in 2009.
The programme and its requirements are researched, along with possible clients of interested parties.
Mission statement by the Department of Sport and Recreation of South Africa

“To maximize access, development and excellence at all levels of participation in sport and recreation in order to improve social cohesion, nation building and the quality of life of all South Africans”

In the past Berea Park was animated by the numerous activities on the site, in the buildings and on the fields.

Currently the main programme associated with Berea Park is the soccer that is still practised on the dilapidated soccer field. Even though two security guards survey the site, all of the buildings are currently occupied by squatters. Along the northern edge of the site taxi drivers park their vehicles during the day.

Figure 142: Past programmes at Berea Park (Author 2013)

Figure 143: Current programmes at Berea Park (Author 2013)
Rituals

sport participants and spectators

Mapping of routes and rituals in the Berea Park context. (Figure 144) With the purpose of linking the activities associated with the different aspects and sport programmes proposed for the facility, (Figure 145, Figure 146) with possible locations on the site.
Rituals

Sport participants and spectators

Different rituals associated with the proposed programmes or activities to be located on Berea Park are depicted in comic strips. (Figure 145, Figure 146)

swimming spectator

bowling spectator

soccer spectator

basketball spectator

rugby spectator

swimmer

bowler

soccer player

basketball player

rugby spectator

recreational

Figure 145: Graphic depiction of spectator rituals (Author 2013)

Figure 146: Graphic depiction of athlete rituals (Author 2013)

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<table>
<thead>
<tr>
<th>Activity</th>
<th>Swimming</th>
<th>Bowling</th>
<th>Soccer</th>
<th>Multi sport hall or Basketball</th>
<th>Rugby</th>
<th>Gym</th>
<th>Recreation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sizing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td>50m</td>
<td>43m</td>
<td>100-110m</td>
<td>44m or 27m</td>
<td>111-112m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width</td>
<td>25m</td>
<td>64-73m</td>
<td>7m</td>
<td></td>
<td>68m</td>
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</tr>
<tr>
<td><strong>Lighting</strong></td>
<td>1500 lux</td>
<td>n/a</td>
<td></td>
<td></td>
<td>300-500 lux</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ventilation</strong></td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td></td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>25-28°C water temp</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Services</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WC</td>
<td>2 WC 2 Urinal</td>
<td>1 WC 2 Urinal</td>
<td>3 WC 3 Urinal</td>
<td>2 WC 1 WC 2 Urinal</td>
<td>3 WC 2 Urinal</td>
<td>3 WC 2 Urinal</td>
<td>2WC 2 Urinal</td>
</tr>
<tr>
<td>Basin</td>
<td>2 basin</td>
<td>2 basin</td>
<td>3 basin</td>
<td>2 basin 2 basin</td>
<td>3 basin</td>
<td>3 basin</td>
<td>3 basin</td>
</tr>
<tr>
<td>Shower</td>
<td>2 shower</td>
<td>5 shower</td>
<td>5 shower</td>
<td>3 shower 5 shower</td>
<td>3 shower</td>
<td>3 shower</td>
<td>5 shower</td>
</tr>
<tr>
<td>Dressing Room</td>
<td>30 lockers</td>
<td>30 lockers</td>
<td>dressing room</td>
<td>dressing room</td>
<td>dressing room</td>
<td>dressing room</td>
<td>dressing room</td>
</tr>
<tr>
<td>First aid</td>
<td>yes</td>
<td></td>
<td></td>
<td>yes (basic kit needed)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Staff</strong></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Cleaner room</td>
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</tr>
<tr>
<td>Admin room (possible shared with swimming pool)</td>
<td></td>
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</tr>
<tr>
<td><strong>Cleaning</strong></td>
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<td></td>
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</tr>
<tr>
<td>Chemical storage, filtration areas/pump rooms</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Gardening and interior cleaning equipment</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Equipment</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Storage room for renting out equipment</td>
<td></td>
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</tr>
<tr>
<td><strong>Other</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Team rooms</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Spectator</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seats</td>
<td>Space for 300 spectators</td>
<td></td>
<td></td>
<td>Space for 1000 spectators</td>
<td>Space for 500 spectators</td>
<td>Space for 1000 spectators</td>
<td>n/a</td>
</tr>
<tr>
<td>Size</td>
<td>15m² - 30m²</td>
<td></td>
<td></td>
<td>50m² - 100m²</td>
<td>25m² - 50m²</td>
<td>50m² - 100m²</td>
<td></td>
</tr>
<tr>
<td>Terraces and tea patio</td>
<td></td>
<td></td>
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<tr>
<td><strong>WCs</strong></td>
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</tr>
<tr>
<td>Share with players or soccer spectators</td>
<td></td>
<td></td>
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<tr>
<td>2 WC 1 Urinal</td>
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<td><strong>Other</strong></td>
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</tr>
<tr>
<td>Kiosk with bar</td>
<td>8 - 12m²</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Kiosk storage</td>
<td>10 - 12m²</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Coffee shop</td>
<td>8-12m²</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Self service counter</td>
<td>20m</td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Access</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Sizing</td>
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<td></td>
</tr>
<tr>
<td>Non slip surfaces are important</td>
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</tr>
</tbody>
</table>

Table 1: Service requirements and specifications (Author 2013) based on (John & Heard 1981: vol. 1-4)
Berea Park user and programme requirements:

- **activity** | **services** | **circulation** | **spectator**

- multisport hall
- main hall
- storage
- stage
- kitchen
- restaurant
- gymnasium
- warm-up court
- reception
- entrance
- reception

- rugby field
- soccer field
- swimming pool
- bowling green
- storage
- coach room
- team rooms

- Berea Park user and programme requirements:
  - 120 seats
  - 500 seats
  - 450 seats
  - informal trade
  - restaurant
  - indoor restaurant
  - outdoor restaurant
  - kitchen
  - informal trade
  - reception
  - informal trade
  - restaurant
  - kitchen
  - informal trade
  - reception
  - informal trade
  - restaurant
  - kitchen
  - informal trade
  - reception
  - informal trade
  - restaurant
  - kitchen
  - informal trade
  - reception
  - informal trade
  - restaurant
  - kitchen
  - informal trade
  - reception

- Berea Park user and programme requirements:
  - 120 seats
  - 500 seats
  - 450 seats
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  - outdoor restaurant
  - kitchen
  - informal trade
  - reception
  - informal trade
  - restaurant
  - kitchen
  - informal trade
  - reception
  - informal trade
  - restaurant
  - kitchen
  - informal trade
  - reception
  - informal trade
  - restaurant
  - kitchen
  - informal trade
  - reception
  - informal trade
  - restaurant
  - kitchen
  - informal trade
  - reception

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### Possible interested parties

#### Colleges
- a. College SA
- b. Kings and Queens College
- c. Bantori College Pretoria CC
- d. Menlyn Technical College
- e. Academy of learning IT
- f. Sediba Thuto College of FET
- g. Festicol FET College
- h. Vine College: Information Centre
- i. New Dawn College
- j. Brooklyn City College
- k. Ochrim School of Music
- l. Greenwood College
- m. Kings and Queens College
- n. College Centre
- o. College Campus
- p. Lodging Industries Specialist Hotel School
- q. School Of Stock Market

#### Schools
- a. Unisa Sentrum Vir Kleinkindersopvoeding
- b. Primary School East-End
- c. Kiddie Care Creche/Pre-Primary School
- d. Sunnyside Primary School
- e. Sun Sparrows Nursery School
- f. Primary School Pretoria
- g. Greenwood College
- h. Yop City Pre-School
- i. Treehouse Creche/Nursery School
- j. Jacaranda Nursery School
- k. Cisclo Secondary School
- l. Loreto Convent School
- m. Hamilton Primary School
- n. Edu-College Secondary School
- o. Founders Community School Pretoria

#### NGOs
- a. E Hubs Africa
- b. Theatre for offenders and Something Magic theatre org
- c. Mahube HIV/AIDS Project
- d. I.D.A.S.A Southern African Migration Programme
- e. Juan Youth Empowerment
- f. POPUP
- g. His Blessings day care
- h. Pretoria Bay Mothers Association

#### University
- a. Unisa Sentrum Vir Kleinkindersopvoeding

#### Government Institutions
- a. Rolling In
- b. Ambassadors in Sport
- c. Gauteng Dept of Sport - Recreation - Arts and Culture - Directorate Library and Information Services
- d. Correctional Services Recreational Club

### Possible interested parties and users

Currently there are at least three Community Colleges that actively make use of the soccer field. There are also a few urban schools, for example the Founders Primary and High School that, due to lack of space, utilise these facilities for sporting events. Furthermore there are also a few NGOs and community initiatives, for example the community patrol that run programmes to keep children out of trouble by involving them in sports. Unisa also actively uses the sport grounds for training. (Figure 148, Table 2)
Possible clients

The heritage proposal set forward by Henry Paine and Partners, entailed restoring as much as possible of the old fabric of the building, while removing some of the internal walls to enable re-use of the structure (Bruwer and Paine 2009). This proposal is no longer viable given that the structures have suffered extensive damage since the report was originally drafted in 2009.

One of the major challenges Berea Park face is a lack of ownership and accountability. The structures and site have suffered unnecessary damage and neglect, ultimately resulting in the abandonment of the buildings by the last legal users, the School. Once abandoned the building was gutted by fire and squatters. Only a skeleton of the past buildings remains.

All of this could have been avoided with regular maintenance. This should not only have been the responsibility of the users, but also the owners of the structures.

To prevent the same issues from arising again in the future, the proposal is to ensure that the maintenance and continued existence of Berea Park is not the sole responsibility of a single entity.

The proposal is that through shared ownership, more users will have access to the site. This will also allow for more sources of funding and support of the facilities at Berea Park.

The proposed interested parties are:

- **The government**

  The Department of Sport and Recreation South Africa funds numerous sport-related institutions and facilities. Their vision is to create “An Active and Winning Nation” and to provide every South African with the opportunity to participate in sport (SRSA 2013).

  Berea Park is already owned by the Department of Public Works. Therefore, the government is one of the interested parties.

- **A tertiary institution**

  The proposal is to get either Unisa, Tshwane University of Technology or the University of Pretoria involved in the project.

  All of these institutions have programmes where they provide sports training for people and especially children from different communities. (TuksSport 2011). Berea Park provides the opportunity to connect to various neighbourhoods, including Sunnyside, Central Pretoria, Muckleneuk and Salvokop. This provides students studying sport-related programmes with the opportunity to facilitate training. It also produces a pool of potential sports men and women that they can cultivate as future athletes for the university.

- **Individuals from the neighbourhood**

  Providing individuals from the community with the opportunity to buy shares in Berea Park will help to promote belonging and taking ownership in the community. The idea of community ownership has only recently started taking root in South Africa. Examples of this can be seen implemented in the mining and mineral industries of South Africa (Kruger 2007).

  Providing the opportunity to buy shares in the retail facilities, for example by the restaurants and shops located in the vicinity, also creates the ideal opportunity for people living in the neighbourhood to benefit from the development of the Berea Park precinct.
Working with old
Berea Park is dilapidated and damaged. To render Berea Park into a usable state extensive interventions will be necessary.

When alteration to an existing building is undertaken, if sensitively done, it will start off with some level of restoration and conservation. As part of the practice of alteration, a stance must be taken with regard to restoration and conservation.

According to John Ruskin’s Seven Lamps of Architecture he describes reconstruction during restoration as a type of devastation, replacing the object or element with a falsified version of the original. (Scott 2008)

No architecture can really be restored to its original form without copying and reconstructing lost elements. Restoration will therefore be kept to the minimal. To prevent further damage, as often is the case, even at well intended restorations. (Figure 148) Only architectural elements that are still in reasonable condition, and have some architectural or heritage importance will merit restoration. Any part of the building that has suffered extensive damage, especially later editions or changes will be removed to make space for the new interventions. (Figure 150)

A list of eight intended rules to dictate an approach to heritage has been formulated based on the Burra Charter and On Altering Architecture by Fred Scott (Author 2013)

1. ORIGINAL FORM
   Before it desperately required attention

2. INTANGIBLE HERITAGE
   Document people associated with Berea Park, as well as past programmes and events

3. TANGIBLE HERITAGE
   Look at HA report to determine which elements are seen to have architectural or heritage relevance. Also determine which are irrelevant elements architecturally or from a heritage viewpoint, that can be removed to enable re-use

4. DAMAGED OR LOST ELEMENTS
   Identify damaged or lost elements

5. STRIPPING BACK / REMOVE
   Remove all elements that are damaged beyond repair or that are damaged and will not constitute a loss if removed

6. MAKING GOOD / RESTORE
   Restore remaining elements, especially those that are in danger of future loss if not attended to (Do not re-construct elements that have been lost)

7. ENABLE
   Remove areas of the old building, where needed to enable the new intervention. New structures must enable new interventions, while also providing structural support for existing structures

8. INSERT NEW INTO OLD
   Insert the new intervention into the existing structures. Ensure that the new is clearly visible and distinguishable from the old

The approach at Berea Park will be to utilise the requirements and opportunities that arise from each of the major activities (soccer field, rugby field, bowling court, swimming pool, multi-sport hall, gym and the main multifunctional hall) that are proposed for the site as design informants. These requirements will for example include the facilities, bathrooms and dressing rooms, required to service the activity spaces. Possible opportunities would be to include retail and restaurant spaces as additional services provided for the users.

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The concept that will be informing the design is discussed and graphically explored.
Concept development

Phase 1: April
The concept entails using the existing activities at Berea Park. A hypothetical example would be the soccer being played at Berea Park that act as an informant. This activity in turn leads to certain needs and architectural interventions arising, for example shaded spectator seating and dressing rooms. Once these amenities have been put in place, they create the opportunity for other activities, for example a rugby field, to be implemented, and so forth. (Figure 151)

Phase 2: April
This phase is based on linking the site to its surroundings. Routes link access points onto the site and into buildings. Strips of activity are inserted into the existing fabric of the structure. Some of these strips are tucked into the existing structure, while others protrude over the remnants of the existing buildings. (Figure 152, Figure 153)

The activities inform the architecture. The development of Berea Park happens in phases as new opportunities and needs arise.
Phase 3: May
The routes start at the main entrance points. The field level mainly houses facilities for athletes. The routes run around the main activity areas, before continuing upon its original course. The strips of roof cover defines the various spaces located within the buildings. (Figure 154)

Phase 4: May
The route running at field level provides easy access to buildings and sports fields for athletes utilizing Berea Park facilities. The route has sufficient width and height to allow emergency vehicles to pass through the site and gain access to sports fields. The route at street level meanders around the eastern facades of the existing structures, while also linking across the site from east to west. This route is focused on providing easy access for spectators to seating areas and facilities. The new structure accentuates the interior spaces from the exterior. (Figure 155)
Concept parti

The parti of the old building shows the complexity of the grid and layout of the existing structures, as well as the disorganised nature of the programming of the old structures. To contrast the existing, the new intervention is organised into horizontal strips. These strips act as programmed zones. (Figure 156)

Concept

The parts of the existing structures that will be kept include the facades, especially the western facades that are currently the ones that are more intact. Interior walls that help to define the original u-shaped plans (where possible) will also be retained. Some of the vertical circulation zones that are in relatively good condition, will also be retained. (Figure 157, Figure 158)

The various east-west orientated zones, will be inserted into the existing fabric. (Figure 158, Figure 159) These zones include:

- activity zones made up of the major halls and sport courts;
- the spectator zones, that include seating and dining areas (restaurants and kiosks);
- service zones, in which most of the wet services, such as rest rooms and kitchens, will be located;
- lastly circulation zones that act as links will be placed throughout the buildings.

Routes running north-south will run across the site at both field and street levels. (Figure 157, Figure 158, Figure 159)

Figure 156: Concept parti of old grid versus new grid (Author 2013)

Figure 157: Concept of new organised into zones (Author 2013)

Figure 158: Concept of exploded axonometric of zones inserted into old (Author 2013)

Figure 159: Concept of axonometric of zones inserted into old (Author 2013)
Chapter 10: Design development

The early phases of the design development are explained. Both models and sketches were used in the design process.
The design development process was informed by the theoretical approach discussed in chapter 8 and the concept as discussed in chapter 9.

**Design theory (see Chapter 8)**

Berea Park is in need of regeneration. The theoretical approach discussed in chapter 8 prescribes to undertaking extensive research and analysis of the site’s current condition, tangible heritage and intangible heritage before making any design decisions. (Chapters 4 - 6) This research helps to form an understanding of the original building, its current condition as well as the activities and programmes associated with the site. This research also helps to identify the elements form the building that has suffered damage or loss. Based on this, the building can then be stripped back and restored to create the opportunity for new interventions to be implemented.

Concept (see chapter 9)

The concept that will be informing the design proposed to keep the existing fabric that defines the original u-shaped plans of the buildings. New zones, each dedicated to a specific function, will be inserted into the existing building. These zones are: activity zones (green), spectator zones (grey), service zones (blue) and circulation zones (orange).

**Design methodology**

The design has been developed by means of sketches and models throughout the duration of the year. Sketches include rough sketches (Figure 152), perspectives, sections and plans. Images were also generated by computer, using programmes such as Autodesk Revit 2013, and SketchUp as design tools. Part of the development involved altering the design based on inputs from criticisms, discussions with peers and lecturers.

Site generators

The structures at Berea Park were originally designed as exclusive sports and recreational clubhouses and facilities. A decorative Cape Dutch style with Art Deco elements were implemented. Decorative elements included the entrances framed by profiled masonry pilasters, profiled cornices and richly ornamental and decorative steel ceilings. It was a high end club designed for the workers of the South African Railways that lived in the vicinity. The programmes were based on upper-middle class sports and recreational activities, including a billiard room, bar, dance hall and library.

The context surrounding Berea Park has changed, especially since 1994. The site is no longer affiliated with the South African Railways.

The new programme proposed is inspired by past programmes. At the same time it tries to take the needs of its current surroundings, neighbourhood and community into account.

Various informants will help in the development of the design. The informants will include:

- The existing natural and built fabric remaining on the site
- The natural slope and typography of the site
- The context of Berea Park
- Allowing and facilitating access to the site
- The major programmatic spaces (sports fields and courts)
- The specific requirements of the activity spaces or sport courts
- Each activity that is implemented, leads to the need for certain service spaces to arise, for example a basketball court will lead to the need for a certain number of spectator and athlete amenities (showers, WCs etc.)

As part of the theoretical premise, the ability of architecture to foster a sense of belonging in its users will be explored. The theory of belonging also looks at utilising activities and memories linked to the site as design informants.
Phase 1: April
The design was developed from the idea to insert strips that stretch across the site into the existing fabric. (see chapter 9: concept phase 1) (Figure 163) The new strips are either placed inside the building shell, or extend beyond, pulling activity towards the centre of the site or the sports fields. (Figure 162) There are route strips that link the buildings and entrances at street- or ground floor level. These routes were identified as important linking elements. Walkways act as links between buildings on the site. This also creates interaction with the sports fields and entrances.

Phase 2: April
Taking into account the importance of the routes (see chapter 9: concept phases 2 and 3), route 'zones' and viewing points were mapped (Figure 164) Three types of route zones were identified, namely: zones focused on circulation (movement), zones dedicated to access, for example stairs and ramps (access), and zones that serve as vantage points (spectator). The route interacts with the existing fabric (Figure 165) as well as with the surrounding sports fields and facilities. The routes step between field and street level. The routes focus in areas around existing fabric, providing access to the existing built up zones.
Phase 3: May

A warm up, open air court is inserted into the northern building, while a formal sports court is created in the southern building (Figure 166, Figure 168). The majority of services and dressing rooms are located on the field level. Parallel routes run on street and field level along the eastern edge of the structures (Figure 168, Figure 166). The street level route serves as an access route for spectators and secondary users of the facility. This route meanders through the old structure, along sport related areas (Figure 166). On street level a wider access route for athletes connects entrances, buildings and fields (Figure 166). The route framing the fields was explored in Design model 1 (Figure 169, Figure 167, Figure 168). The detailing of the routes were based on detailing of the existing structures (Figure 170, Figure 172). Different roof covers, especially over the bowling hall was explored during this stage of design. The concern was to stay with the concept, while defining the space as a unity (Figure 167, Figure 171).
Figure 170: Design development: perspective of route at street level (Author May 2013)

Figure 171: Design development: section (Author May 2013)

Figure 172: Design development: perspective of route at street level (Author May 2013)
Phase 4: June

A more in-depth exploration of the potential of the existing structure was done (see chapter 4 p. 53, 61). Where possible existing structures were retained. (Figure 173, Figure 174, Figure 175) Mainly missing or damaged walls were removed in the design, with the exception of the northern building where the central, eastern area was gutted to fit the warm-up court.

The routes were simplified. On the field level, the route became a wider, straight walkway. (Figure 173) On street level, the route steps in and out of the northern building, creating a passage on the eastern edge, while it steps along the edge of the southern structure. (Figure 174, Figure 176, Figure 177, Figure 169) A major entrance is created between the two buildings, with a ramp on the east that acts as a focus point. (Figure 176)

Technical aspects started serving as design indicators. (see chapter 11 p. 184) These indicators include lighting for roof designs, natural slopes for routes and requirements, such as ambulance to reach injured athletes.

Criticism on this stage of the design included the over scaled, mono-pitch roof over the basketball hall. The extensive interventions in the more intact northern hall were also questioned, especially the intervention to the hall along the central western edge. The route, especially on street level, was criticized for its complexity, and lack of simple legibility. (Figure 177)
Phase 5: July

After the critique received in June it became clear that more attention had to be paid to interpreting and implementing the concept. The final concept as discussed in chapter 9 (see chapter 9, p. 134) entails inserting clearly programmed zones into the existing buildings of Berea Park. The design was still too cluttered and unfocused and approach to dealing with heritage had to be clarified.

To contrast the complexity of the interior layout of the structures, simply programmed zones would dictate the layout and programming of the new interventions (Figure 180). These zones run east-west, contrasting the north-south orientation of the existing structures. These zones were inserted into the existing structures; they either fit inside the building’s shell or protrude from it (Figure 180). These zones dictate the programme layout. (Figure 181) The zones’ edges are stepped, both on plan and in section according to each zone’s spatial and programmatic requirements. (Figure 180, Figure 183)
In dealing with the heritage, the aim was to retain the essence of some of the spaces. These include the hall located in the northern clubhouse, the main staircase on the eastern edge of the northern clubhouse and the passage along the western edge of the southern clubhouse. (Figure 184)

The retained heritage fabric captures the essence of the typical Cape Dutch original u-shaped plan of the two clubhouses. Each wing of the plan ends with gables. (Figure 184)

The interventions are lightweight steel portal frame boxes clad in steel standing seam sheets. The cladding wraps along the roof and ceiling as well as the internal and external walls, varied by glazing panels. Steel construction allows for minimal interior structures to separate adjacent zones. This in turn allows for undeterred visual links. (Figure 186)

Adjacent zones are placed small distances apart. Separation is achieved with physical gaps, represented in both the floor and ceiling treatment. (Figure 187)
Phase 6: August

The sizing and spatial qualities of each of the zones were further developed, as well as the materiality thereof (see chapter 11 p. 168) (Figure 188, Figure 189, Figure 190)

Certain spatial qualities and attributes were appointed to certain zones (see chapter 11 p. 171) (Figure 193)

- The activity zones have floor and roof designs and finishes according to the specific activity’s requirements. (Figure 192, Figure 191)
- The service zones, located in close proximity to the activity zones, are allocated to amenities such as dressing rooms and WCs, as well as kitchens. These zones are built from solid stereotomic materials, for easy installation of plumbing fixtures without additional structures. (Figure 189, Figure 190, Figure 192) Material and structures that are easy to waterproof and to clean are used in these amenities.

• The third type of zones is spectator orientated zones, with spectator seating, retail and restaurant spaces. (Figure 188, Figure 189, Figure 192)
• The fourth and last type of zone is allocated to circulation. It serves to link the numerous zones, as well as the exterior walkways. These zones also contain the reception and entrance areas. These zones have high ceilings to allow space for skylight, for penetration of natural lighting. (Figure 188 - Figure 193)
Part 6: August [continued]

The existing structure is cleaned up, retaining as much as possible of the identified important heritage spaces as discussed in phase 5. Damaged elements, including walls and roofs are removed, as well as unnecessary interior walls and fabric. (Figure 194, Figure 195, Figure 196) The new zones are then inserted into the existing structure, acting as supports for the remaining existing fabric. (Figure 199, Figure 198, Figure 197) The new interventions house the new programmes, while plugging into existing building elements, such as the hall space, staircases, etc.
Presenting design as part of development

Part of the development included the exploration of the representation of the design, to ensure that the drawings are legible and clear. (Figure 200, Figure 201, Figure 202) This becomes especially important on account of the many layers of drawings, for example the existing structures, demolished structures, new interventions and overhead structures. All of it must be clearly legible and discernible.

The final design, that resulted from the development in this chapter and the technical development chapter (chapter 11) is presented in part 4 (see chapters 12 and 13).
Technical drawings and investigations of the design are presented.
Structural system

A) Existing structure
The current dilapidated state of the existing buildings makes it unsafe to excessively rely on the existing walls and floors for structural support. (Figure 204, Figure 205, Figure 206) Current walls will lose further structural stability once damaged walls and floors, currently bracing the damaged structure are removed. (Figure 203: existing fabric, Figure 207)

The gaps
The existing structure and the new interventions are physically separated by gaps. The spaces between two adjoining portal frames or steel boxes, are also articulated as gaps. On the base plane, charred timber board is used in areas where access is required between two zones or between old and new. In other cases, physical gaps are left between floor finishes where possible. The overhead plane becomes a gutter for the two adjoining zones/steel boxes. In some cases light is used to further accentuate the separation between old and new.

B & C) Primary structure
The primary structure will consist of steel portal frames. The spaces that require larger spans, for example the activity spaces and spectator spaces, consist of portal frames made from 254 x 254 x 89 hot-rolled steel parallel flange H-profile beams. The narrower spaces, for example the circulation spaces are framed by 152 x 152 x 30 hot-rolled steel parallel flange H-profile beams. A saw tooth truss spans across the sport hall inserted into the southern building. The construction of the service spaces is done in 220 bag plastered masonry walls and concrete slab floors. Similar structures are used to frame the pavilions and walkways running across the site. (Figure 203: primary structural support, Figure 208, Figure 204, Figure 205, Figure 206)

D) Secondary structure
The secondary structure consists of purloins, for roof cladding and girts for wall cladding. Where the portal frames are spaced at 6m centres, the secondary structures are made up of 75 x 50 x 20 x 2.0 cold formed steel lipped channel purloins and girts. I-beams and channels support metal decks installed for composite deck floor structures. (Figure 203: secondary support)

E) Skins
The structures are clad in "Brownbuilt" standing seam profiled steel sheets. The standing seam cladding is used to cover the roofs, ceilings and walls, creating homogeneous steel boxes. Glazing is used for certain wall panels, focused around circulation spaces. (Figure 203: skins, Figure 208)
Material approach
To set off the new interventions against the existing fabric of Berea Park, a contrast in materiality is used. Looking at Gottfried Semper’s theoretical premise proposed in *Die vier Elemente der Baukunst* (1851) (Four Elements of Architecture), a play between stereotomic and tectonic is explored (Frampton 1995). Stereotomic is defined as mass and volume created by “repetitiously piling up heavy weight elements.” Where tectonic, according to Semper, is embodied in the “frame” of the building. The frame becomes a “light weight enclosing membrane” made up of linear lightweight components. (Frampton 1995) The poetics of this interplay becomes evident in the material resolution and detailing of structures and joints.

The existing aesthetic of Berea Park embodies a strong reference to Cape Dutch revival. Cape Dutch is known for its stereotomic thick masonry wall and heavy stone plinths. (Figure 203: existing fabric) The walls and plinths by and large constitute the residual elements at Berea Park. To contrast this, light weight, tectonic steel boxes will be inserted into the heritage fabric. (Figure 203: Primary structural support, skins, Figure 209)
Roof
The old corrugated steel iron roof sheets had been covered by Harvey tiles. The proposal is to reinstall corrugated roof sheets where the existing roof is kept.

Walls type A
Originally the masonry walls were plastered and painted white above a certain height. The lower section was left as untreated red face bricks. These face bricks have also been painted white over the years.

Walls type B
The walls of the southern building on ground level were built from stone. It resembles a stone plinth. Most of the stone has suffered some corrosion. This can contribute to the rustic, worn feel of the structure. These walls must be celebrated where possible.

Floor type A
The foyer is covered in black and cream acoustical tiles. Most of them are still intact. This area’s floor finish can therefore be retained.

Floor type B
The floors in the central eastern area of the northern building are relatively intact. The concrete floor slabs have green terrazzo screed finishes with green and white inlaid tiles. The tiles have worn down quite a lot resulting in loss of colour.

Roof, ceiling, walls
Existing roof corrugated steel iron roof sheets were used on the existing structures. “Brownbuilt” cold rolled standing seam sheets are proposed as cladding. These sheets reference the existing sheets, while also contrasting the profile of the old sheets. These sheets are treated with “Chromodeck” coating. “Chromodeck” comes in various colours, creating the opportunity for varied colour finishes.

Structure
Steel H-profiled and lipped channels make up the primary and secondary structure. Portal frames from either 254 x 254 x 89 or 152 x 152 x 20 hot-rolled steel parallel flange H-profile beams form the skeleton and 50 x 65 x 20 x 2.0 or 75 x 50 x 20 x 2.0 cold formed steel lipped channel purlins and girt form connectors for the cladding. The structure and its grid will be clearly pronounced at the circulation and activity spaces. In the case of spectator spaces, these structures will be less pronounced, creating a more formal clean finish to these spaces.

Floor type A
Charred timber floor boards are used in the spaces between two zones/boxes. The charred timber references the fact that the buildings had suffered extensive damage, including fire damage.

Floor type B
Exterior walkways are covered in environmentally friendly composite decks “4EverDecks”. Composite decks require minimal maintenance, and have the ability to withstand the elements. One of the major causes of Berea Park’s current dilapidated state is a lack of maintenance.

Floor type C
Service spaces and bathrooms will be finished with treated masonry floor tiles. This ensures that service spaces become semi-homogenous masonry boxes, reflecting the treatment of the steel boxes.

Floor type D
Self-levelling epoxy floor screed will be used on the composite decks in circulation and spectator areas. It is an easy maintenance finish that can carry a lot of traffic.
service space: WCs and dressing rooms

activity: multi-sports hall

circulation: passage

existing outer walls

spectator: seating and kiosks

circulation: passage

circulation: reception

circulation: main entrance

existing: hall and western facade

activity: existing floor with lightweight steel frame

service: stage

circulation

Figure 209: Zone axonometric with material palettes (Author 2013)
**Fire protection**

The fire protection of Berea Park is based on the SABS requirements for type A1 (Entertainment and public assembly building), type A2 (Theatrical and indoor sport building) and type A5 (Outdoor sport building) (SANS 10400-T 2011 table 6).

According to the SANS 10400-T (2011) 2.31.3 this type of building, requires a “manually activated visual and audible alarm system that is designed, installed and maintained by competent persons in accordance with SANS 10139”.

The building has more than two storeys, and should therefore be equipped with hose reels. (Figure 210) A hose reel is required on every storey, for every 500m² of floor. These fire hydrants must comply with SABS 1128.

The fire hose requirements of the buildings on Berea Park are as follows:

<table>
<thead>
<tr>
<th>Building</th>
<th>Field</th>
<th>Street</th>
<th>First</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern clubhouse</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Southern clubhouse</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Bowling clubhouse</td>
<td>1</td>
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</tr>
</tbody>
</table>

A portable fire extinguisher is required for every 200m² of building area.

<table>
<thead>
<tr>
<th>Building</th>
<th>Field</th>
<th>Street</th>
<th>First</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern clubhouse</td>
<td>3</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Southern clubhouse</td>
<td>2</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Bowling clubhouse</td>
<td>3</td>
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</tbody>
</table>

There is the possibility of installing an automatic sprinkler system, even though this is not required for this type and size of building.

The steel structures will be treated with intumescent paint for fire protection. (Figure 211, Figure 212) Either zinc phosphate paint that complies with SABS 1319, or red lead paint that complies with SABS 312 will be used to treat the steel elements that form part of the new interventions. For fire protection, the steel has to be primed with two layers of either red lead paint or zinc phosphate paint, before a layer of alkyd based paint can be applied to the steel as finish (SANS 10400-T 2011).

**Acoustical treatment**

Acoustical treatment is required in the multi-sport hall and the main hall in the northern building. In both these cases, the proposal is to install suspended ceiling panels (ceiling baffles).

The multi-sport hall consists of a steel framed box that is wrapped in steel brown built panels that cover the ceiling, roof and walls. By installing these suspended ceiling panels in the multi-sport hall, the aesthetics of the steel box is retained. In the case of the main hall, these panels make it possible to retain the existing pressed steel ceiling while improving the acoustics of this space.

The baffles have a sound absorbing glass fibre core and fabric finish. The proposal is to install baffles with a white finish to enhance its light reflective ability. (Figure 215)

The ceiling baffles are installed by hanging them from ceiling cables that span between the roof trusses (Figure 216) (Acoustical world 2009).
Water catchment

The large expanses of sports fields require year-round irrigation. (Table 8) As much as possible rain water will be captured from hard and soft surfaces on the site (Figure 217, Table 9, Figure 218). Hereafter follows calculations of catchment areas, (Figure 217) the amount of water that can be captured (Table 11), and how much thereof can be utilised for irrigation (Table 12, Table 13, Table 14, Table 15).

Gutter and downpipe sizing

Roof areas and direction of fall are determined to inform gutter and downpipe sizing (Figure 5, Graph 1, Table 3, Table 4).

- Roof area (Figure 217 a-ee)
- Direction of fall (Figure 217 arrows)
- Gutters (Table 3, Figure 217: Purple, blue and green coloured lines)
- Downpipes (Table 4, Figure 217: Coloured dots numbers 1-27 indicate location)
### Gutter sizes

<table>
<thead>
<tr>
<th>Roof area (m²)</th>
<th>Roof size + 43% for heavy rainfall (cm²)</th>
<th>Gutter size according to graph (cm²)</th>
<th>Gutter sizes doubled for internal gutters (cm²)</th>
<th>Gutter size rounded (cm²)</th>
<th>Roof area shared for shared gutters (cm²)</th>
<th>Shared gutters (cm²)</th>
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<td>72</td>
<td>170</td>
<td>n o 162 / 195</td>
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<td>90</td>
<td>145</td>
<td>o p 200 / 225</td>
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<td>145</td>
<td>145</td>
<td>q r v 415 / 450</td>
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<td>y r 164 / 195</td>
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Table 3: Gutter sizing (Author 2013)

Some of the roof areas share gutters, in which cases sufficiently sized gutters are required. The majority of gutters are not located along the perimeter of the building (Figure 5). It is therefore important to ensure that the gutters are large enough to handle large quantities of water during peak rain periods. (Table 1) This was also the approach when designing and sizing the downpipes. (Table 2) The roof areas alone do not really make a substantial contribution to the amount of irrigation required. Therefore runoff from other areas, such as pavements (Table 6) and fields (Table 7, Figure 218) are also captured.

### Downpipe sizes

<table>
<thead>
<tr>
<th>Roof area feeding down pipe</th>
<th>Total roof area (cm²)</th>
<th>Roof size with added 43% for heavy rainfall (cm²)</th>
<th>Down-pipe size according to graph (cm²)</th>
<th>Rounded down-pipe sizing</th>
<th>Sizes (designed for symmetry)</th>
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Table 4: Downpipe sizing (Author 2013)

### Designed gutter sizes

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<th>nominal size area (cm²)</th>
<th>50x150</th>
<th>50x250</th>
<th>100x50</th>
<th>100x75</th>
<th>100x50</th>
<th>100x200</th>
<th>500x250</th>
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<tbody>
<tr>
<td>Cross sectional area (cm²)</td>
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<td>255</td>
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<td>78</td>
<td>180.3</td>
<td>22.3</td>
<td>269.3</td>
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Table 5: Designed gutter sizes (Author 2013)
Calculating pavement areas

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<th>Area on diagram</th>
<th>Calculating combined areas</th>
<th>Total</th>
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<tr>
<td>A</td>
<td>(3 x 5.3) + (7.7 x 18) + (3 x 44)</td>
<td>420 m²</td>
</tr>
<tr>
<td>B</td>
<td>(2 x 18) + (3.7 x 15)</td>
<td>238 m²</td>
</tr>
<tr>
<td>C</td>
<td>15 x 28</td>
<td>420 m²</td>
</tr>
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</table>

North-west pavement area total = 1200 m²

North-eastern pavement area total = 1088 m²

Southern pavement area total = 1438.5 m²

Calculating field areas

Table 6: Pavement areas (Author 2013)

Calculating irrigation demand for sports fields

<table>
<thead>
<tr>
<th>Irr. Depth/month (m)</th>
<th>Irr. demand for rugby field (m³)</th>
<th>Irr. demand for soccer field (m³)</th>
<th>Irr. demand for bowling green (m³)</th>
<th>Irr. demand for add areas (m³)</th>
<th>Total Irr. demand (m³)</th>
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<td>1440</td>
<td>1040</td>
<td>256</td>
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</table>

Table 7: Field areas (Author 2013)

Calculating total areas feeding tanks

Table 9: Area feeding into tanks (Author 2013)

Potential grey-water yield

Table 10: Potential grey-water yield (Author 2013)

The potential amount of grey-water that can be captured from the showers and faucets was also calculated (Table 10). According to the calculations, the total amount of grey-water contributes less than 5% of the required irrigation. (Table 10) Taking into consideration the cost and effort involved in getting grey-water to a usable state, the limited amount that can be captured, does not make it a viable option.
**Calculating total yield**

<table>
<thead>
<tr>
<th>MONTH</th>
<th>TANK A (NORTH - WEST)</th>
<th>TANK B (NORTH - EAST)</th>
<th>TANK C (SOUTH)</th>
<th>TANK D (FIELDS)</th>
<th>Total monthly yield (m³)</th>
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<td>AVG. MONTHLY PRECIPITATION</td>
<td>Yield (m³) x P x A x C</td>
<td>Yield (m³) x P x A x C</td>
<td>Yield (m³) x P x A x C</td>
<td>Yield (m³) x P x A x C</td>
<td>Yield (m³) x P x A x C</td>
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**Water budget**

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<th>Tank A (Nort-west)</th>
<th>Monthly Avg</th>
<th>Soccer In Need</th>
<th>Water out of tank (%)</th>
<th>Left</th>
<th>Remain (m³)</th>
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<th>Bowling in need</th>
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<th>Left</th>
<th>Remain (m³)</th>
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10% of the water needed for irrigating the soccer field can be collected in tank A.

The minimum size of the tank is 257 m³ (March).

To accommodate the greater rain events, the minimum tank size is multiplied by a safety factor of between 2 and 4.

The tank size will therefore be 514 m³.

**Table 12: Water budget tank A (Author 2013)**

**Table 13: Water budget tank B (Author 2013)**

62% of the water needed to irrigate the bowling green can be collected in tank B.

The minimum size of the tank is 303 m³ (March).

To accommodate the greater rain events, the minimum tank size is multiplied by a safety factor of between 2 and 4.

The tank size will therefore be 605 m³.
To accommodate the greater rain events, the minimum tank size is multiplied by a safety factor of between 2 and 4.

The tank size will therefore be: 894 m³

11% of the water needed for irrigating the rugby field can be collected in tank C

155.6/1440 = 10.80%

Water budget: tank C (Author 2013)

The total yield captured from roof areas, pavements and fields was calculated. According to these calculations, 79% of the required water for irrigation of the soccer field can be captured (Table 10, Table 13). 62% of the water needed to irrigate the bowling fields can be captured (Table 13), and 11% of the water needed to irrigate the rugby fields can be captured (Table 14). It is therefore clear that additional water from the grid will have to be used to meet irrigation demands.

Location of gutters and downpipes and storage tanks

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Solar ingress and glare

The skylights face south to try and ensure constant lighting conditions. The profile of roof A (Figure 223) allows some direct solar ingress during summer, spring and fall (Figure 223, Figure 224, Figure 225). This results in glare and streaks of sun falling on the court leading to uneven lighting conditions. Roof profile B (Figure 229) is therefore a better option, with even lighting conditions throughout the year (Figure 218).

Illuminance

Site location: Pretoria, South Africa
Latitude: 25° 7' South
Design sky illuminance: Approximately 10500 lux
Required lux levels in sports hall: min 300 lux
Daylight factor = 30 - 50% (Figure 231)

\[
\text{Internal illuminance} = \left( \text{Daylight factor} \times \text{External illuminance} \right) \times 100%
\]

Internal illuminance = (30% x 10500) / 100% = 3150 lux
Internal illuminance = (50% x 10500) / 100% = 5350 lux
Internal illuminance = 3150 lux to 5350 lux

There will therefore be sufficient daylight to illuminate the spaces without the use of additional electrical lights during the day.
Solar panels will be installed on the saw-tooth roof (Figure 232, Figure 234). The roof has an ideal roof profile with an angle of 25° from the horizon, facing north (Figure 232). These are ideal average conditions for solar panels in South Africa. Battery packs, inverters etc. are located in the ceiling bulkheads along the eastern and western edges of the multi-sports hall (Figure 234). Exterior lighting will be done by flood lights with incorporated solar panels and battery packs, designed by Philips. (Figure 233) These flood lights are already being widely implemented at rural sports fields in the Cape region (Alfreds 2013).

Solar panels
The zones dedicated to solar panels (Figure 232, Figure 235) can house up to one hundred and eighty 200W panels. These panels can produce up to 36000W of power a day.

If 20% of this is detracted for inefficiencies, a total of 28800W will be produced.

28800W x 5.6Hrs = 161280W.H

An average of 161280W.H will be available for daily consumption at Berea Park.

Batteries
200W panels produce 7.5Amps, therefore

180 x 7.5A = 1350A x 5.6 Hrs = 7560Ah

130Ah batteries should not be discharged to less than 50%, therefore

130Ah/50% = 65Ah

7560Ah/65A = 116 batteries

Hundred and sixteen 105A batteries are required (Figure 234, Figure 236).
Detail development
Exploration and development of details were done through rough journal sketches.
(Figure 237, Figure 238)
Detail development

Exploration and development of details were done through rough Revit sketches (Figure 239 - Figure 242)

Figure 239: Revit sketches: detail development of suspended portal frames (Author 2013)

Figure 240: Revit sketches: detail that shows charred timber separation between old masonry and new masonry walls at bathrooms (Author 2013)

Figure 241: Revit sketches: detail that shows the structural support between old and new (Author 2013)

Figure 242: Revit sketches: detail that shows concrete roof and glazed roof interacting with the existing structure as well as the coping for the existing structure (Author 2013)
Technical development: October

In the final technical critique session, some issues with the design resolution were raised. These issues are discussed in "October: one in twenty section" on page 193, "October: detail 1" on page 194, "October: detail 2" on page 195, "October: detail 3" on page 196 and "October: plan development" on page 197.

October: one in twenty section
(Figure 243)

In the one in twenty section it became apparent that further attention had to be paid to harnessing the potential of the gap between old and new (b), as discussed in "The gaps" on page 164. The roof over the existing passage and the junction between the passage and the hall was weak in its resolution; basically mirroring the profile of the old roof that was lost in the fire (a). The detailing of the gap between the floor of the hall and the floor of the passage needed to be simplified (c). (Figure 274)
October: detail 1  
(Figure 244)  
A more subtle resolution of the supports that extend from the new structure to hold up the old walls was required (d). (see Figure 213) The balustrade, that primarily serves as a safety precaution, needed a more delicate approach (e), while the detailing of the gap between the old and new needed to be simplified (f) as discussed in "October one in twenty section" on page 195.

October: detail 2  
(Figure 245)  
Some mistakes were noted in the annotations, while other apparent mistakes in the detail resolution were also identified. The roof corner detail would result in leakages, which led to the exploration of utilising bent sheets with rib caps corners (g). The complexity of the shape of the gutter was bought into question (i), as well as the windowsill resolution (h). It also became apparent that certain basic mistakes were made, including the depiction of cleats in section and using parallel flange channels for purloins and girts instead of lipped steel channels (i). (see Figure 248)
October: detail 3
(Figure 246)
A more subtle resolution of the stepped portal frame was required (l) (see Figure 285). While some attention had to be paid to the gutter (m), purloin and girt detail (k) as discussed in “October: detail 2” on page 197.

October: plan development
(Figure 247)
The possibility to extend the structure of some of the zones beyond the edge of the cladding and interior spaces could be further explored (n) (see Figure 266), as well as the possibility of playing around with the profile orientation of the brown built sheets.
The first part of the chapter consists of the visual summary and presentation of the information composed in chapters 1 to 11. The plan, section, elevation, detail drawings and models that follow are the result of the design development and technical development in chapters 10 and 11.
Figure 256: Presentation page 9: concept (Author November 2013)
(See chapter 9)

Figure 257: Presentation page 10: zones (Author November 2013)
(See chapter 9)

Figure 258: Presentation page 11: design development (Author November 2013)
(See chapter 10)

Figure 259: Presentation page 12: technical development (Author November 2013)
(See chapter 11)
Concrete roof and glazed roof interacting with existing structure

Figure 274: Presentation page 25: Section AA - east-west section through multi-sport hall (Author November 2013)

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Concrete roof and glazed roof interacting with existing structure.
SECTION B: NORTH-SOUTH SECTION THROUGH CLUBHOUSES | SCALE 1:100
SECTION C: NORTH- SOUTHERN SECTION THROUGH BOWLING CLUBHOUSE
Figure 286: Model 1: suspended and exploded model - western elevation (Author: November 2013)
Figure 287: Model 1: suspended and exploded model - southern building - eastern elevation (Author November 2013)

Figure 288: Model 1: suspended and exploded model - western elevation - new skins (Author November 2013)

Figure 289: Model 1: suspended and exploded model - western elevation - new structure (Author November 2013)

Figure 290: Model 1: suspended and exploded model - western elevation - new floors (Author November 2013)

Figure 291: Model 1: suspended and exploded model - western elevation - existing structure (Author November 2013)
Figure 293: Model 2: detail model: central bay of western facade (Author November 2013)

Figure 294: Model 2: detail model: old passage, separation between old and new, new multi-sports hall (Author November 2013)
Figure 295: Model 2: detail model sectional view of multi-sports hall. Author: November 2013.

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Figure 296: Model 2: new doors inserted into existing arches - wester facade (Author November 2013)

Figure 297: Model 2: floor details: new multi-sports hall, connecting charred timber walkway, separation articulated with recessed concrete tiles and existing western passage floors (Author November 2013)

Figure 298: Model 2: structural support detail, new structure supporting existing masonry walls (Author November 2013)

Figure 299: Model 2: suspended portal frame details: portals between activity zone and spectator zone (Author November 2013)

Figure 300: Model 2: sawtooth truss, box gutter and skylight detail (Author November 2013)
Summary of the findings and conclusion of the thesis.
This thesis set out to propose an intervention for Berea Park that could lead to the regeneration of both the site and the neighbourhood. The aim was to look at the theory of Belonging to inform design decisions and most importantly to formulate an appropriate approach to dealing with the rich heritage inherent in the existing fabric of Berea Park.

The thesis aimed to instil a sense of belonging by creating small scale interventions. The designed spatial and programmatic layout was based on activities and rituals, as well as on the needs and opportunities generated by those activities. These activities and rituals included activities currently associated with the site, as well as the new programmes or activities proposed as part of the regeneration of Berea Park.

Part of the regeneration involved introducing passive systems whereby natural lighting and ventilation were utilised. To limit the amount of municipal water used for irrigation, rain water was captured. These systems, accompanied by the material choices aimed to prevent further degeneration of Berea Park and from it returning to the current state of neglect and dilapidation.

It was important to set clear guidelines when dealing with such a rich and important heritage context. The approach in this case was to remove any damaged material, especially if the absence of these elements would not detract from the heritage value of the site. Where possible retaining the original u-plan outline of the clubhouses, as well as some important elements (the remaining gables, intact staircases and the hall) was deemed essential. The new lightweight steel boxes contrast in a positive manner with the heavy masonry, concrete and stone construction of the existing structures. Gaps separate the new from the old structures. Simple supports extend from the new structure to support the damaged walls of the existing buildings.

In accordance with the heritage approach large sections of the damaged elements of the buildings were removed to make way for the new interventions and programming. Yet through retaining as much as possible of the relevant architectural elements, the character and memories of the old structures still resonate throughout Berea Park. Existing and new are clearly distinguishable through the contrast of heavy and light structure and materials. The scale of the new and the old works in harmony, neither overpowering the other.

Implementation of additional regenerative and sustainable systems could further minimise the ecological footprint of Berea Park. Attempts have been made to instil a sense of belonging at Berea Park, yet the architect's influence only extends so far. A sense of belonging can only be fostered through sustained user interaction and proper maintenance and management of the site.
References


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