

*fig 98. Conceptual drawing.*

DESIGN DEVELOPMENT

04

# INTRODUCTION\_\_

THE DESIGN DEVELOPMENT CHAPTER IN A NONLINEAR PROCESS IN WHICH THE AUTHOR ATTEMPTS TO FIND THE APPROPRIATE AND CONTEXTUAL ARCHITECTURAL RESPONSE FOR THE NEW SPORT FOR DEVELOPMENT COMMUNITY CENTRE IN OLIEVENHOUTBOSCH. THIS CHAPTER ILLUSTRATES THE PROCESS OF DISCOVERING CONSTRAINTS AND EXPLORING OPPORTUNITIES WITH REGARD TO ARCHITECTURAL FORM AND SPACE AND REFINES THE PRODUCT TO MEDIATE BETWEEN ALL THE DESIGN INFORMANTS. THESE INFORMANTS ARE REFERRED TO AS **HYPERTERMS**<sup>1</sup> AND ARE DISCUSSED LATER IN THIS CHAPTER.

<sup>1</sup>A hyperterm is described as an encompassing idea or umbrella concept.

# THE PARTI\_\_

The Parti diagrams illustrate the tectonic relationship of the building, the promenade and the sport fields. It further illustrates the relationship to views and the basic spacial understanding in every scenario.

Note that the promenade that links the taxi rank with the new pedestrian bridge is a constant throughout all the phases of development.

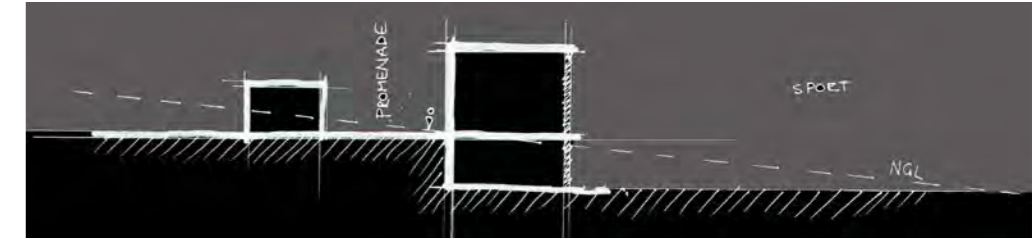


fig 99. Design developement sectional parti 1.

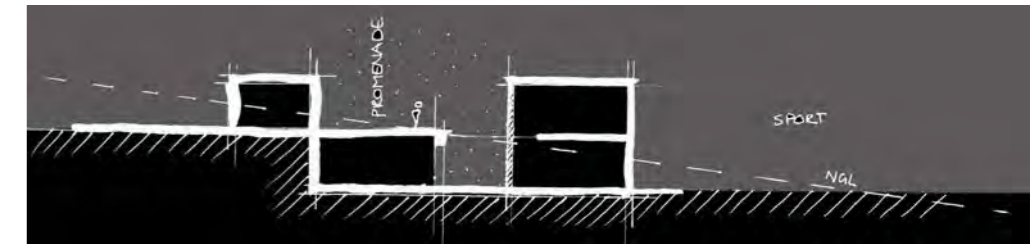


fig 100. Design developement sectional parti 2.



fig 101. Design developement sectional parti 3.

# THE CONCEPT MODEL\_\_

MARCH 2012- JUNE 2012

**The base:** The base of the model is a found piece of timber from site. A witness to the history of Olievenhoutbosch.

**Architecture:** creating space of substance and meaning.

**Sport :** a language that transcends cultural barriers and bring the lives of people closer together.

The brazing rods under tension represent the tension amongst different cultural groups.

The cables represent the lives of people and the fourth dimension - time.

Cultural and physical barriers

The establishment of structure as a continuing process.

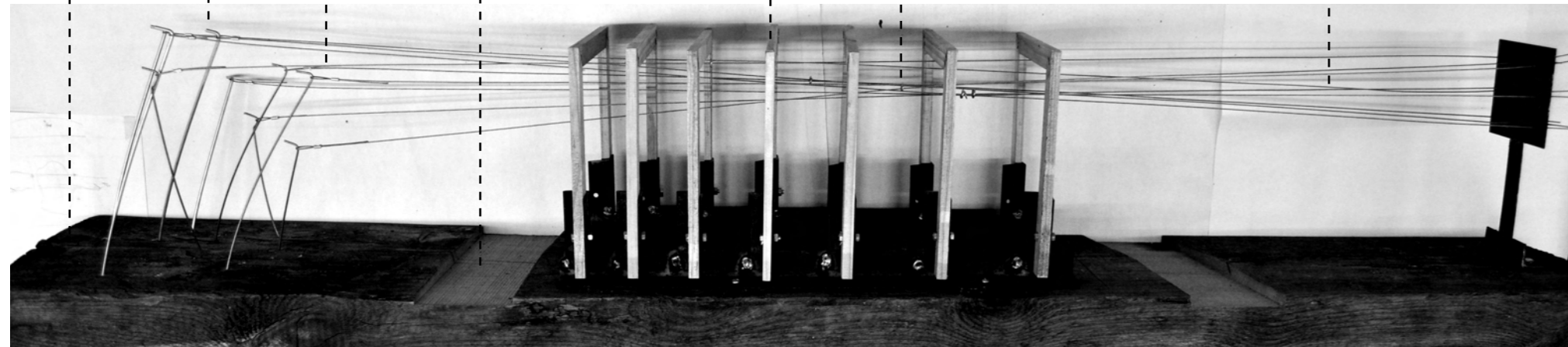


fig. 102 a. Concept model.

The concept model personifies the real world problem of division and the amalgamation of the potential within architecture and sport. The cables that protrude through the steel plate, as indicated in *fig 102a*, is indicative of a continuing process, a process where chaos is transformed into structure on a daily basis.

Physically, the model illustrates the linear nature of the proposed intervention and represents a material quality that is indigenous to local understanding.

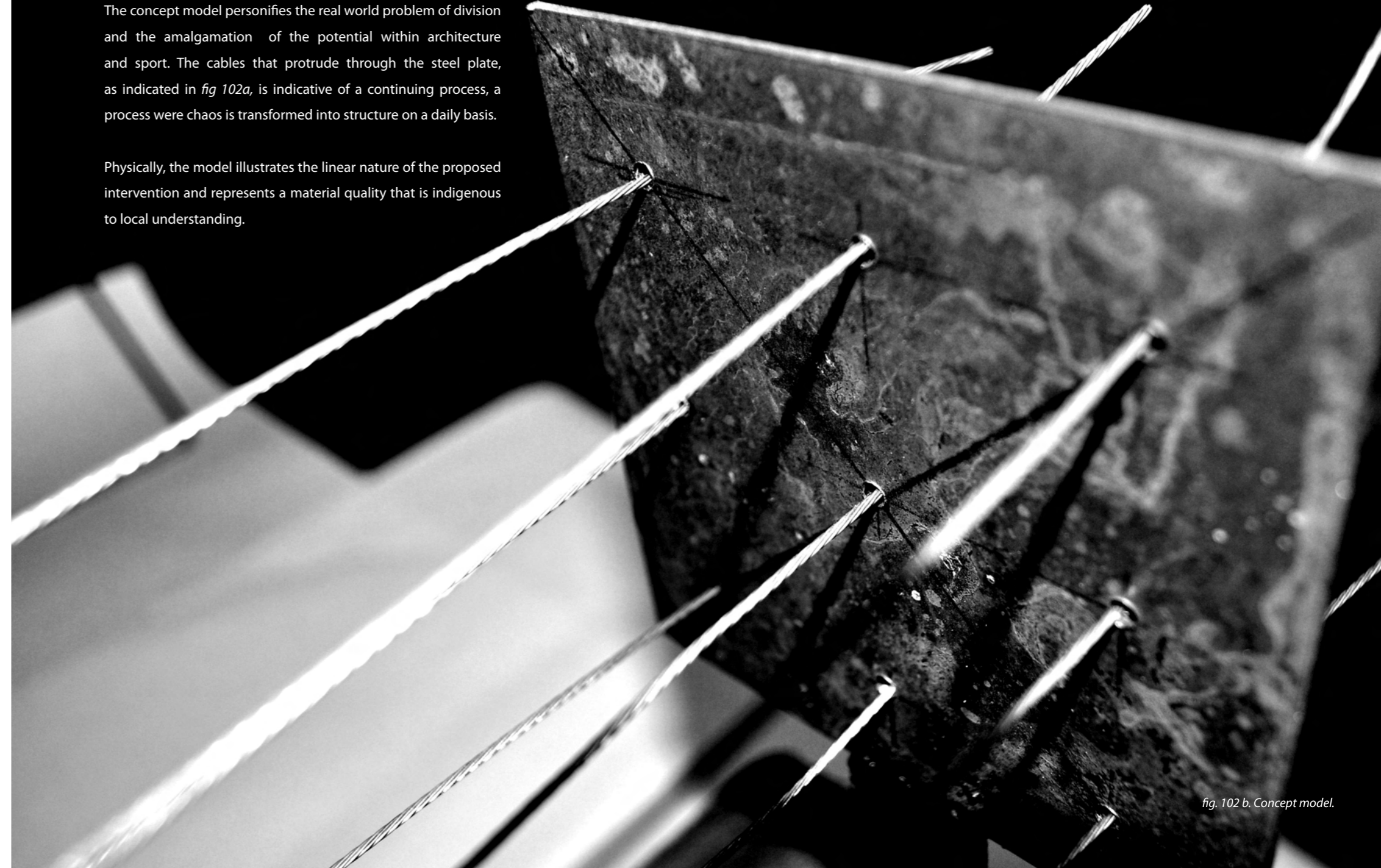


fig. 102 b. Concept model.



MARCH 2012- JUNE 2012\_

FIRST CONCEPTUAL DRAWINGS

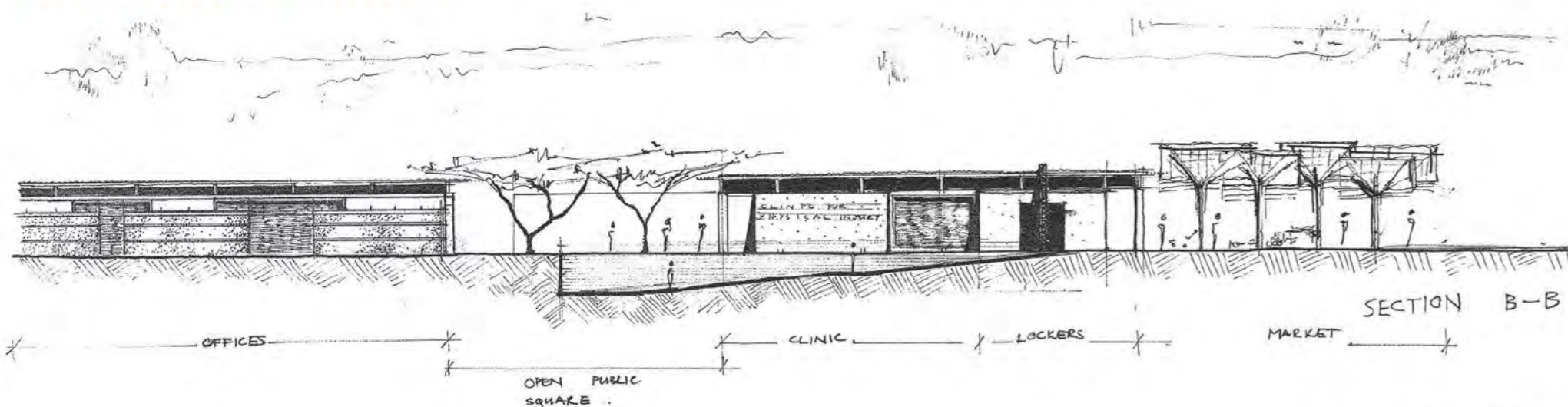


fig 103. Conceptual section BB.



SECTION A-A

15/5/2012

fig 104. Conceptual section AA.

VERNACULAR : BEAUTY IN IMPERFECTION

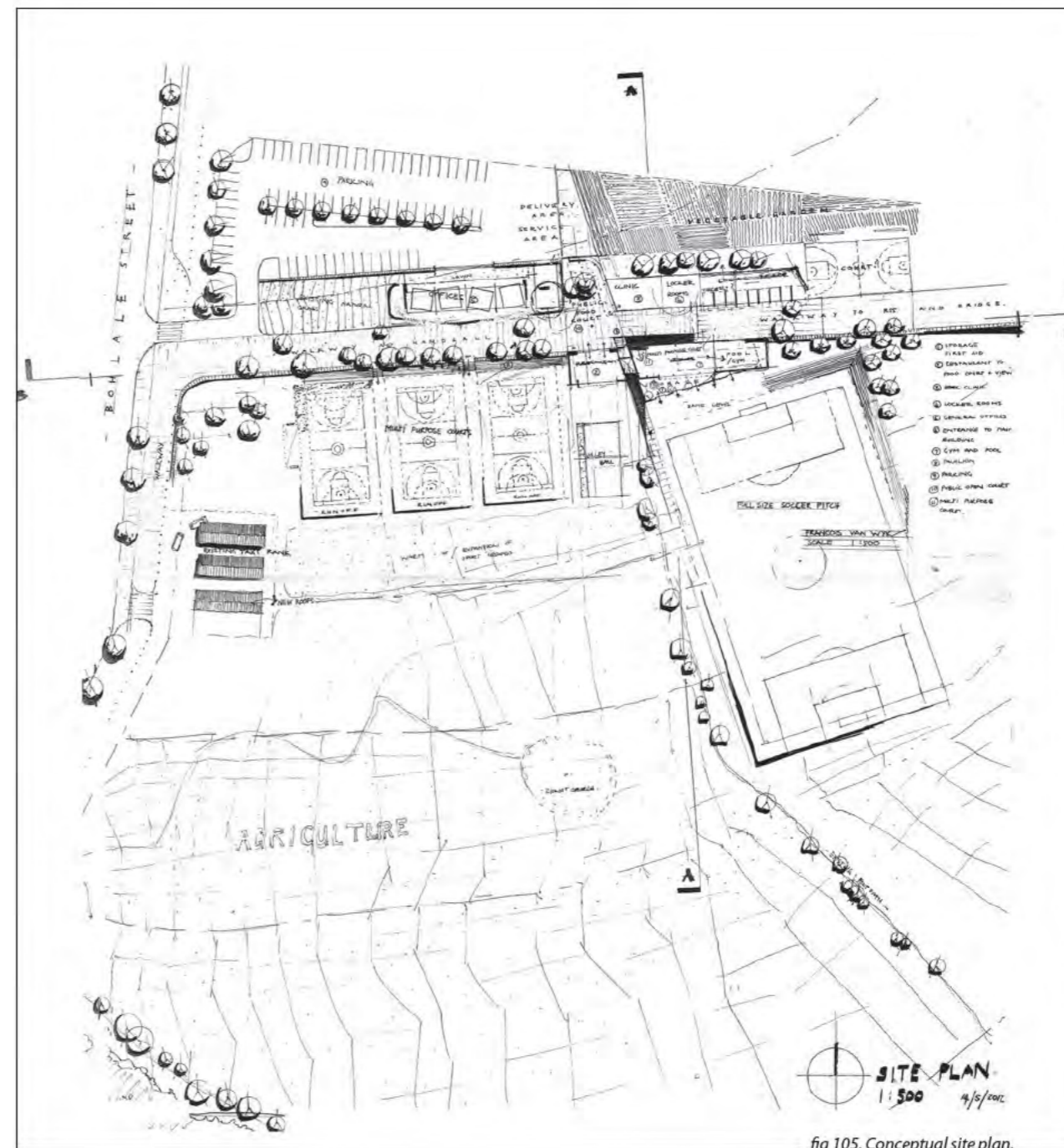


fig 105. Conceptual site plan.

First Conceptual Drawings

The first conceptual drawings came into being as a representation of the authors intuitive response toward a critically regional and vernacular architecture within the immediate context.

Doreen Greig<sup>1</sup> (1971:17) identified three distinct vernacular periods in the development of architecture in South Africa.

The first was the Dutch influence, later referred to as a Cape Dutch vernacular. Greig (1971:18) suggests that it synergised European, colonial and Eastern traditions with the local context.

The second vernacular extended the first through a Georgian influence brought to the country by the 1820 settlers where imported classical features from pattern books were adapted by craftsman through the use of local materials.

The third period is unconnected because the vernacular occurred in Natal where a red brick influence adapted the British Victorian style.

The author is of the opinion that the shack fits the criteria to be acknowledged as another form of vernacular architecture. The shack is built with local labour and knowledge, locally available materials and as immediate response toward climatic and socioeconomic circumstance.

Finally, within the rusted sheet metal and cardboard windows lies a underlying beauty in the imperfection which is explored further as the design development process continues.

<sup>1</sup> Doreen. E. Greig was the first woman president-in-chief of the Institute of Architects. She is best known for her writings: *Herbert Baker in South Africa* and *A Guide to Architecture in South Africa*



JUNE 2012- JULY 2012\_

STREET ARCHITECTURE

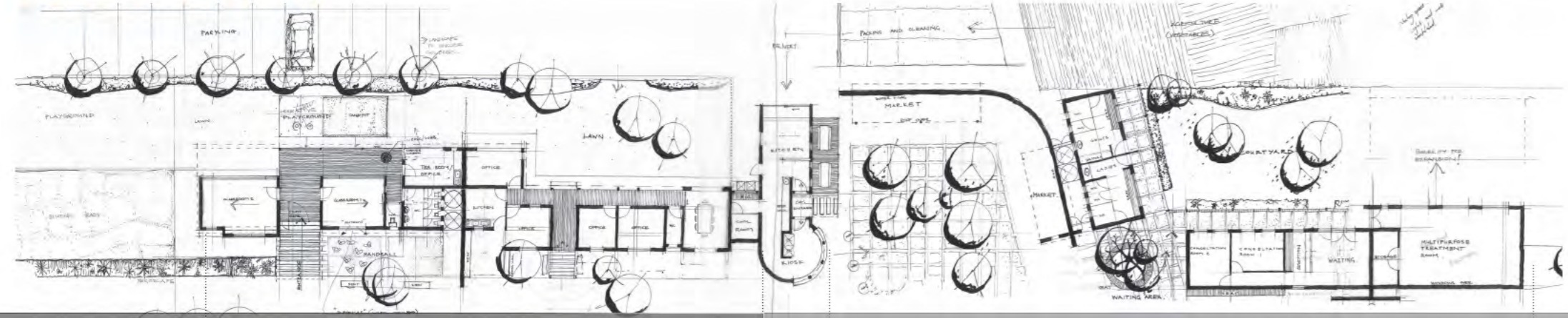


fig106. Conceptual model of promenade to bridge.

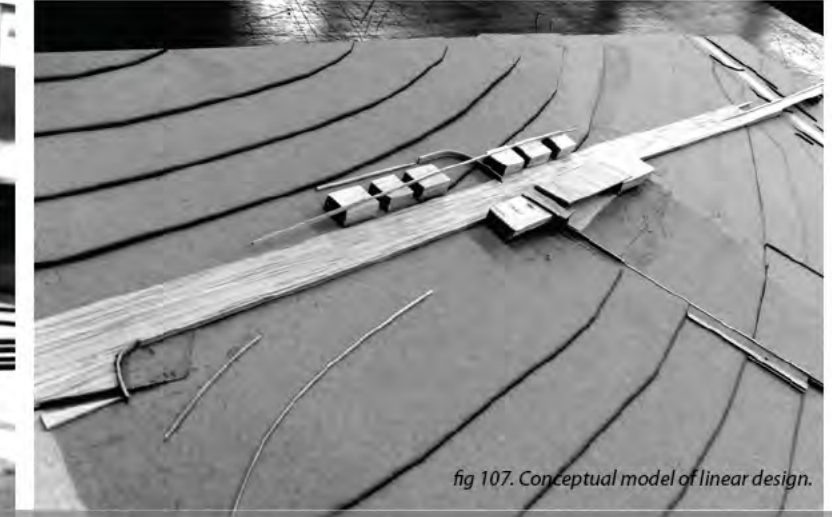


fig 107. Conceptual model of linear design.

<<<Promenade to Taxi Rank

Promenade to Bridge>>>

The Promenade

The promenade was the first design strategy used to give the project a larger range and impact on urban scale. The promenade is the conglomeration of existing routes that run through the site between the old and new parts of the community of Olievenhoutbosch over the notorious R55 road. The promenade extends into a new pedestrian bridge that will prevent the regular occurrence of school children being knocked down by high speed and high velocity traffic when they attempt to cross the R55.

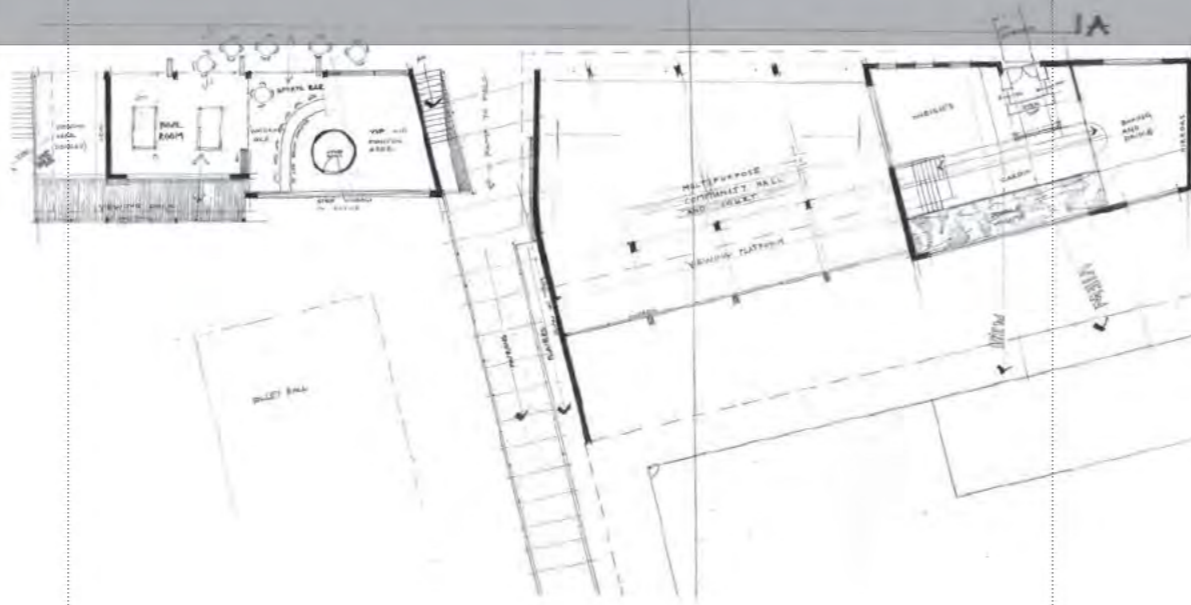


fig 108. Ground Floor Plan.



fig 109. Basement plan.

"IT IS REALLY A FOOLISH FAD, THIS CRAZE FOR ISOLATING BUILDINGS. . . ." (CAMILLO SITTE, CITY PLANNING ACCORDING TO ARTISTIC PRINCIPLES, NEW YORK: RANDOM HOUSE, 1965, P. 2 5 - 3 1 .)

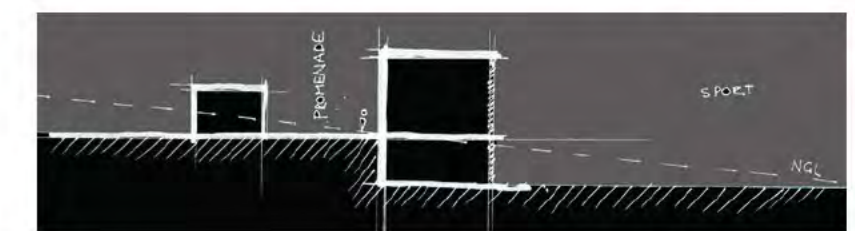


fig 110. Sectional part.



JUNE 2012- JULY 2012\_

STREET ARCHITECTURE

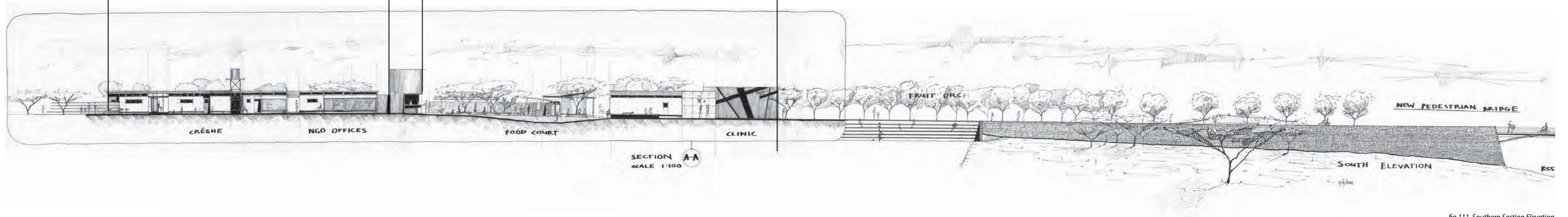


fig 111. Southern Section Elevation.

## Comments

The critique on this project was primarily aimed around the preconceived idea with regard to township architecture and the fact that spaces created was of residential scale and not of civic scale. This led to the exploration of a new approach where a civic scale was to be achieved while simultaneously integrating the building in the landscape.

## The Street Architecture

The street architecture design came about as a response toward scale, the proposed new promenade that extends toward the new pedestrian bridge, as well as the idea that a community centre should be a series of multifunctional spaces that interact with one another and thus gives the promenade a more vibrant nature. In this way, the entrances of the building creates nodes which

enforces a zigzag pattern of movement through the promenade, rather than the expected linear movement.

## The Linear Community

In western cultures, the general understanding of social interactive space usually correlates to a destination. In other words, people of certain social abstractions meet at a certain destination to converge in conversation and social interaction. This gives rise to concepts such as 'coffee cultures', street cafe's and boutiques that thrive in settings inhabited by western cultures.

Historically the African view of social interactive space was also connected to the concept of destination. People would travel long distances to meet under Acacia trees to tell stories and share ideas. However, the argument raised by the author is that a stronger bond was formed between the community members that walked together than with the people they met under the tree.

The theory is further emphasised by the real world situation that most people in the township depend on public transport or walking to go to work. The potential of the liminal space should be harnessed as opportunity for community building and peace building within Olievenhoutbosch.



JULY 2012\_

[INHABITING THE WALL AND IRREGULAR COLUMNS]



fig 112. Photo of Model.

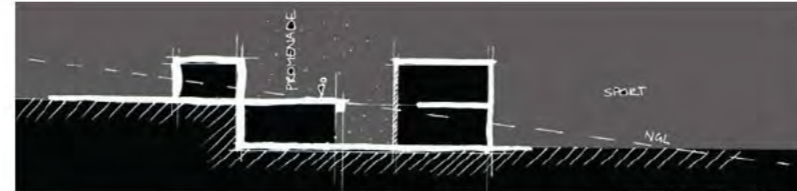


fig 113. Sectional Parti

### Inhabiting The Wall

The third phase of design development was inspired by the idea that the building should create a civic scale and still sit low within the landscape.

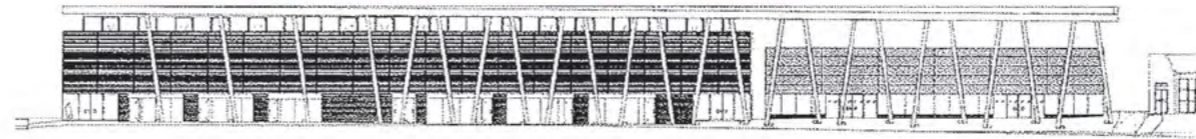
The sectional parti illustrates the concept where the building inhabits the space underneath the promenade in an attempt to "inhabit the wall".

This concept was inspired by the idea that the wall does not divide within the sporting environment but rather serves as the common denominator.

### Irregular Columns Supporting Roof

The irregular columns that support the roof is derived from the local examples of building structures within the area that use timber columns, often irregular, to support the roof.

### Precedent: Wakerfield Market Hall - David Adjaye



East elevation

fig 114. Wakerfield market . ( Google images 2012)



fig 115. View from field.

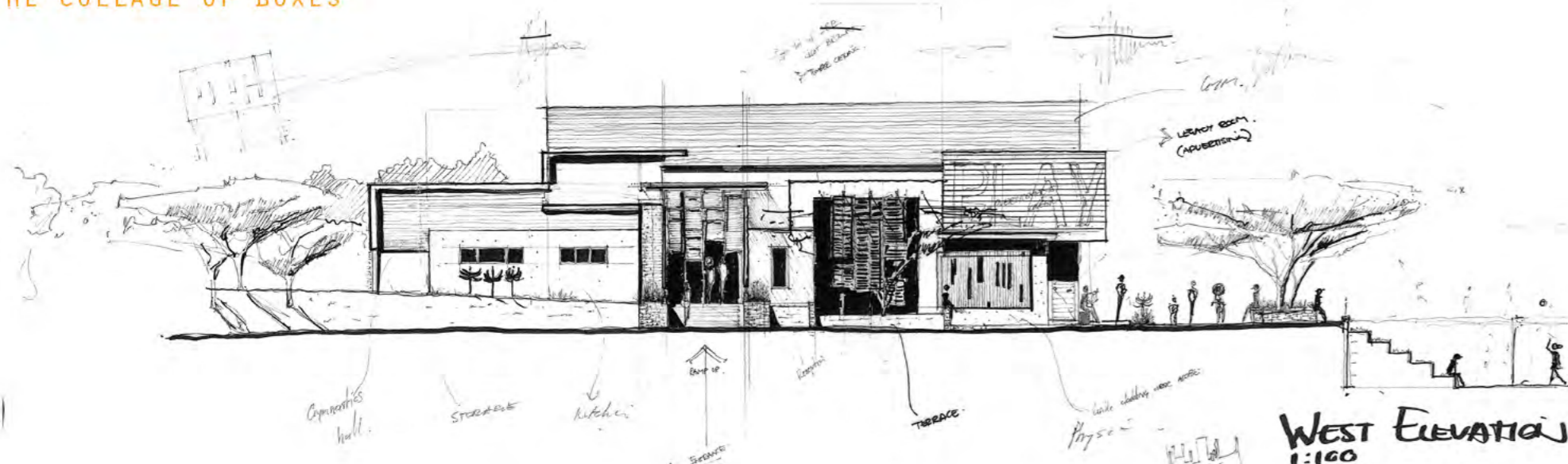
fig 116. Photo of model.





AUGUST 2012\_

THE COLLAGE OF BOXES



West Elevation  
1:100

fig 17. West Elevation. (not to scale)

### The Collage Of Boxes

The collage of boxes was an exploration that incorporated the 'Streeks[Taal]' or urban characteristic of houses that sprawl and connect to one another. The facade of the building explores a kinetic quality that has the ability to change and adapt, a characteristic informed by the authors understanding of sport architecture.

Sport architecture and Werf[Taal] are two of the five hyperterms that inform the final design as discussed later in this chapter.

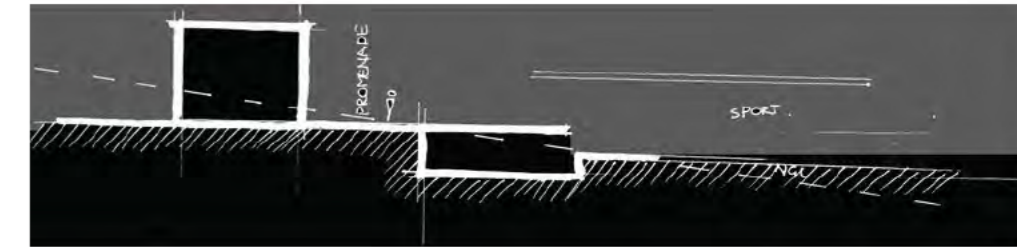
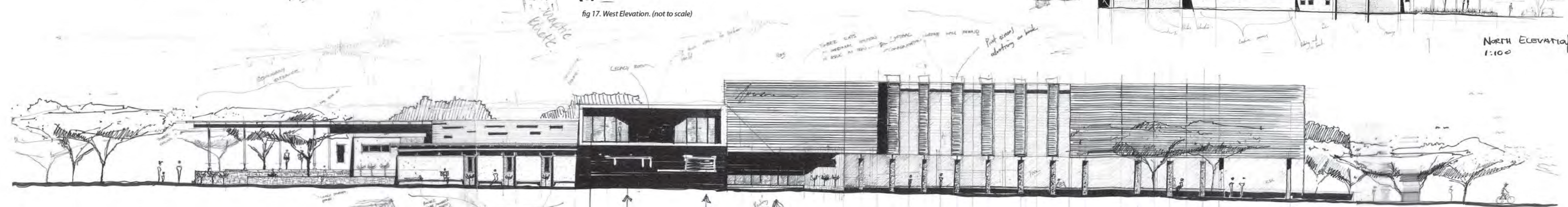


fig 118. Parti diagram.



South Elevation  
1:100

fig 119. South Elevation. (not to scale)

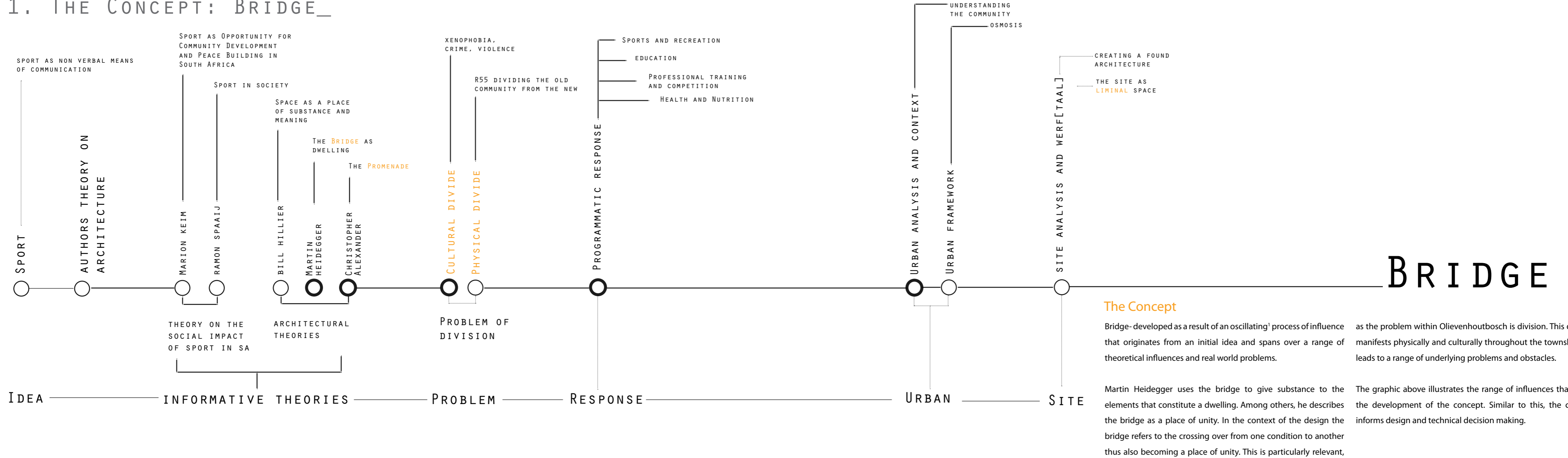


## THE FIVE HYPERTERMS\_\_

THE CONTINUATION OF THE DESIGN DEVELOPMENT CHAPTER WILL DISCUSS THE PROCESS OF DESIGN DEVELOPMENT AND FOCUS ON THE FIVE PRIMARY FIELDS OR HYPERTERMS. THESE HYPERTERMS GOVERN THE UNDERLYING IDEAS THAT GIVE SUBSTANCE TO THE ARCHITECTURE. THIS CHAPTER EXPLAINS A COMPLICATED ITERATIVE DESIGN PROCESS IN A LINEAR MANNER AND ILLUSTRATES HOW IT INFORMS THE ARCHITECTURE.

1. THE CONCEPT: BRIDGE
2. THE NEW URBAN CONDITION
3. STREEKS[TAAL]
4. WERF[TAAL]
5. SPORT ARCHITECTURE

# 1. THE CONCEPT: BRIDGE



<sup>1</sup> The back and forth process of extremes.

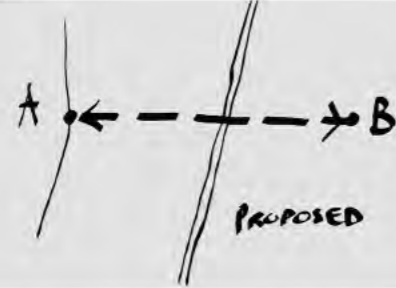


## 2. THE NEW URBAN CONDITION

1



2



3

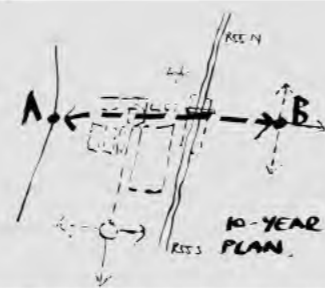


fig 120. Parti of new urban condition.

### The New Urban Condition As Design Informant

The new urban condition's primary response is in reaction to the problem of division. As explained in chapter 01 the division within Olievenhoutbosch is caused by both physical and cultural barriers. The physical barriers manifest in dangerous roads and servitudes, while the cultural barriers manifest as xenophobia, crime, violence and alcohol abuse.

Furthermore, the need for open space to facilitate sport fields and their expansion, the possibility to serve as a "display window" to passers by and finally the possibility to connect nodes with a pedestrian bridge over a barrier is what informed the nature of the new urban condition and the selected site for its establishment.

As explained in chapter 02, the new urban condition creates an opportunity for the building to serve as catalyst in the process of future developments.

It is however not the intent of this chapter to explain the process of the urban design, but rather why and how the new urban condition informs the architecture:

1. Given the linear nature of the urban response and the bridge concept, the urban design informs the building's linear form.

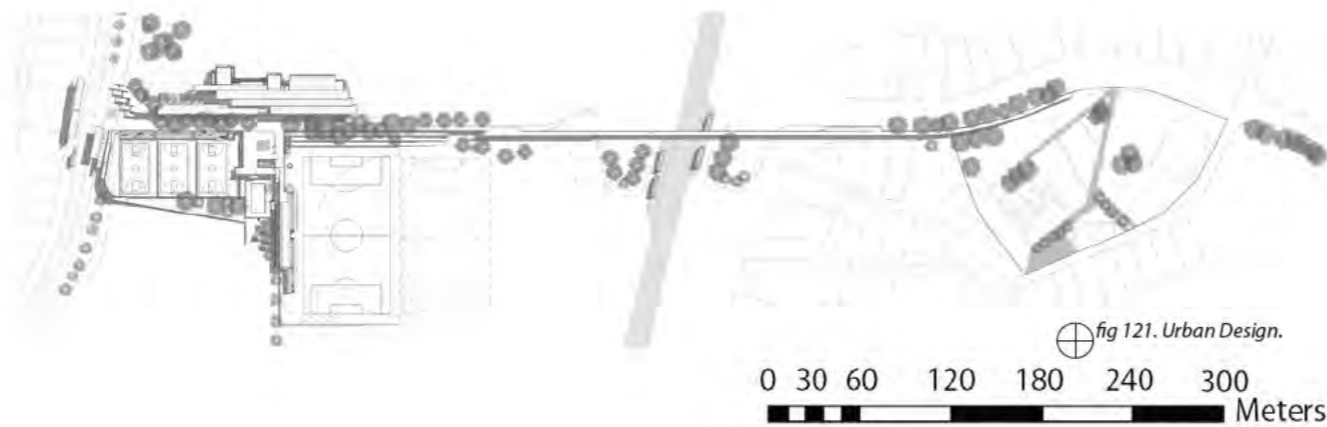


fig 121. Urban Design.

2. The new urban condition includes a pedestrian bridge that crosses the R55 road. The building and the bridge communicates conceptual similarities that communicates a similar language. This unity, strengthened by Alexander's theory on the promenade provides the platform for integration and reconciliation.

3. The new urban condition includes a pedestrian bridge that crosses the R55 road. The building and the bridge communicates conceptual similarities that communicates a similar language. This unity, strengthened by Alexander's theory on the promenade provides the platform for integration and reconciliation.

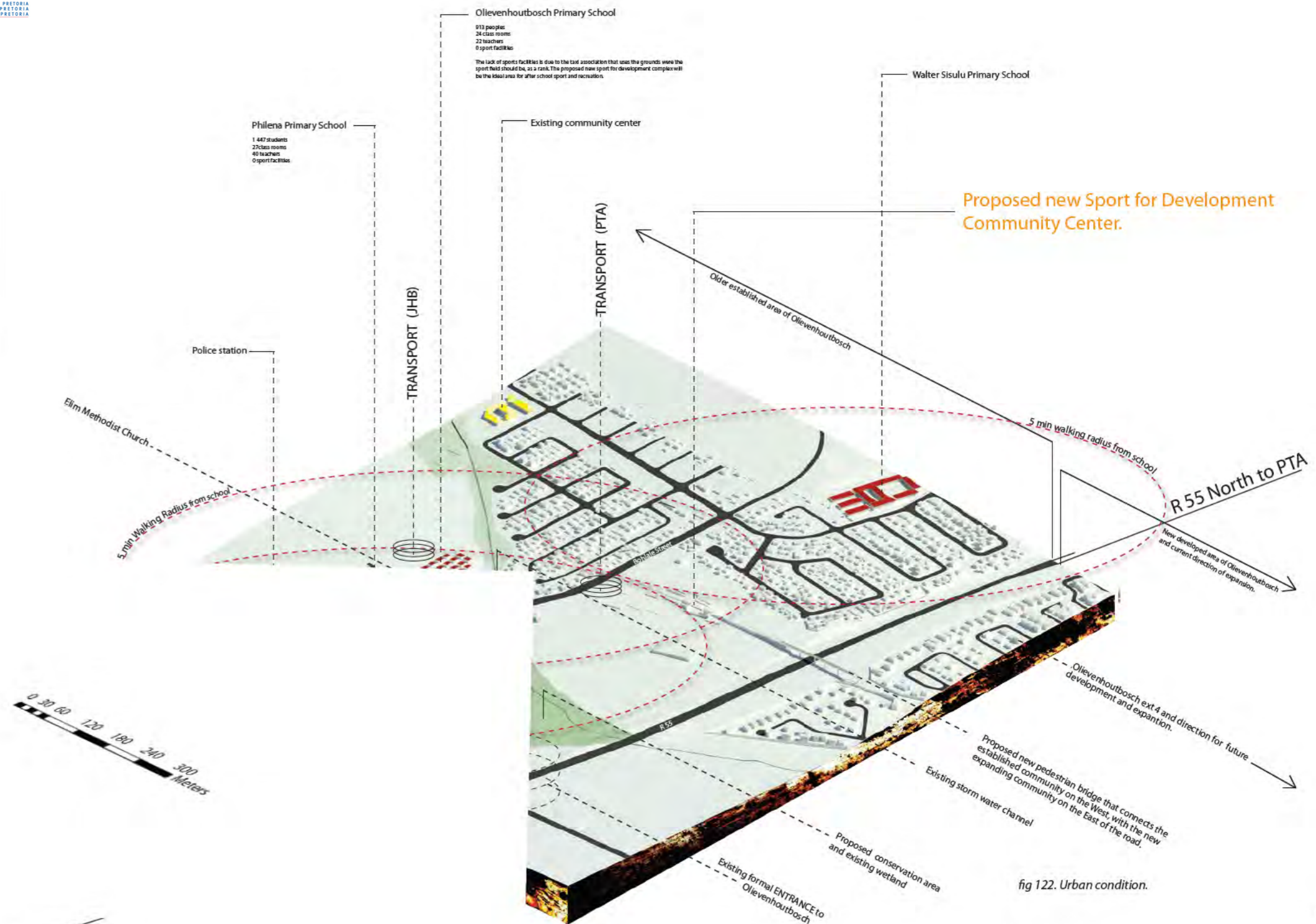


fig 122. Urban condition.





Existing Urban Condition



fig 123. Existing.



Proposed



fig 124. Proposed intervention on urban scale





10 Year Plan



fig 125. 10 year plan.



Primary And Secondary Structure

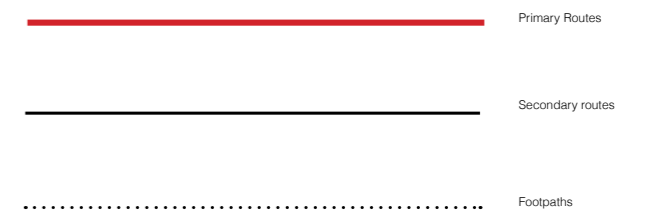


fig 126. Primary and Secondary routes.



### 3. STREEKS[TAAL]

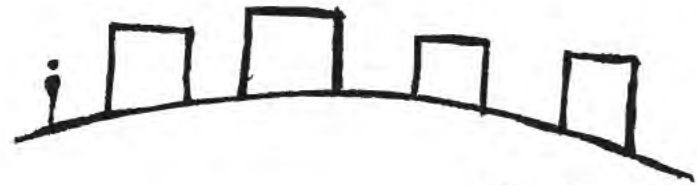


fig 127. Parti of urban fabric.

#### Streeks[Taal] As Design Informant

*Streekstaal* is the study of the language of the existing urban fabric as seen in chapter 02, but the question raised in this chapter focuses on its role in the development of the appropriate architecture.

##### 1. Scale

The parti diagram illustrates the existing urban fabric and scale. It is the opinion of the author that the existing scale and spatial form should be sensitively reinterpreted in the architecture as it will provide the intervention with a familiar undertone and spatial understanding.

##### 2. The sprawling effect

The sprawling effect coincides with the idea of sport architecture (see *Sport Architecture*, p 108). It refers to the kinetic quality

between these boxes and their tendency to latch onto one another. This usually happens as a result of financial benefit. The owner of an RDP house sublets shacks and rooms that attach to its electrical supply.



fig 128. Sprawl.

##### 3. Umbrella town.

In chapter 02, the author refers to Olievenhoutbosch as 'Umbrella Town'. No matter the weather conditions or seasons, people are seen carrying umbrellas. This intrigued the author and after an

analysis of the umbrella, it became evident that in addition to its basic function of protecting the user from the elements, it has the unique ability to create and manipulate space. It has the ability to create directional and undirectional space, private or public space, all depending on the height and way in which the umbrella is held.

This ability is carried forward in the architecture. The facade of the building has the ability to add certain qualities to space and the height of the roof is manipulated to create different spacial experiences.

##### 4. Application

Informed by the spatial requirements of sport and exercise; and the sprawling nature of the hyperterm- Streeks[Taal], the building consists of a series of spatial boxes. The roof plan illustrates clearly how these boxes either protrude into the landscape or are binded together with the linear roof structure.

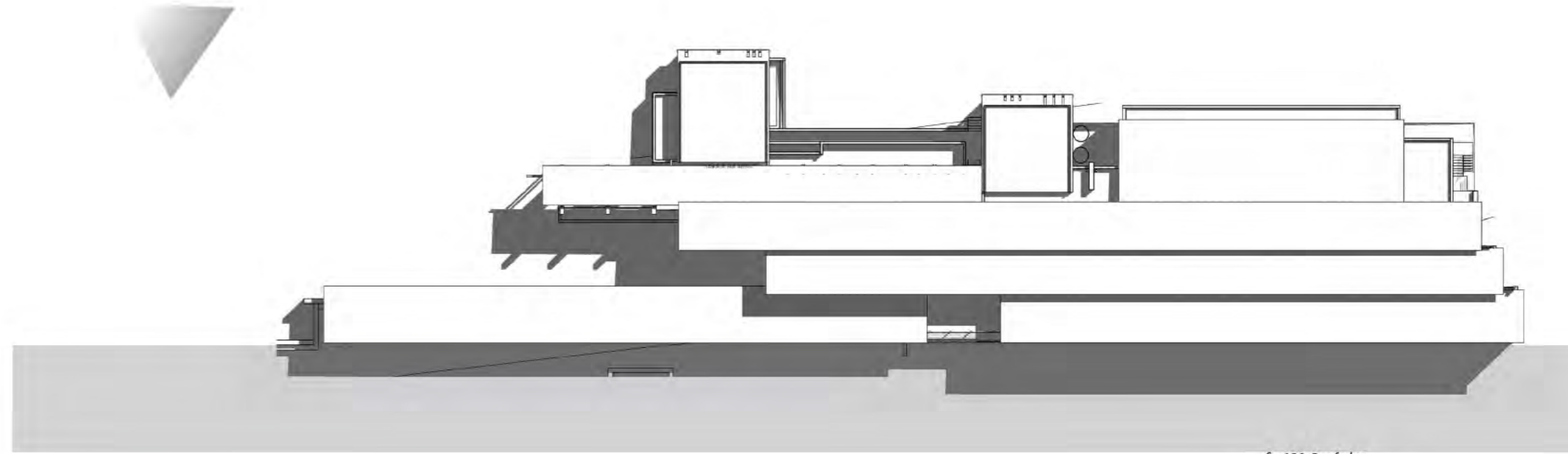


fig 130. Roof plan.

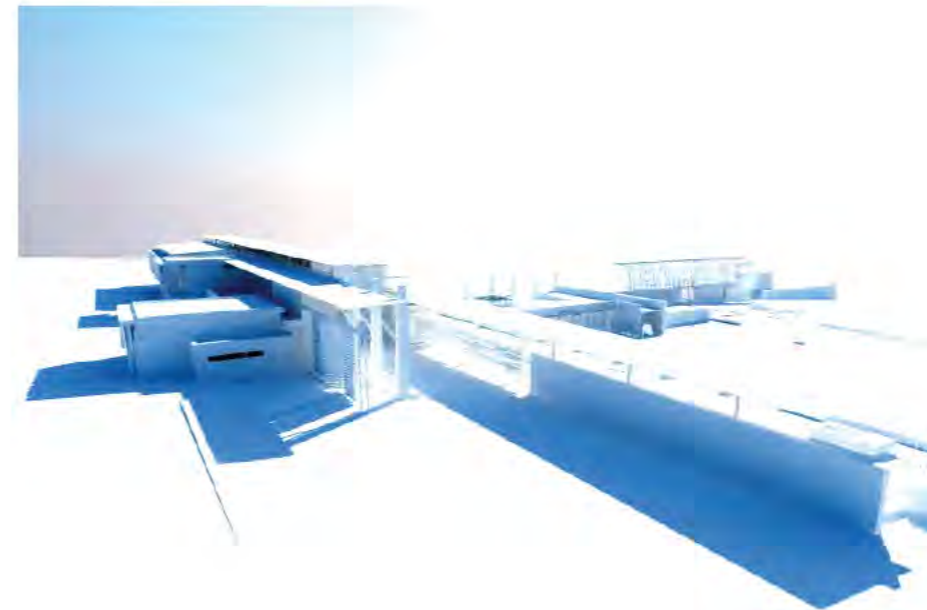


fig 129. Perspective rendering.

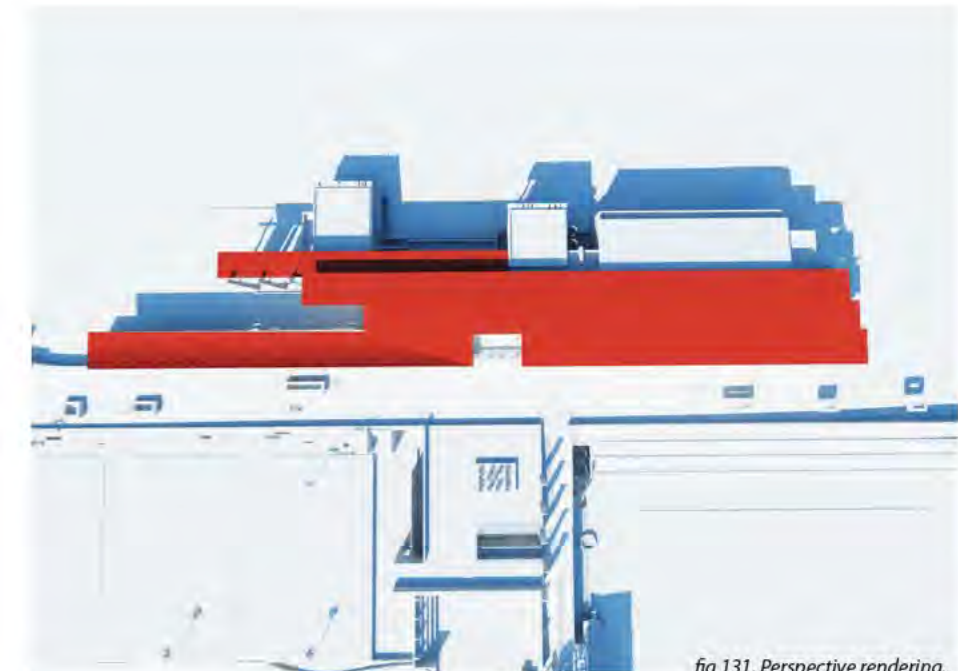


fig 131. Perspective rendering.



# 4. WERF[TAAL]

As explained in chapter 03, the Werftaal refers to the language of the site itself. It is the subtle ideas that are communicated within the elements found on site. Werftaal is the hyperterm used to describe six influential ideas. These ideas are:

1. Beauty in the imperfection.
2. Wayfinding
3. The site as liminal space
4. Found architecture
5. Skins and screens

## 1. Beauty in the Imperfection

As explained in chapter 03, *beauty in the imperfection* is found where the presence of human activity and a sense of community have unconsciously manipulated an object to become altered or 'imperfect' (see fig 131). This is often also achieved by natural processes such as weathering and decay.

This beauty is also found in the use of local materials, local technology and local labour over foreign imports - even if there are limitations. It is often these limitations that produce a unique quality and appeal as is the case of vernacular design.



fig 13. Textures on site.

## 2. Wayfinding

Wayfinding and signage is becoming increasingly important in architectural design but more than that, the building itself should be able to guide the user through the building, indicating moving and sitting areas.



fig 133. Wayfinding

## 3. The Site as Liminal Space

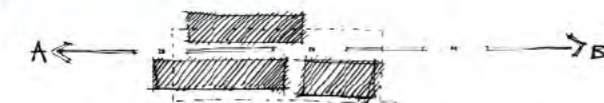


fig 134. Sketch of moving through.

Currently, the site is a space of movement. It is used by the community to reach the R55 road or cross to the other side. The design attempts to keep this identity of the site. The potential of the site as liminal space will be interpreted by means of a promenade. After careful analysis of community formation in Olievenhoutbosch and other township cultures, it became evident that the community interacts most effectively and actively on their way and away from certain activities or destinations.

## 4. Found architecture

Found architecture refers to the critical reinterpretation of materials that are common within the community and relates to the existing fabric. Thus, the proposed building responds by attempting to personify this concept in the use of steel, corrugated sheets, timber and face brick.



fig135. Found architecture.

## 5. Skins and Screens (dissolving borders)

As mentioned in chapter 03, the skins of shacks and shanties wrap around an internal frame to give the building its physical form but also to protect the inhabitants from the environmental elements and keep the inhabitants safe.

Interpretation: In the sport for development building design, skins and screens are used to protect the building in the same manner as the existing local structures for the purpose of security, safety and environmental benefits. However, the use and interpretation of skins and screens possess a greater underlying symbolism with regard to the larger reconciliatory task at hand within the specific context, namely, dissolving borders.

## 5.1 Dissolving borders

As the barriers imposed by Apartheid began to fall- concrete walls and fences began to arise not only in white towns but also in black townships all over South Africa. 'Walls of fear' as described by Peter Marcuse (1997:101) increasingly defined property lines as a self imposed system of separation. Given the juvenile state of Olievenhoutbosch, it is the latent effects of the Apartheid regime that has ingrained a certain mistrust between population groups. This is compounded by the devastating effects of HIV, housing shortage, crime and violence as well as the notorious string of xenophobic attacks on foreigners.

Ironically, these borders between public and private space represents a system of restricted movement and increasing mistrust that is a result of post Apartheid trauma.

It is thus the role of the architect to consider the client's perception of built form and dissolve the barriers that isolate social realms and to create built form that provides opportunity for free interaction.

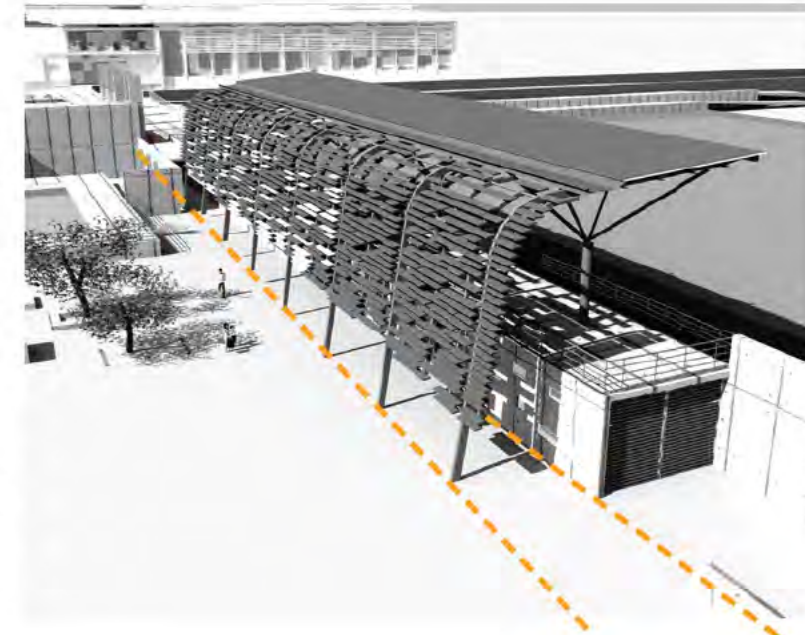


fig136a. Western facade of Pavilion.

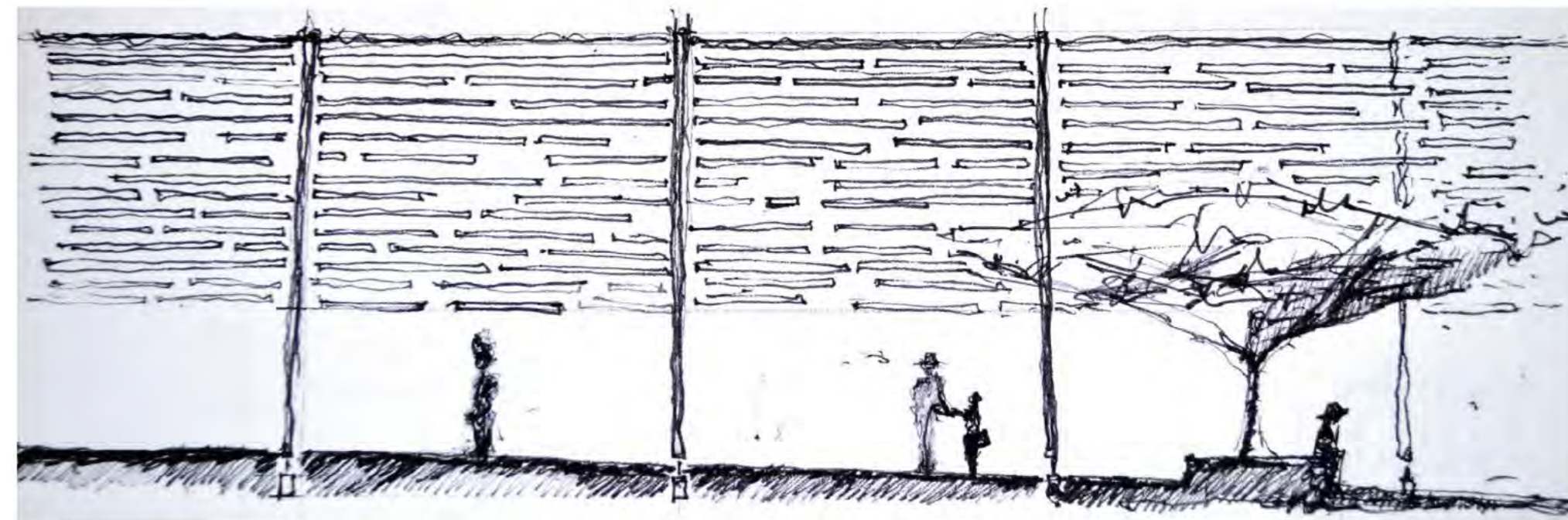


fig136b. Dissolving Borders.



## 5. SPORT ARCHITECTURE\_

Sport Architecture

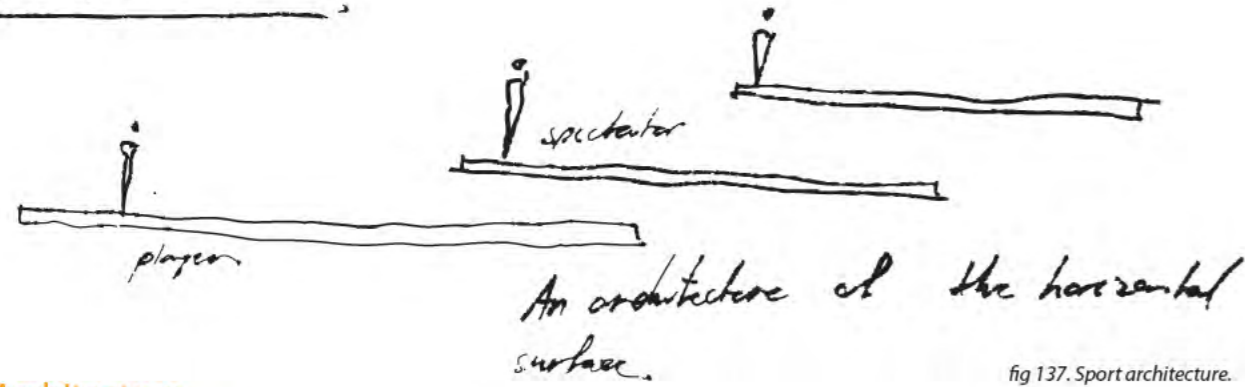


fig 137. Sport architecture.

### Sport Architecture

Sport architecture is interpreted by the author as the architecture of the horizontal surface. This manifests throughout the new design in the way the landscape has been manipulated to form spaces where people can be seen and see other people. This horizontal platform responds to the natural slope of the site with terraces and steps to create vantage points and elevated sitting and walking platforms.

The roofs of the building have a minimum pitch for rain water collection but still responds to this notion of sport architecture and the horizontal line. The author identifies two areas where the potential of the horizontal line has a binding quality:

#### 1. The Plinth

The sport for development community centre is intended to grow and develop over time. The author made use of a plinth that defines the edge of the promenade. The plinth will also bind

future community orientated buildings with the proposed sport for development main building as they share the same foot in the form of the plinth.

#### 2. The Roofs:

The long linear spanning roofs bind the rooms within the building together and extends over the edge of the building to create opportunity for spontaneous and informal use by the community.

In conclusion, sport architecture requires the designer to think about the ritual of sport and attempt to capture the process in the structuring of the spaces related to the event.



fig 138. Part of roof and Plinth as binding elements

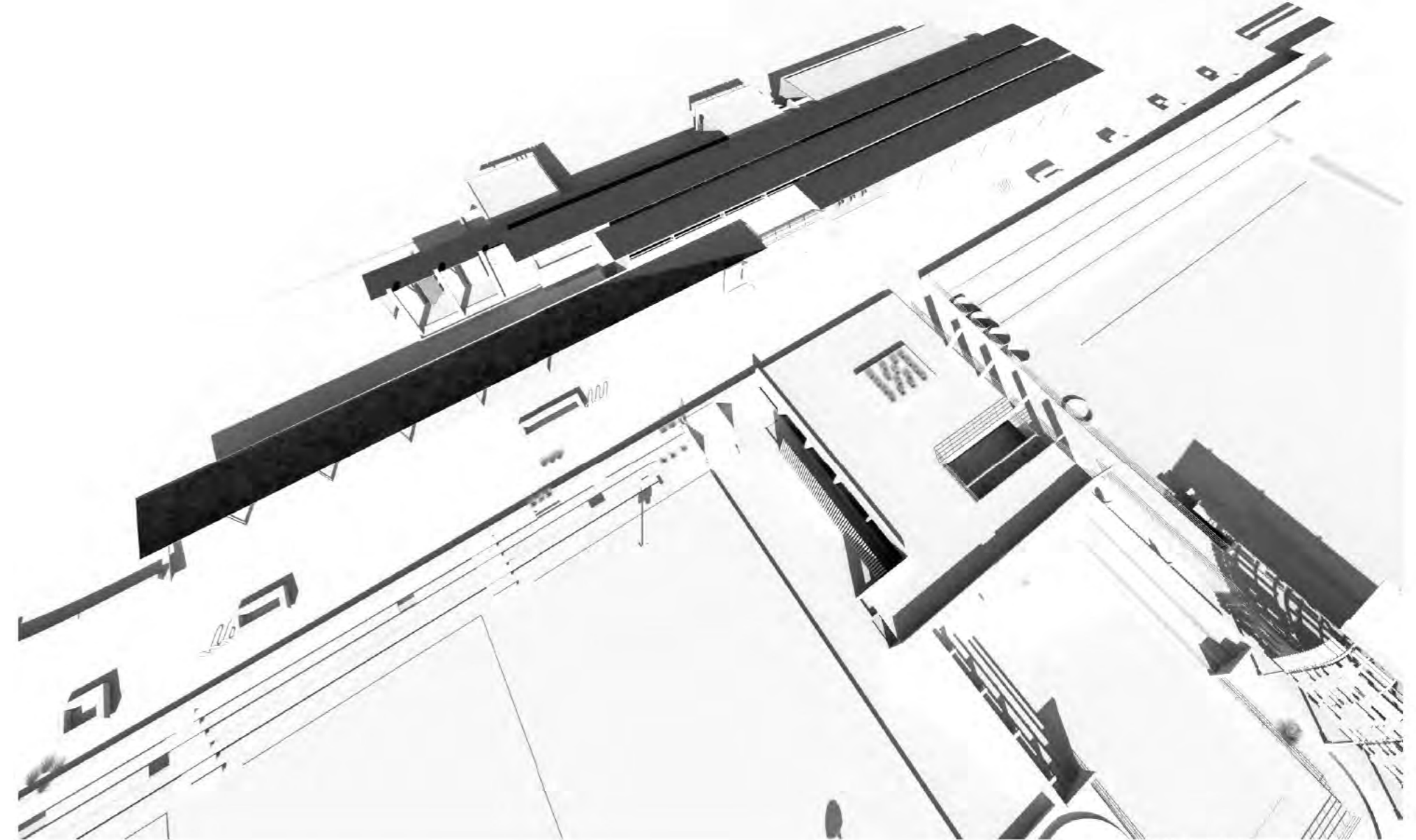
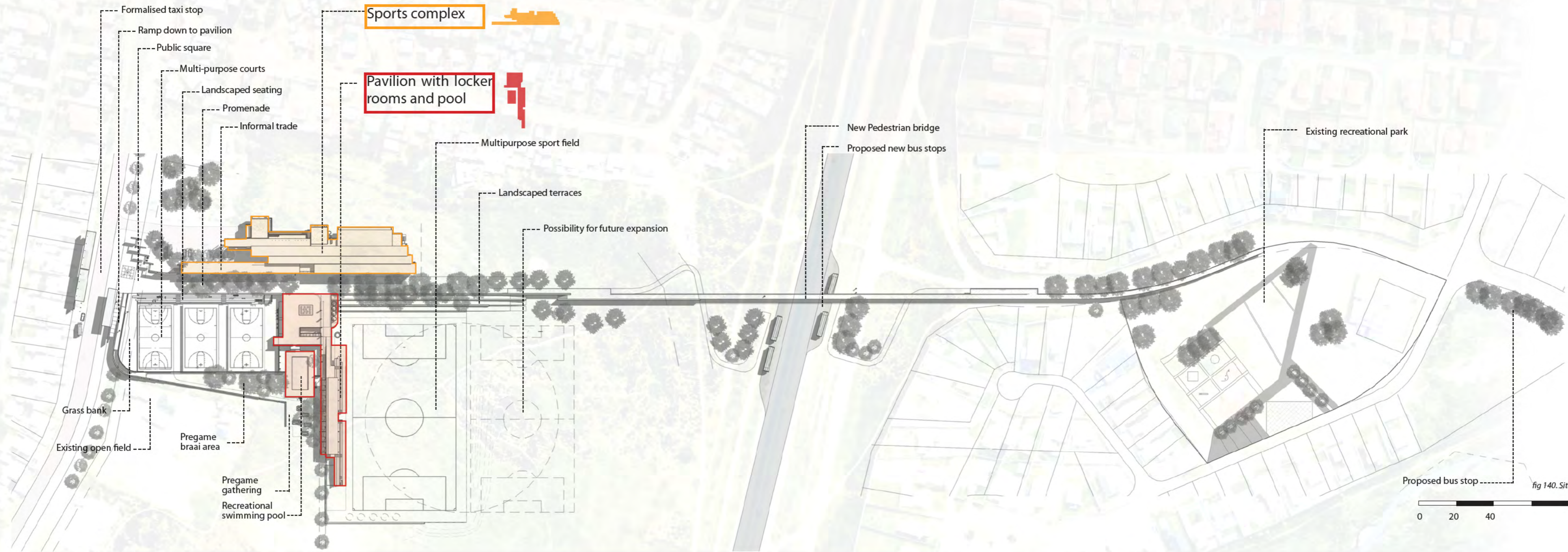


fig 139. Roof and Plinth as binding elements



PLANS

Site Plan



Proposed bus stop ..... fig 140. Site plan.





Ground Floor Plan

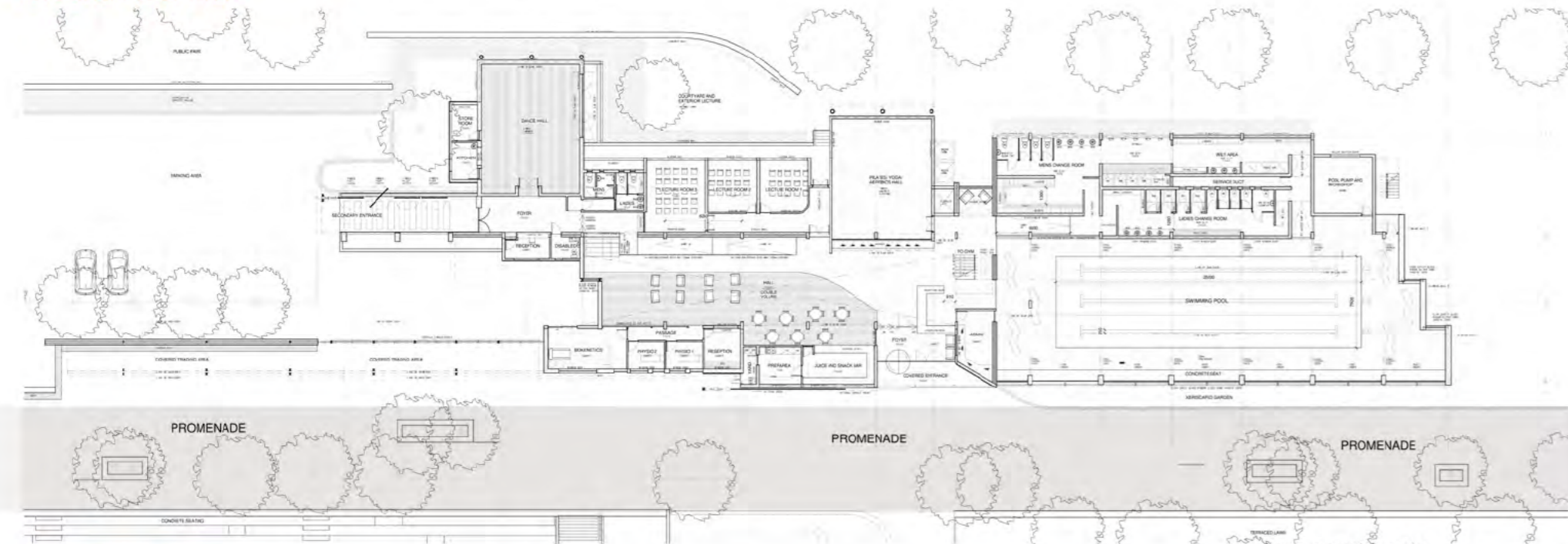


fig 141. Ground Floor Plan

First Floor Plan

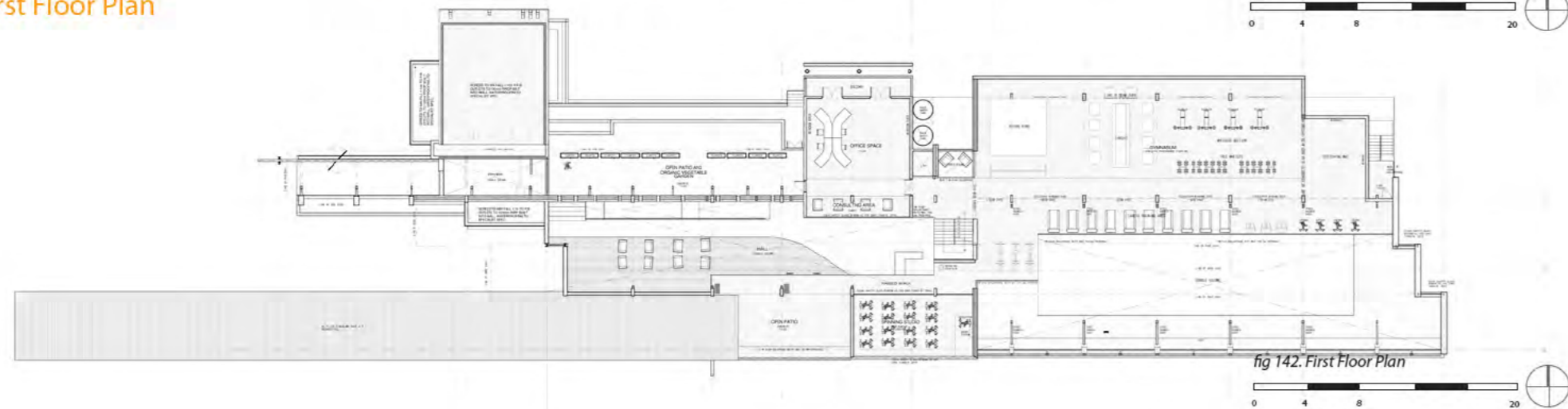


fig 142. First Floor Plan

Pavilion and locker rooms Floor Plan

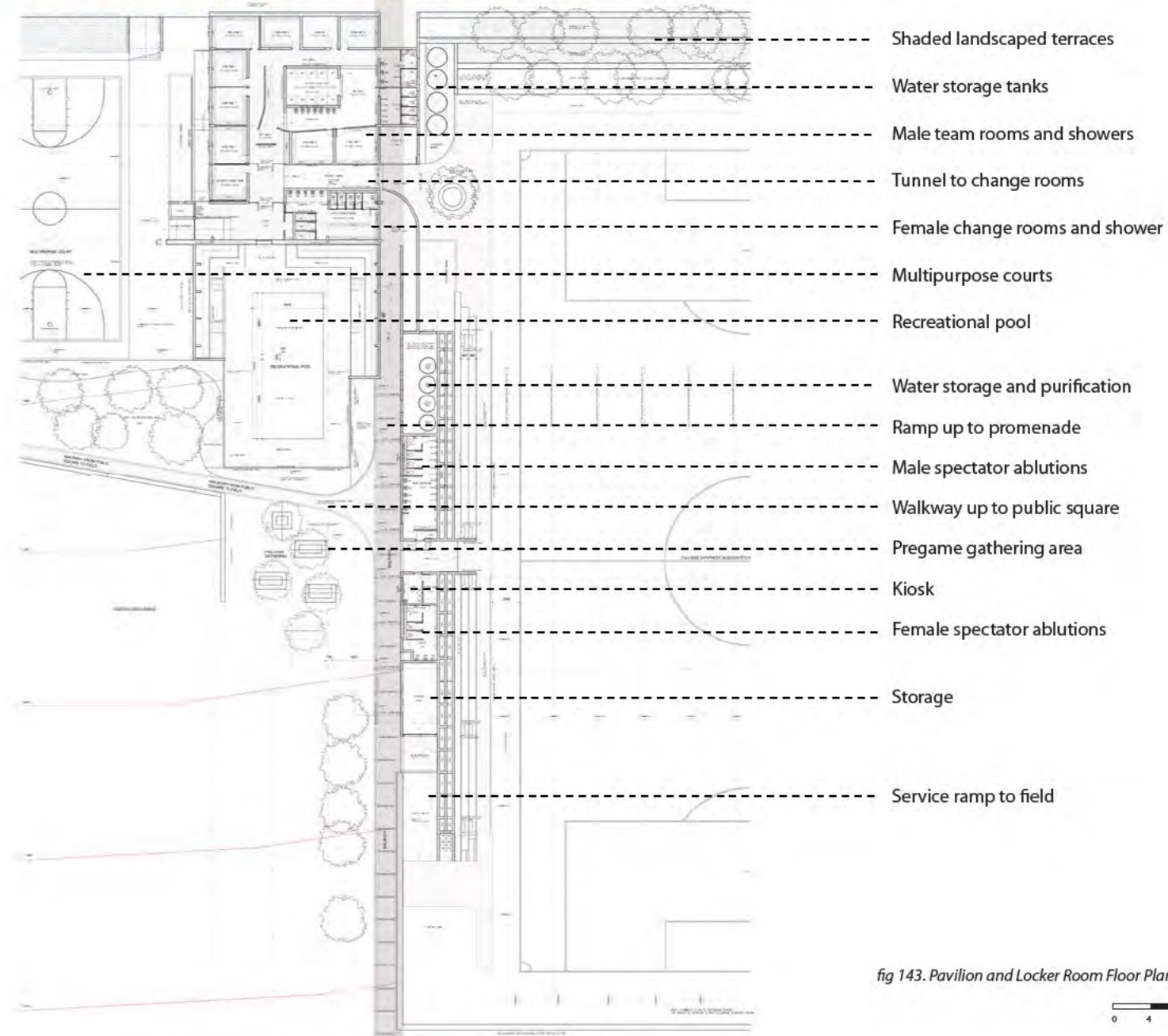


fig 143. Pavilion and Locker Room Floor Plan

- Shaded landscaped terraces
- Water storage tanks
- Male team rooms and showers
- Tunnel to change rooms
- Female change rooms and shower
- Multipurpose courts
- Recreational pool
- Water storage and purification
- Ramp up to promenade
- Male spectator ablutions
- Walkway up to public square
- Pregame gathering area
- Kiosk
- Female spectator ablutions
- Storage
- Service ramp to field