

7

DESIGN DEVELOPMENT

7.1 THE CONCEPT

7.1.1 The programme

The programme of the design project was developed around the idea of decentralising the functions of the health and policing services in Mamelodi. The decentralising of these amenities is done with the aim of bringing basic services directly and more efficiently to the public. The public amenities administrative functions will be decentralised, allowing for blue collar activities to be delegated to the local community thus allowing them to participate in the well-being of their community.

On the health services, the COPC (Community Orientated Primary Care) will be the organisation that will be accommodated in the design project. The CPF (Community Policing Forum) will fall under policing services. These two organisations allow for members of the community to participate in the well-being and safe guarding of the community. These organisations are supported by the local clinics and police stations allowing

for a far more streamlined provision of services to the public with the backing of larger institutions, that is, existing hospitals and police stations in townships.

The COPC and CPF will be supported by bringing the municipality as a stakeholder in the project. The public amenities map, figure 10, shows there are only two Thusong Service Centres in Mamelodi. It is proposed that a Thusong Service Centre forms part of the programme of the design project to create a centre where the basic services the public may need are located in a central location.

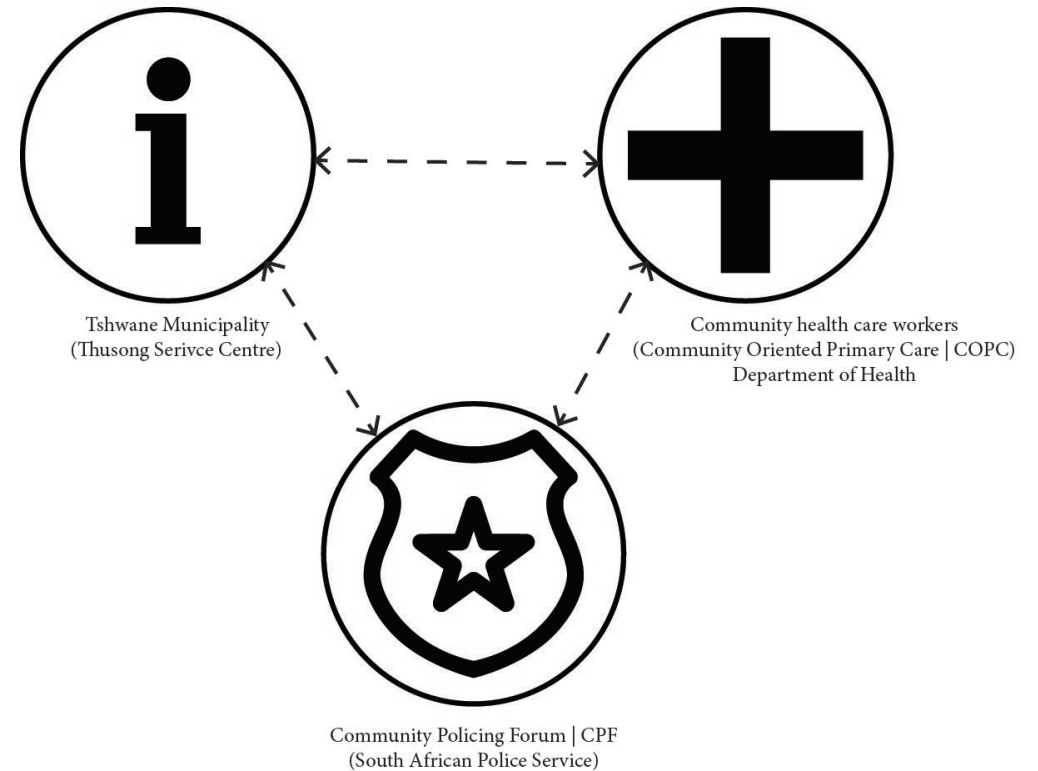


Figure 62: Stakeholders of the design project (Author 2016).

7.1.2 Phase 1

It is proposed that the project is situated in two levels of engagement, one being at a residential scale and one being on a civic scale. The first concept to be discussed is the proposal on a residential scale. Lusaka is highly populated and the informal settlements surrounding it add to the density of the area. It makes it hard for policing and medical services to reach households due to the inability to direct these services to an address or exact location. To better deal with this issue, the COPC has a geo-location database on which they record the households they are in contact with. This database will have the members of the household, the location of the household, the health status of the members and other information pertaining to their medical status. This database will be adapted and used to work together with the CPF and the larger police services in the second phase of the project.

Small hubs are proposed to be provided in neighbourhood. These hubs create a network which connects to the civic intervention in Concept B of the project. A single hub will serve a 10 – 20 households and will serve as a connector of these households to clinics, hospitals and police stations through the hubs and the civic intervention (see figure 63). The hub will be geo-located and serve as a point through which medical and policing services can be provided in case of an emergency. These services can then be provided to the specific household.



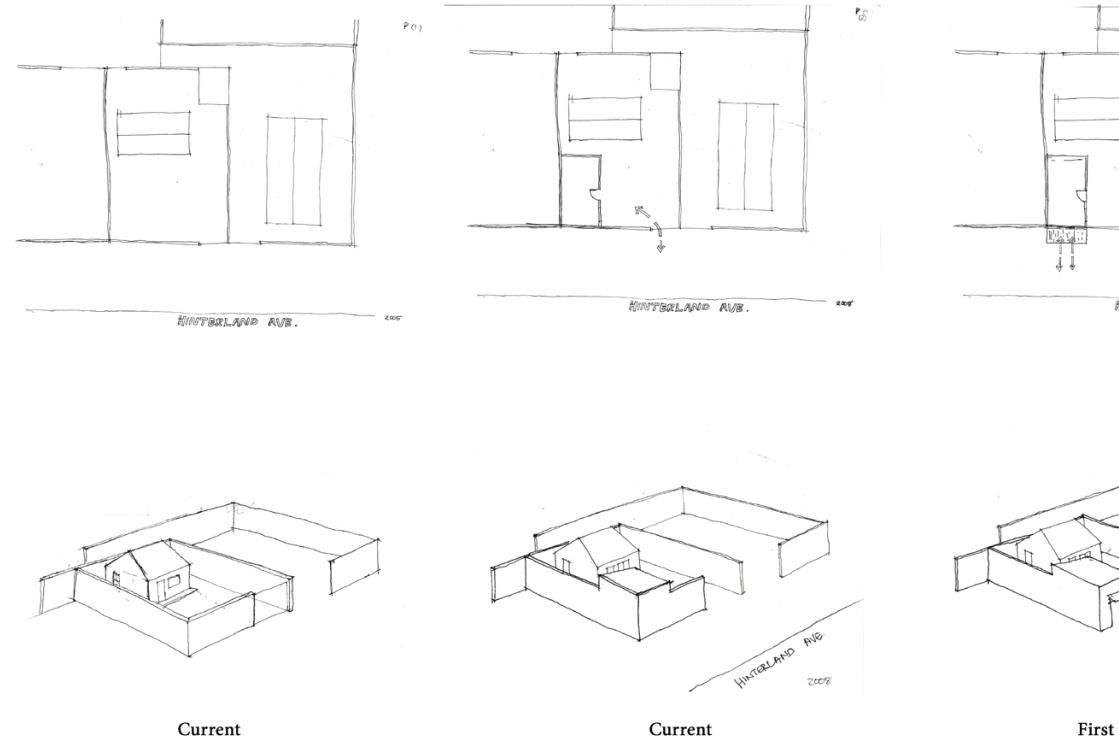
Figure 63: Network of Hubs which connect to phase 2, the proposed civic intervention (Author 2016).

CONCEPT A - PRECEDENT

The creation of each small hub will be based on the upgrading of an existing node. This node may be an existing shop or spaza (Tuck shop) with a big presence in the neighbourhood, a public transport node or a community leader as. The other criteria this hub has to satisfy the ability for vehicular and pedestrian access.

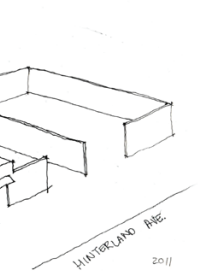
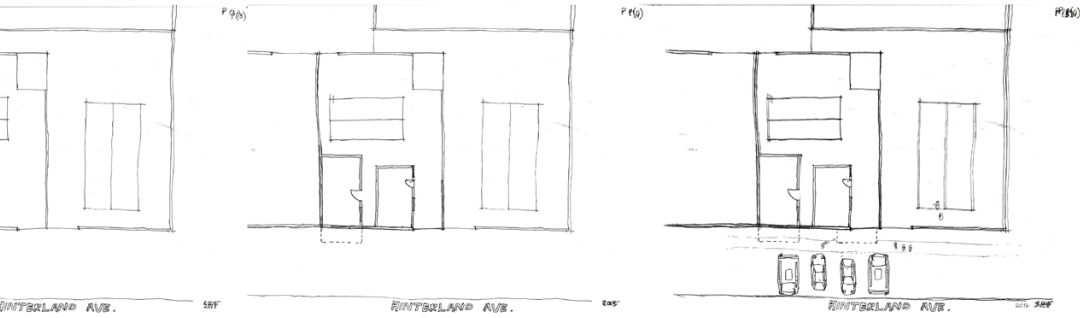
The incremental growth of economical nodes such as shops in the township occurs organically. The precedent below is of a local spaza shop, which over the years grew

to have a rental space which is a salon currently and a car wash on its street edge. This growth is due to the exposure of the spaza to the busy street, Hinterland Ave., the node was able to grow from a street side spaza shop in 2008 to an activity node in 2016 as illustrated in figure 64.

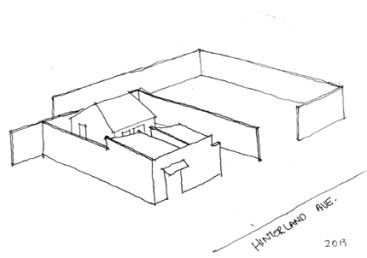


Criteria for nodal development:
Existing node: Commercial
"PT" zone
Community leader
Access: Pedestrian
Vehicular

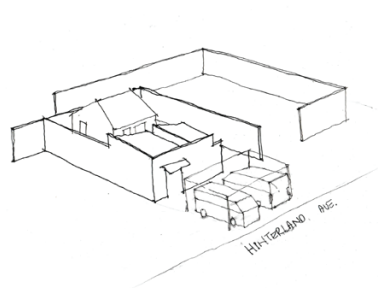
Figure 64: The growth of street side spaza in Mamelodi Gardens, Mamelodi East (Author 2016).



Phase



Second Phase



Third Phase

CONCEPT A - PROPOSED GROWTH

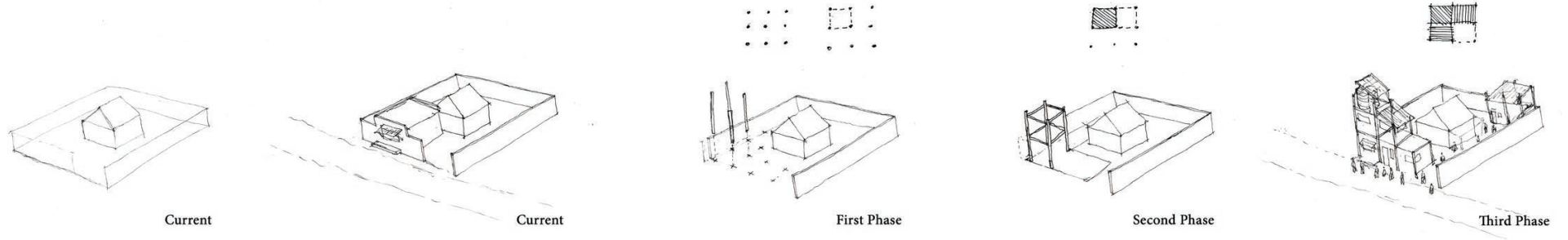


Figure 65: Potential growth of a typical hub (Author 2016).

The hubs will be upgradable buildings which can grow if there is a need for larger spaces. They will work on the same principles as small spazas and similar business and how they grow of the years as they get more and more exposure as shown in figure 65. The growth of the hub will be incremental and it will share its ideas of modularity and adaptability with those of the civic intervention.

7.1.3 Phase 2

The second concept of the design project is a civic scale proposal. Lusaka, as previously mentioned, has elements of temporality and permanence. This is evident in the type of housing within the context as seen in figure 48. This creates an interesting duality that will be manifested in the design project. The approach is that of providing enough structure to become a catalyst of change but to also give enough freedom to allow for adaptability as the community moves along the axis between temporality and permanence. A guiding

principle in achieving this is to make the public space the most important element within this design. The identification and defining of the public space becomes paramount. In this respect, the building becomes background for the public space, the foreground. The architecture becomes less about the building as isolated entity but as interaction between the buildings and the landscape.



Figure 66: Shacks and RDP buildings in Lusaka (Author 2016).

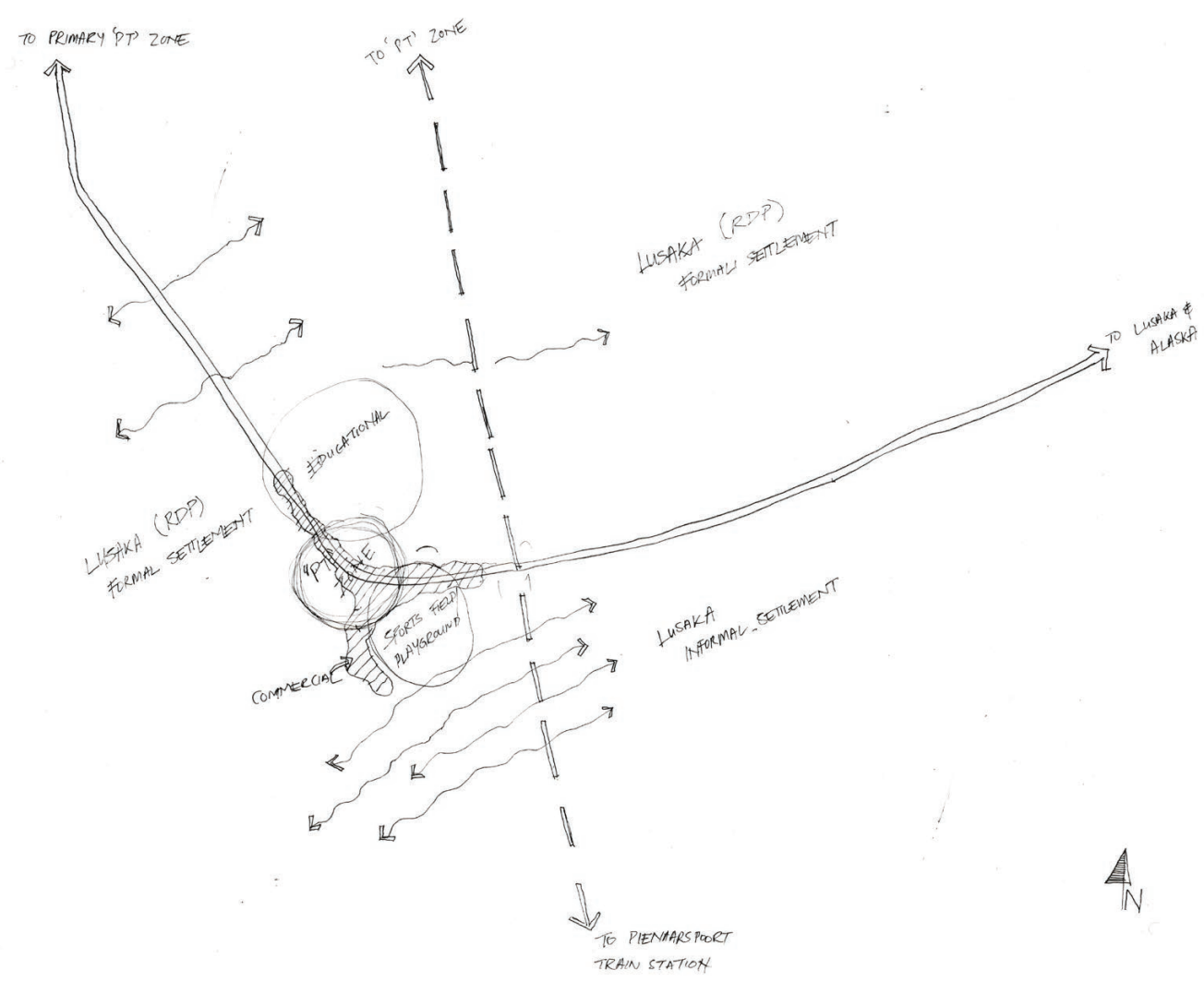
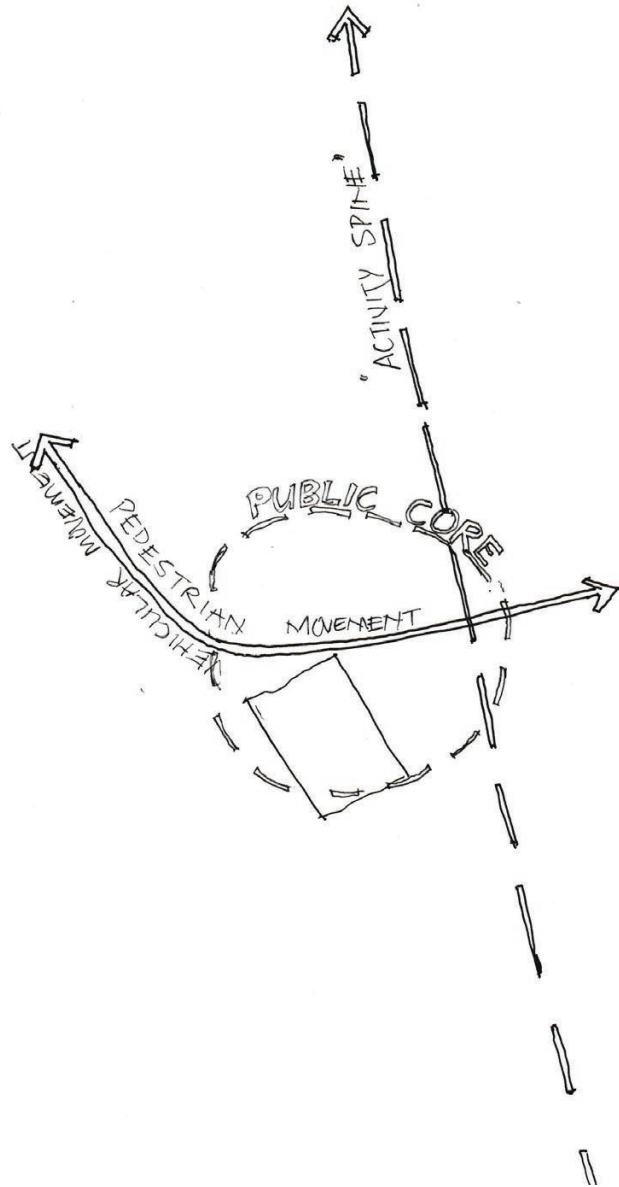


Figure 67: Urban plan sketch derived from understanding the context and incorporating in the urban vision (Author 2016).



Urban intentions. (Author 2016).

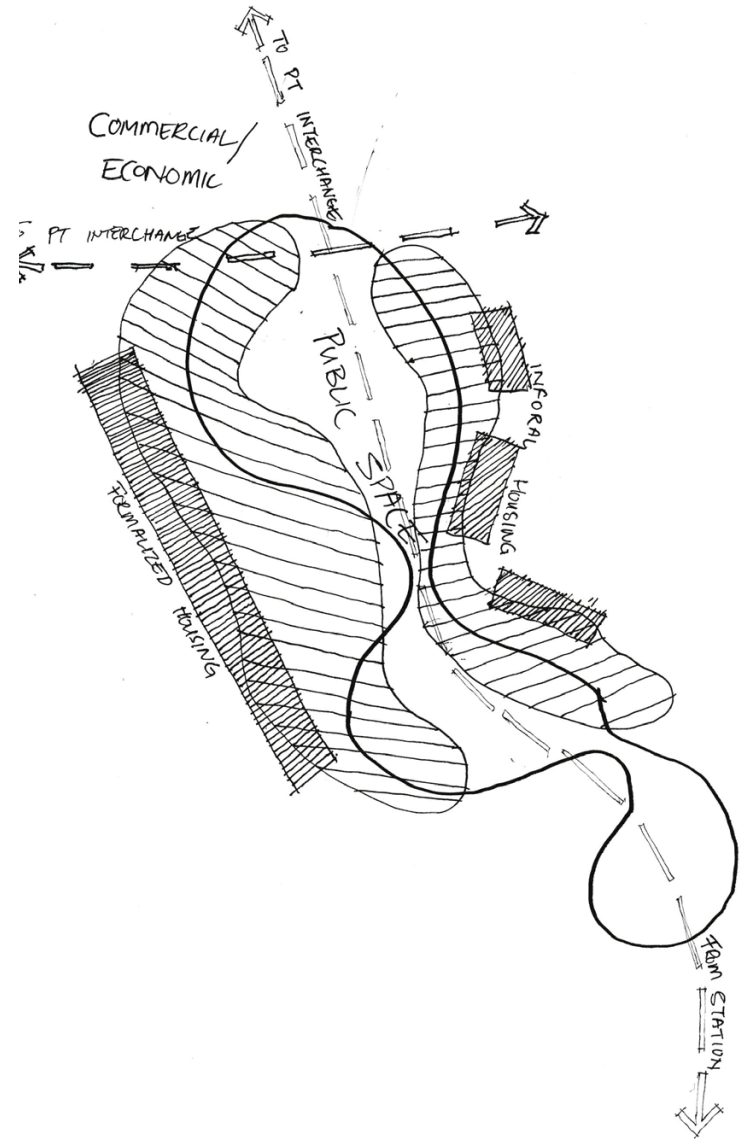
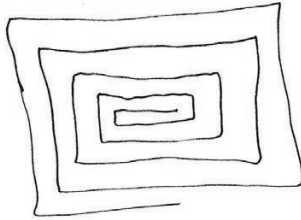


Figure 68: The public space becomes the most important space and the intervention is based on these spaces. (Author 2016).

PUBLIC SPACE AS A SQUARE



PUBLIC SPACE AS A LINEAR FUNCTION

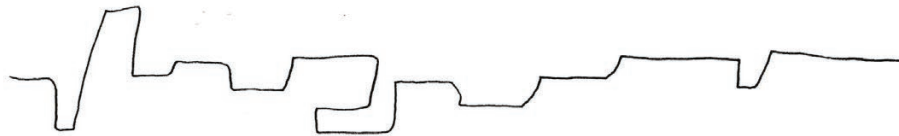


Figure 69: The public spaces will have qualities from a square typology to a linear typology (Author 2016).

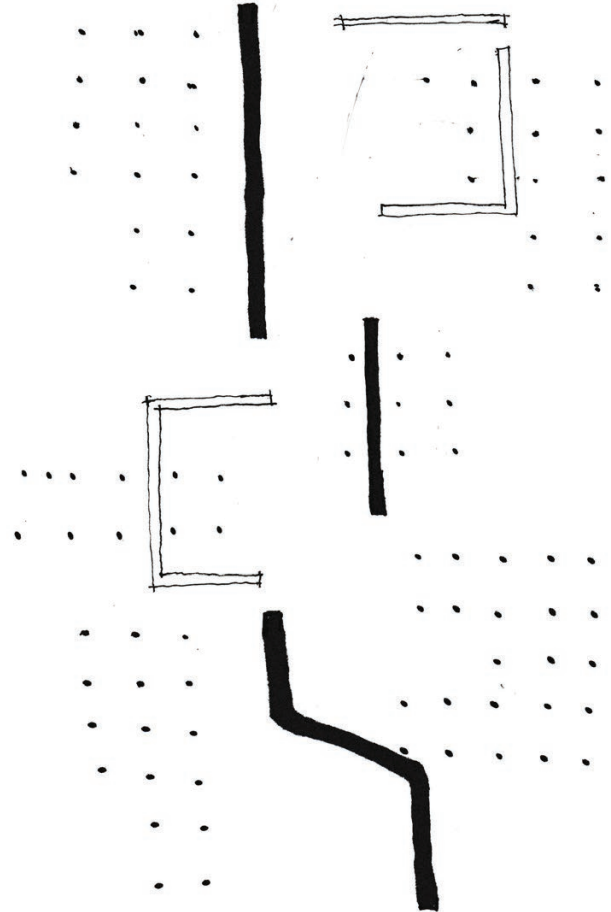


Figure 70: Partii Diagram. The public spaces will be control by grid and small structures to loosely define space (Author 2016).



Figure 71: Concept model



Figure 72: Concept model



Figure 73: Concept model

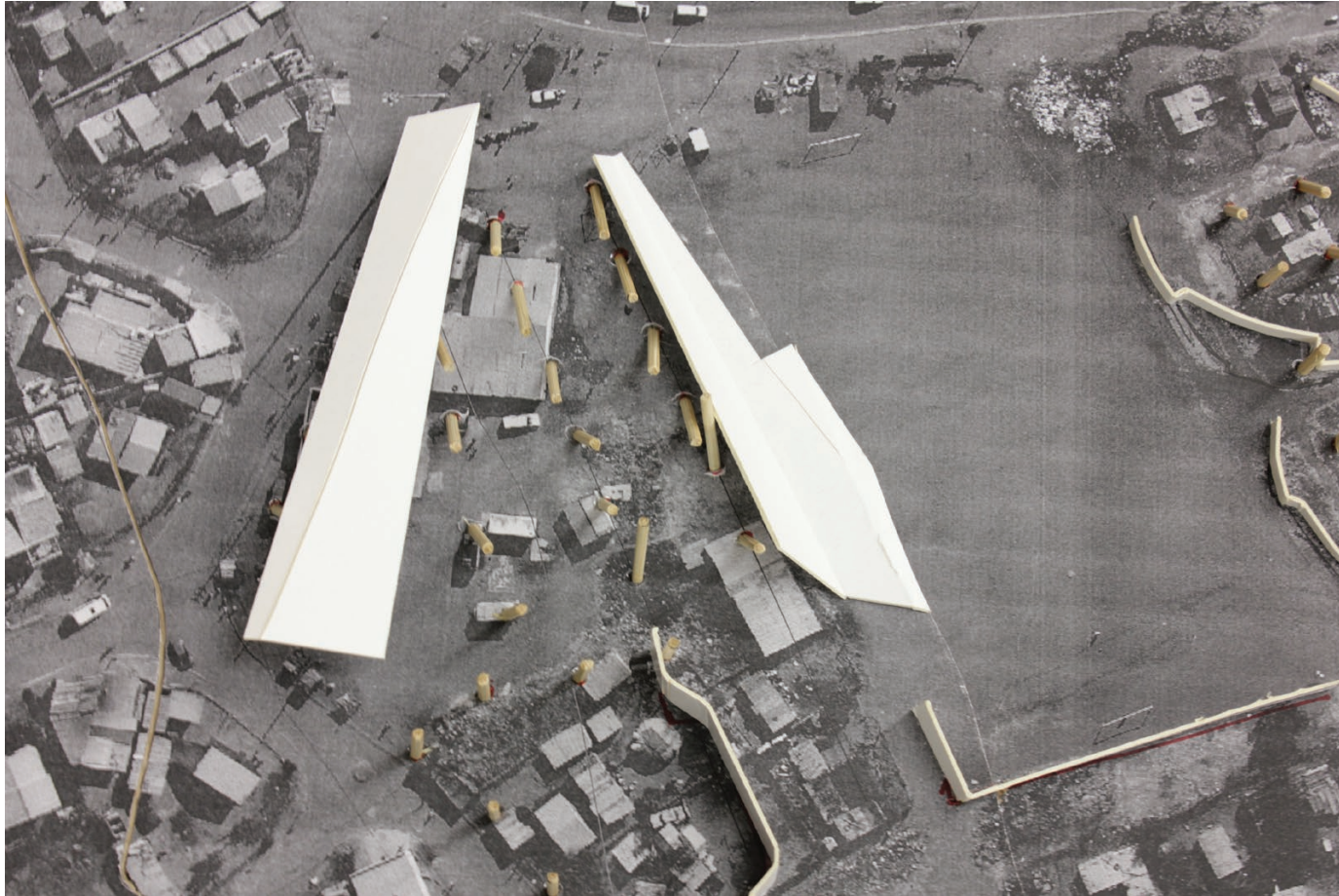


Figure 74: Concept model

7.2 PRINCIPLES

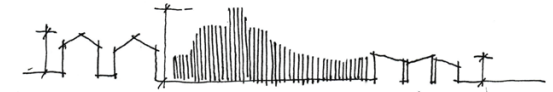
To begin with the design process, the principles discussed below, had to be established to aid in achieving the intention of creating an appropriate architecture for the community of Lusaka. The principles are revealed in both text and diagrammatically.



Context that is influx



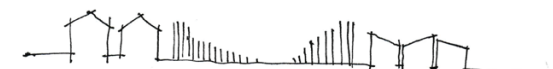
Public space as common space



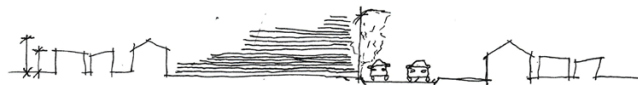
Civic to residential scale



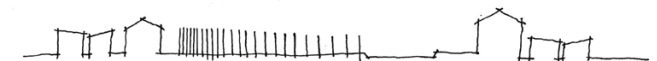
Edge treatment and boundaries:
Boundary as demarcation
Boundary as defense mechanism



New centre as new public space

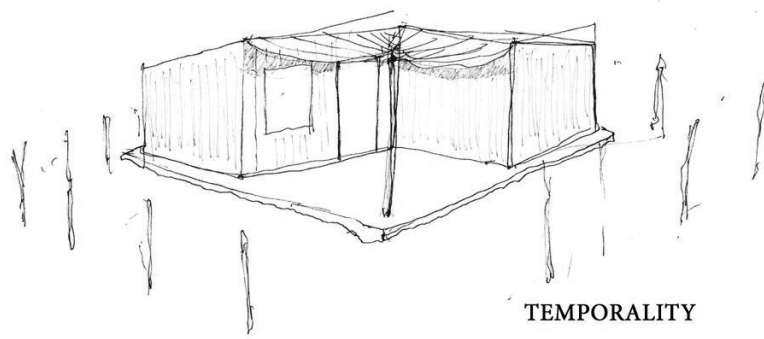


Relation to the road:
Scale

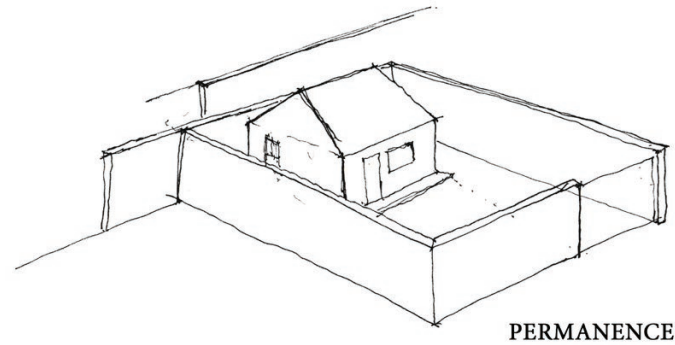


Transition from public to private space

Figure 75: Design principles employed in developing the intervention (Author 2016).



TEMPORALITY



PERMANENCE

- The duality of temporality and permanence is explored and used to derive principles to design with.

Figure 76: Temporality and permanence (Author 2016).

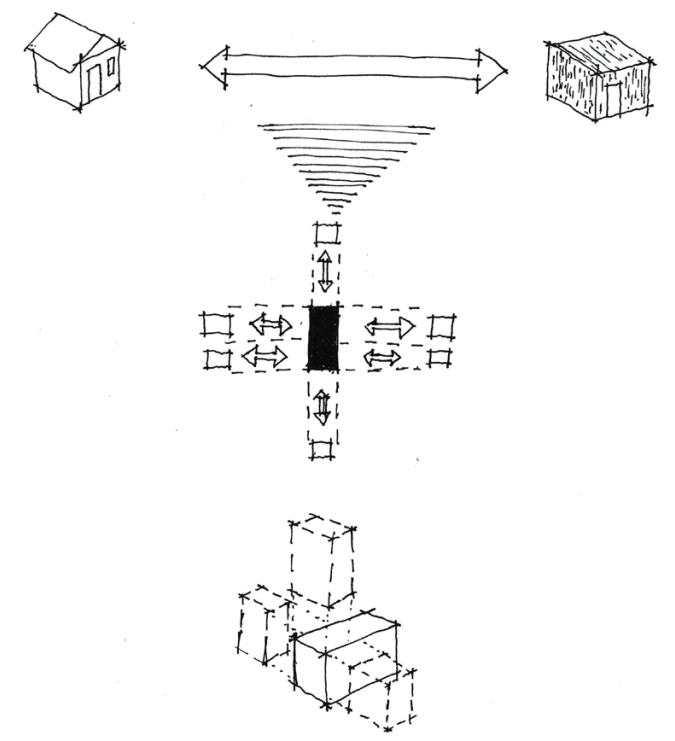


Figure 77: Synthesis of the qualities of both temporality and permanence (Author 2016).

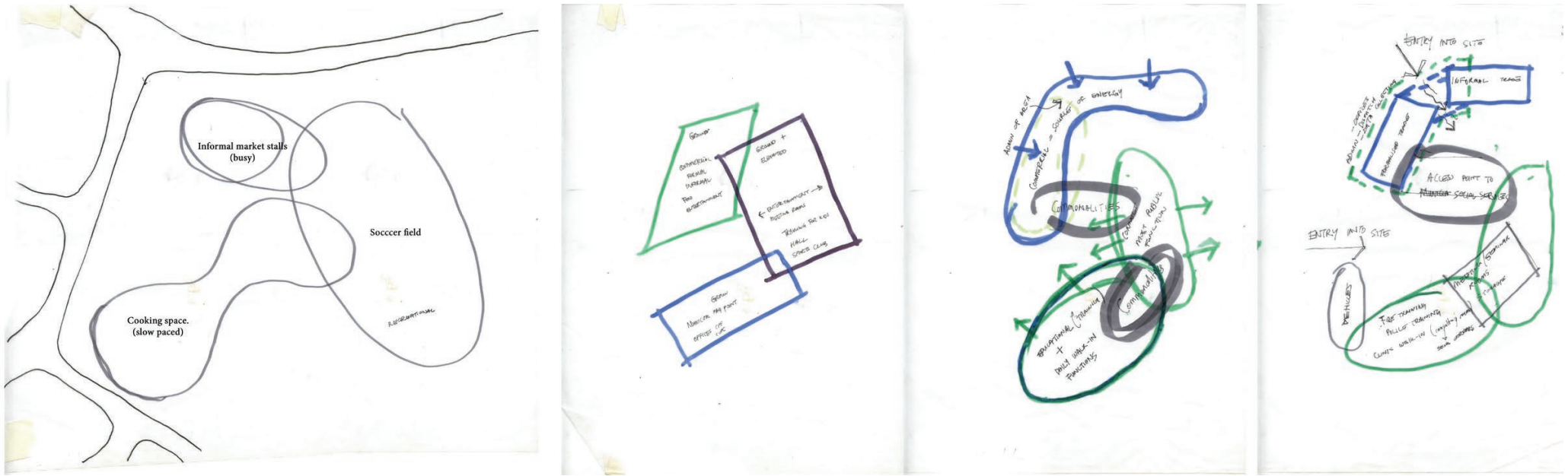


Figure 78: identifying public and structuring the internal programmes according to the public spaces (Author 2016).

To begin the process of organising the spatial layout of the project started by:

- Identify activities on site (figure 78):
 - Economic activity – reflect on site (Market space)
 - Recreational space
 - Communal space
- Identify possible functions on site (figure 78):
 - Market space
 - Recreational space
 - Communal space



Figure 79: Definition of public spaces A. Existing activities and spaces on the site are defined and the arrows show the relation to the street. B. The edges of the proposed building are shown. C, the various components of the building and their relations to the street and the public spaces around them are illustrated.

- **Defining the street edge**

Understanding the context, the street edge on Hector Peterson Road, is an important space as it is the most occupied and active space. Most activities associated with the street edge are those of a commercial nature such as stalls, carpenters, welders, cabinet makers and mechanics. The street edge is a source of energy that will be funnelled into the identified public spaces to bring life into these spaces.



Figure 80:Massing model that defines the 3 public spaces on its edges (Author 2016).

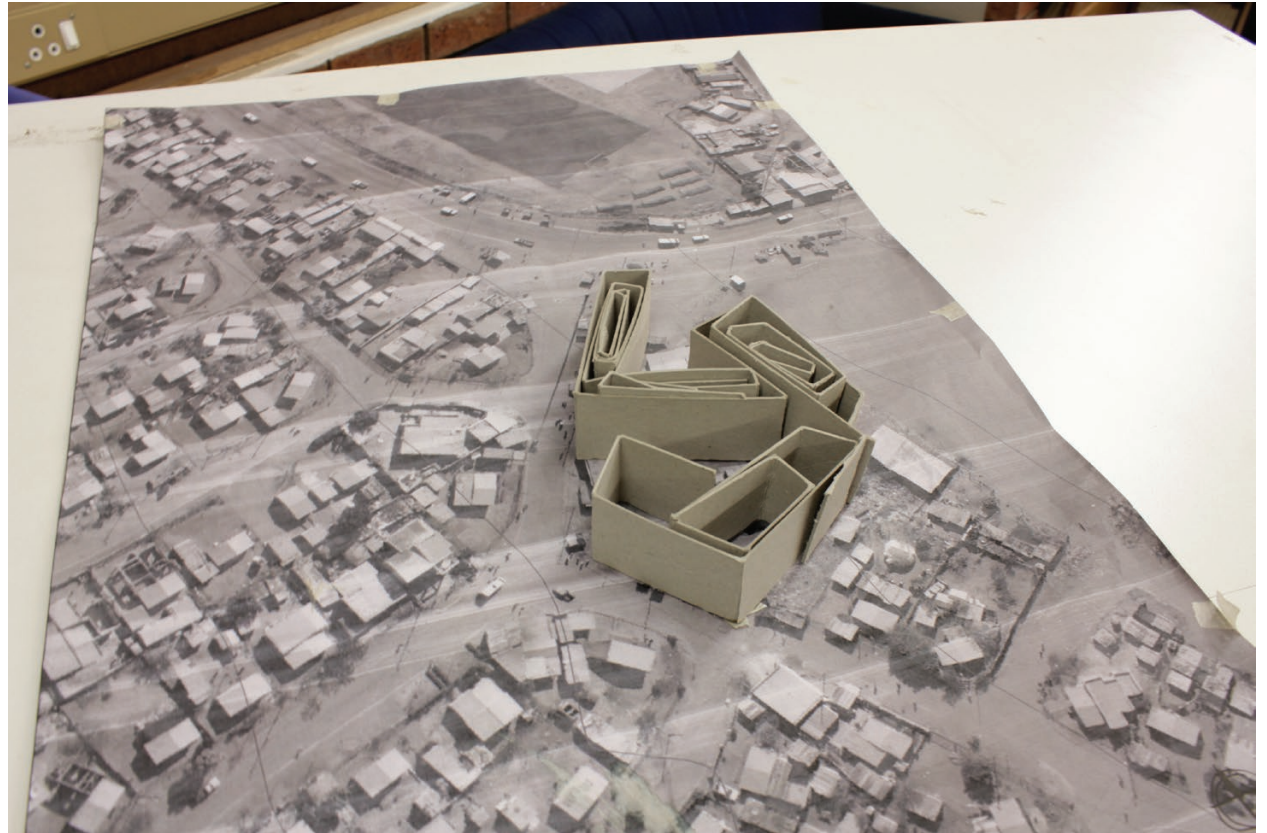


Figure 81:Massing model that defines the 3 public spaces on its edges (Author 2016).

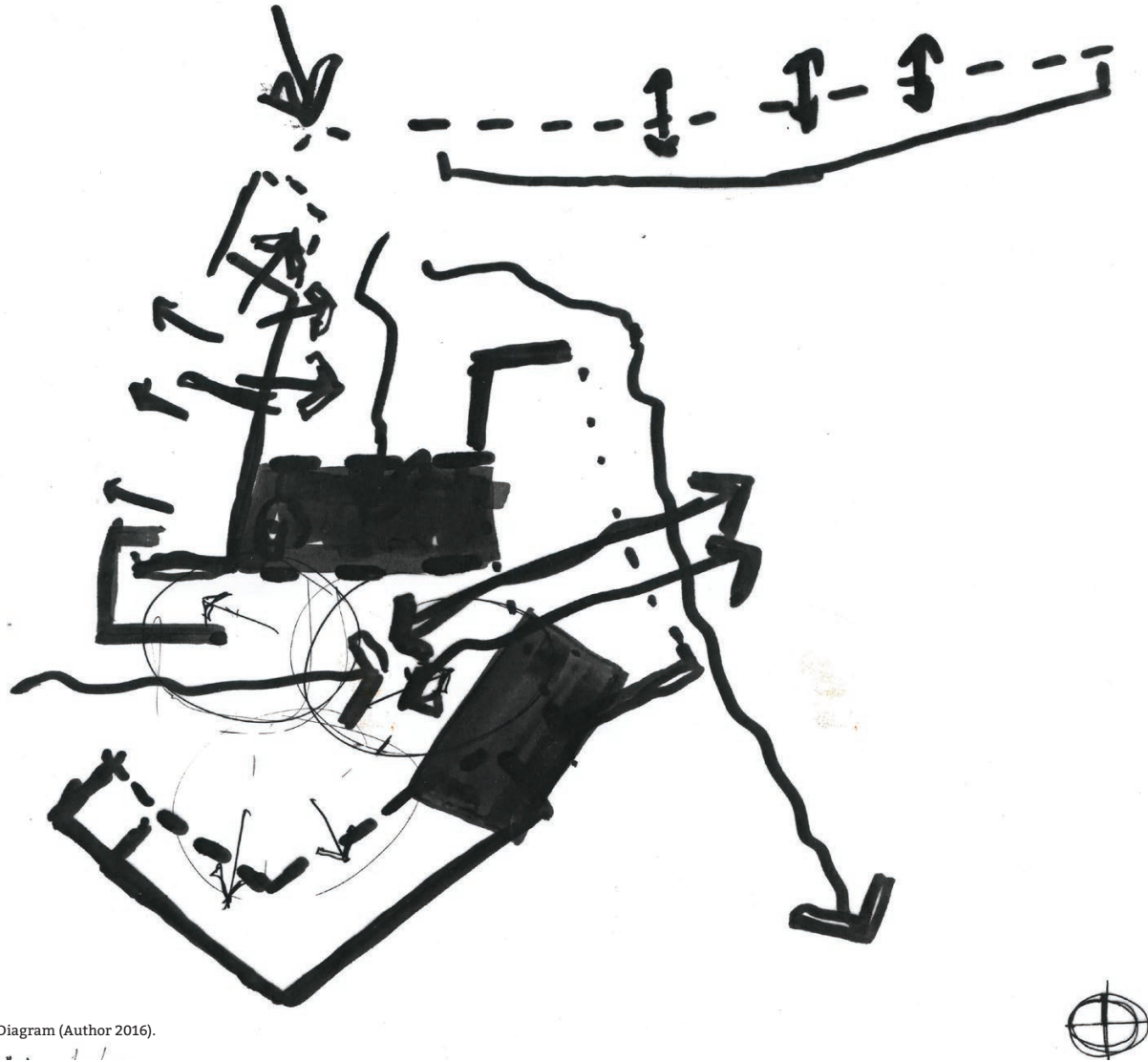


Figure 82:Parti Diagram (Author 2016).

Phase 1 of the project will not be investigated but it forms part of the narrative as well as the programmatic function and feasibility of the concept B, the civic building.

7.3 INITIAL DESIGN

The following images show the initial process of relating the programmatic functions to the public space proposed. It is important to define the street edges and the public space and the public spaces had to be connected, so fluid pedestrian movement from the street towards the internal spaces of the site is important becomes a principle that is carried throughout the building.

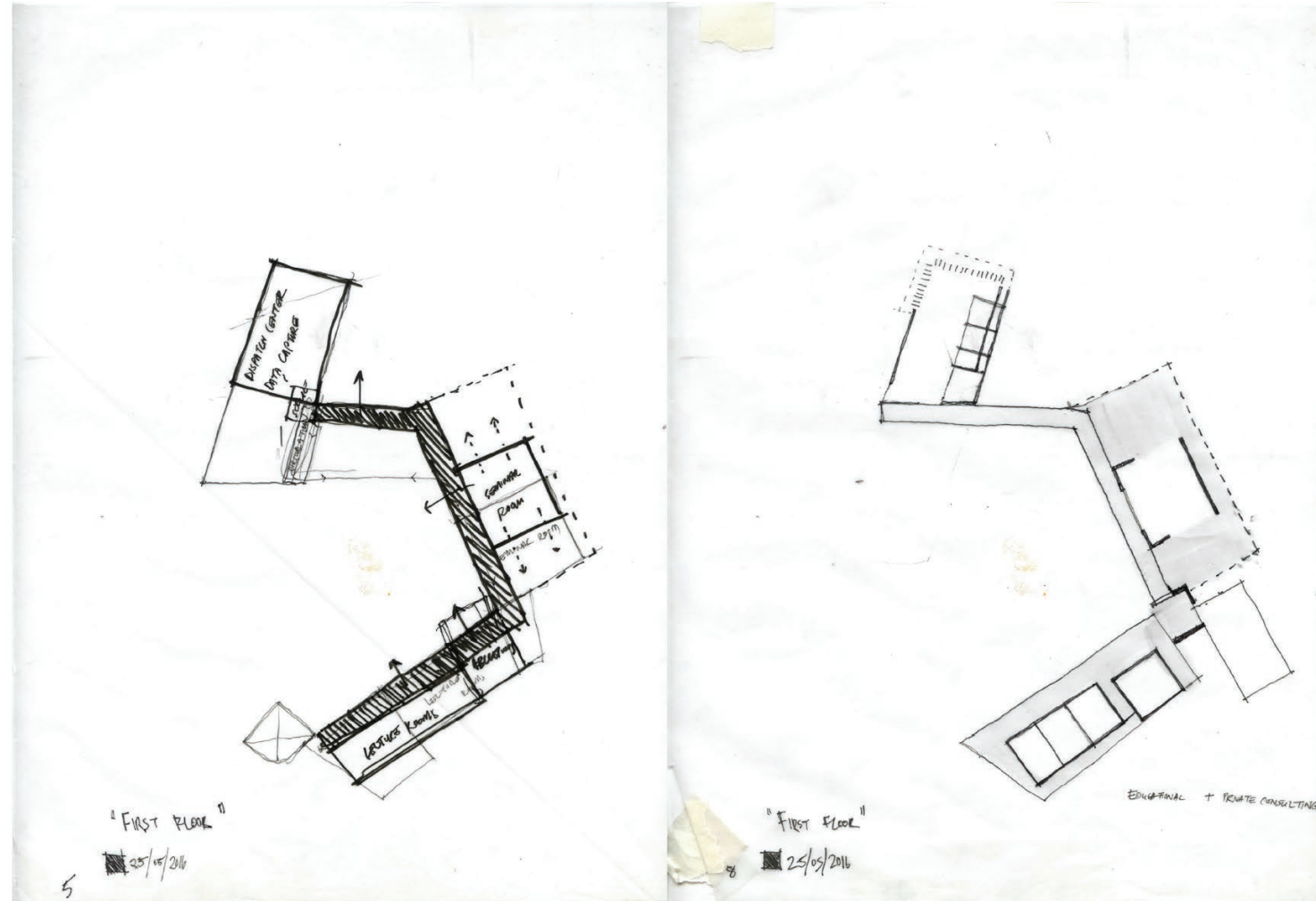
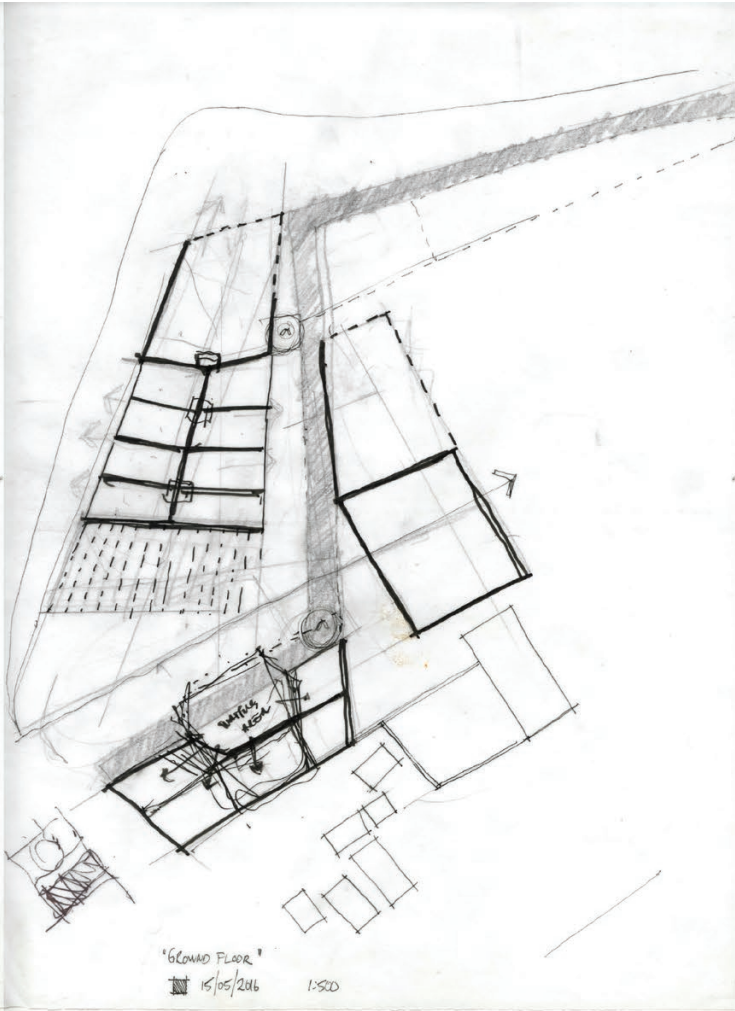
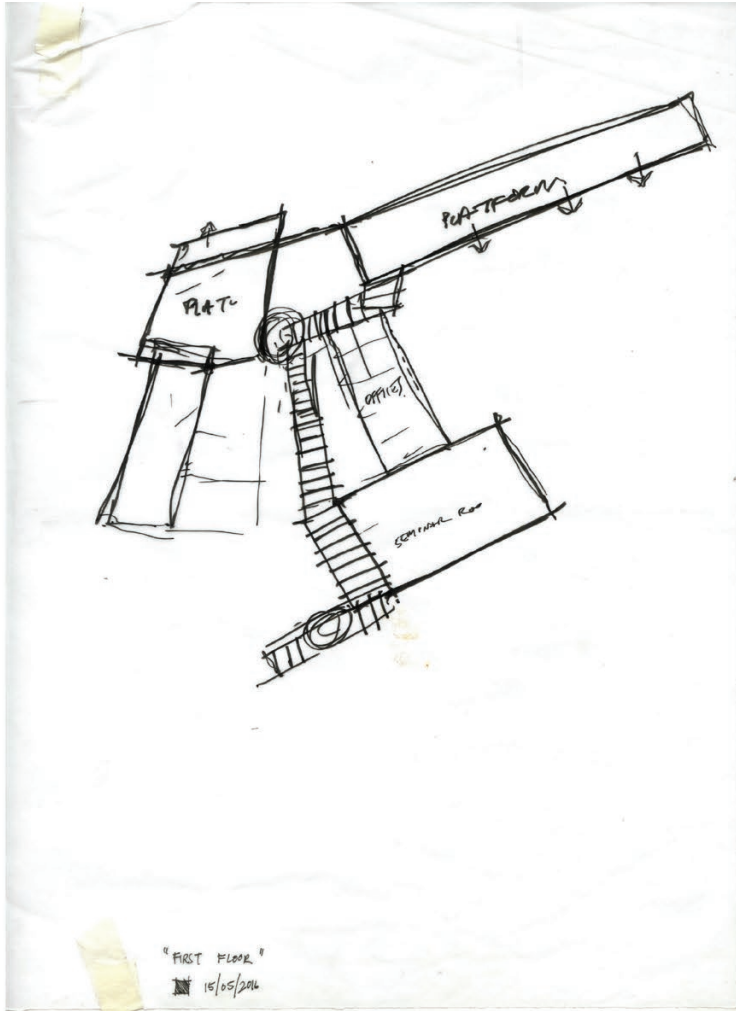


Figure 83: Site Plan development. (Author 2016). The proposed public spaces are related to the programmes in the building.



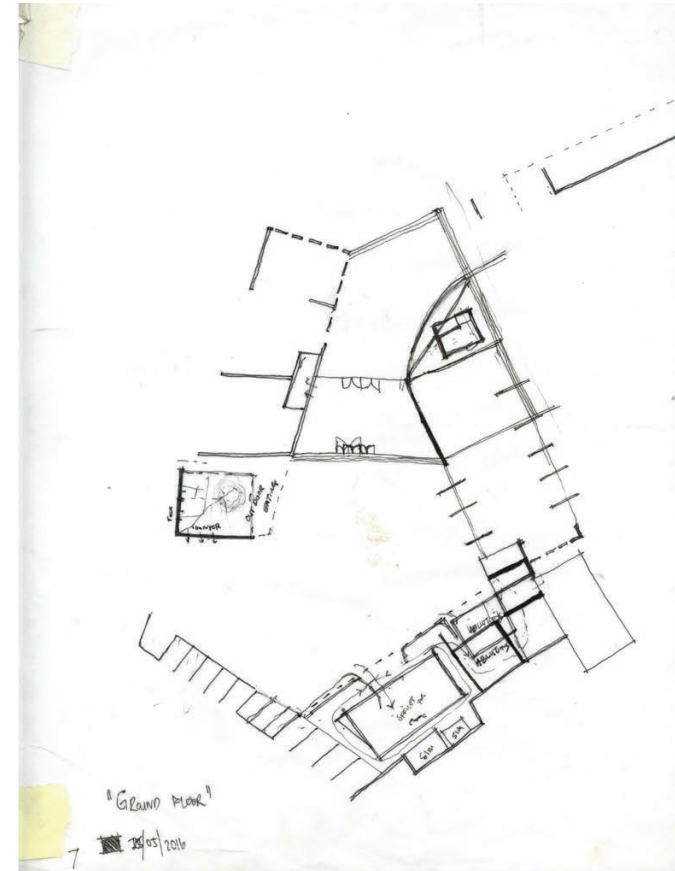
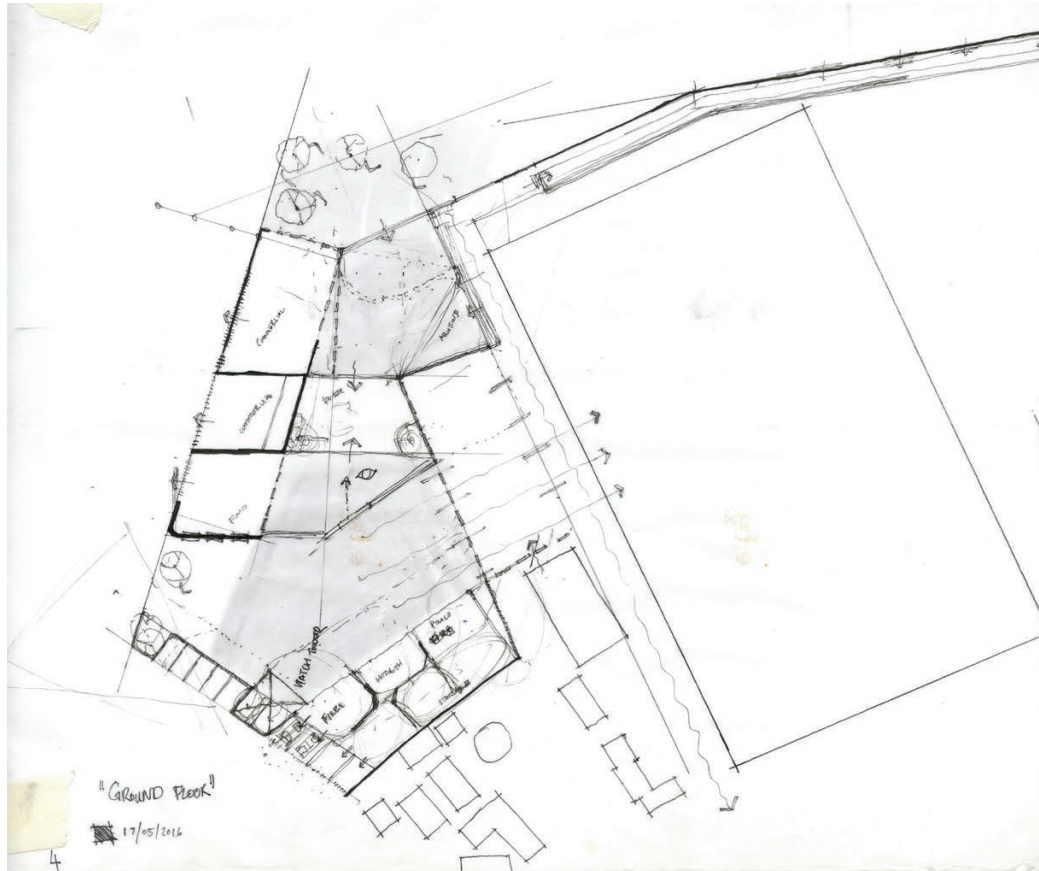


Figure 84: Site Plan Development (Author 2016). The existing pedestrian movement across the site is maintained and visual links between the street and the public spaces are created so that the spaces are not closed off from each other.

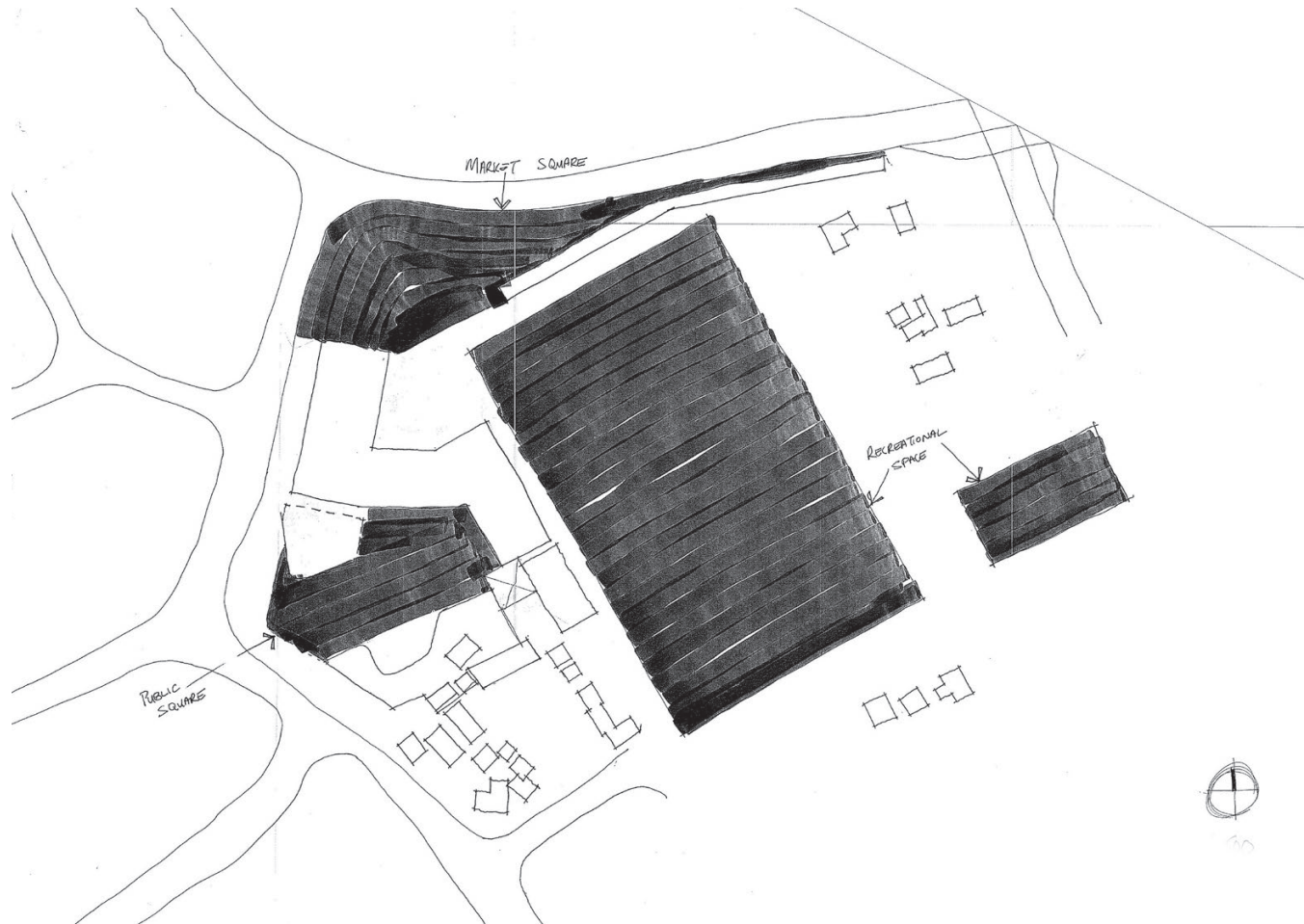


Figure 85: illustration of the public spaces (Black) and the structures that define the spaces (Author 2016).

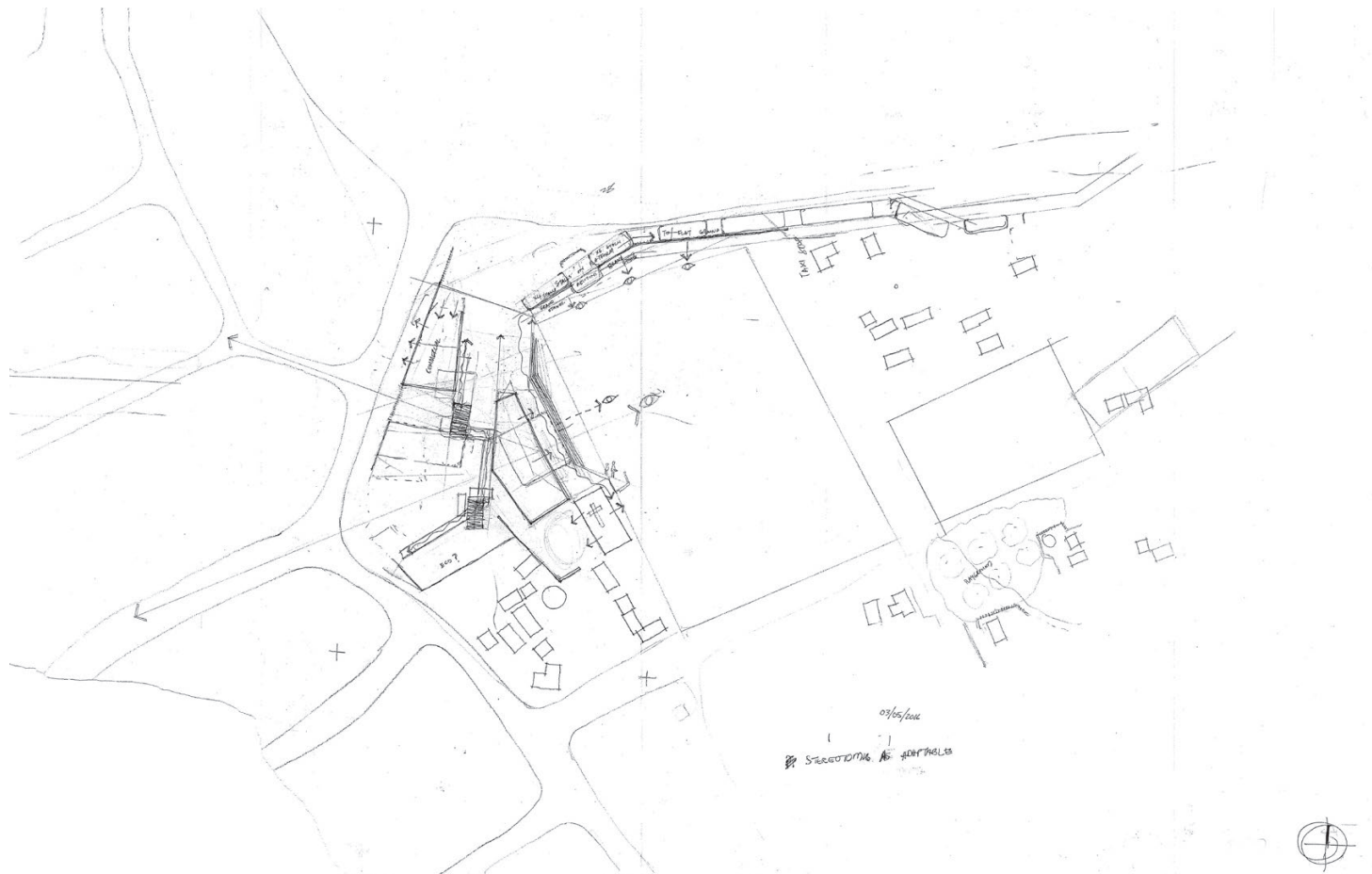


Figure 86: Draft site plan illustrating the response to the street edge, public spaces and existing view across the site. N.T.S(Not to scale) (Author 2016).

By understanding the form of the public spaces on a plan allowed for the buildings around the spaces to be extruded and then see how the buildings define the public spaces on 3D. The massing model, figure 85 & 86, show potentially how the

building will relate to the public space on a civic and residential scale. The mass model exercise achieved the definition of the public space on a three dimensional level. The market and recreational spaces are celebrated on a civic scale with double

volume masses while the communal space is defined by single storey volumes. This will aid in creating a human scale that is intended for this space as well as facilitate a relationship with the surrounding residential units.

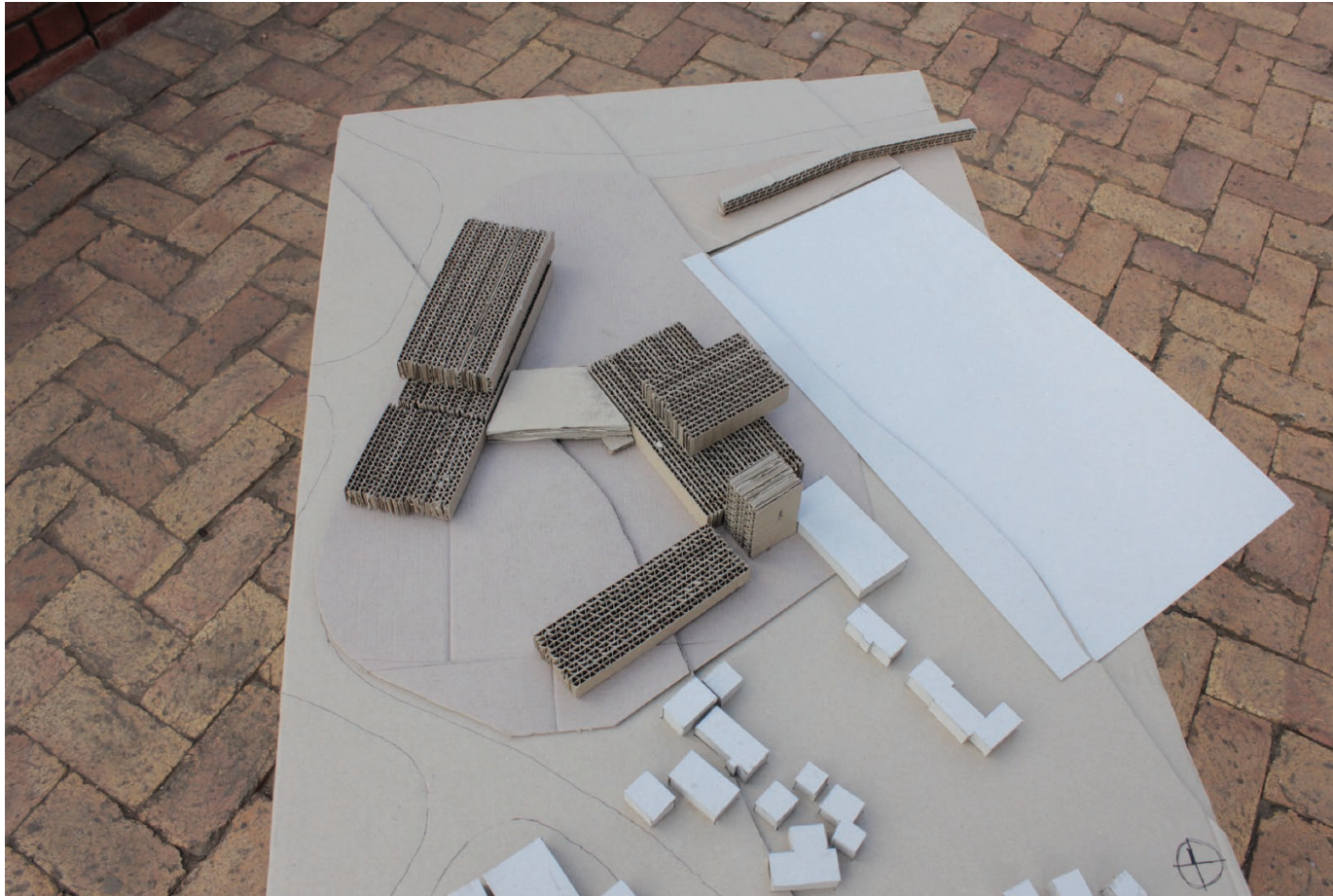


Figure 88: Massing model. (Author 2016)

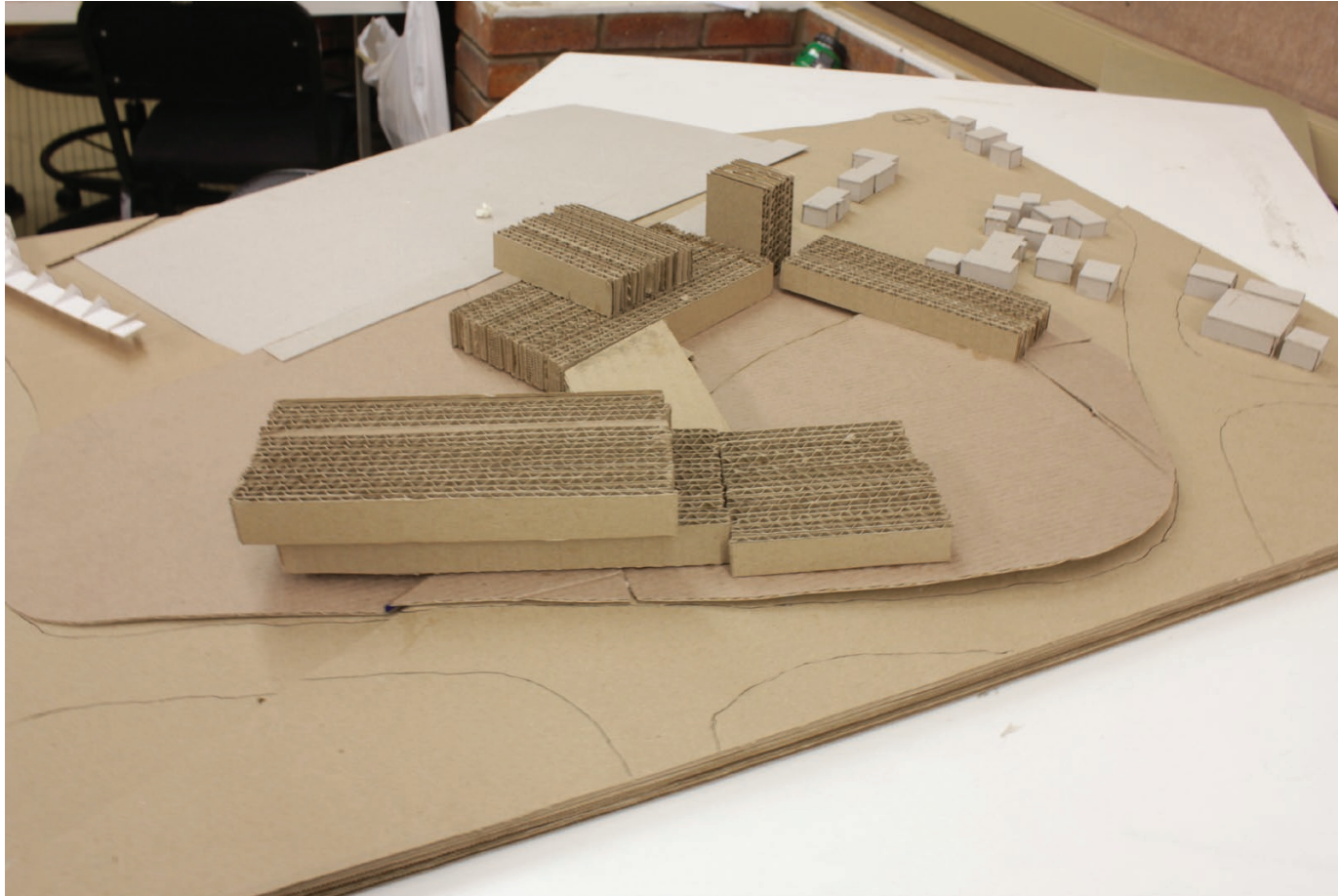


Figure 89: Massing model. (Author 2016)

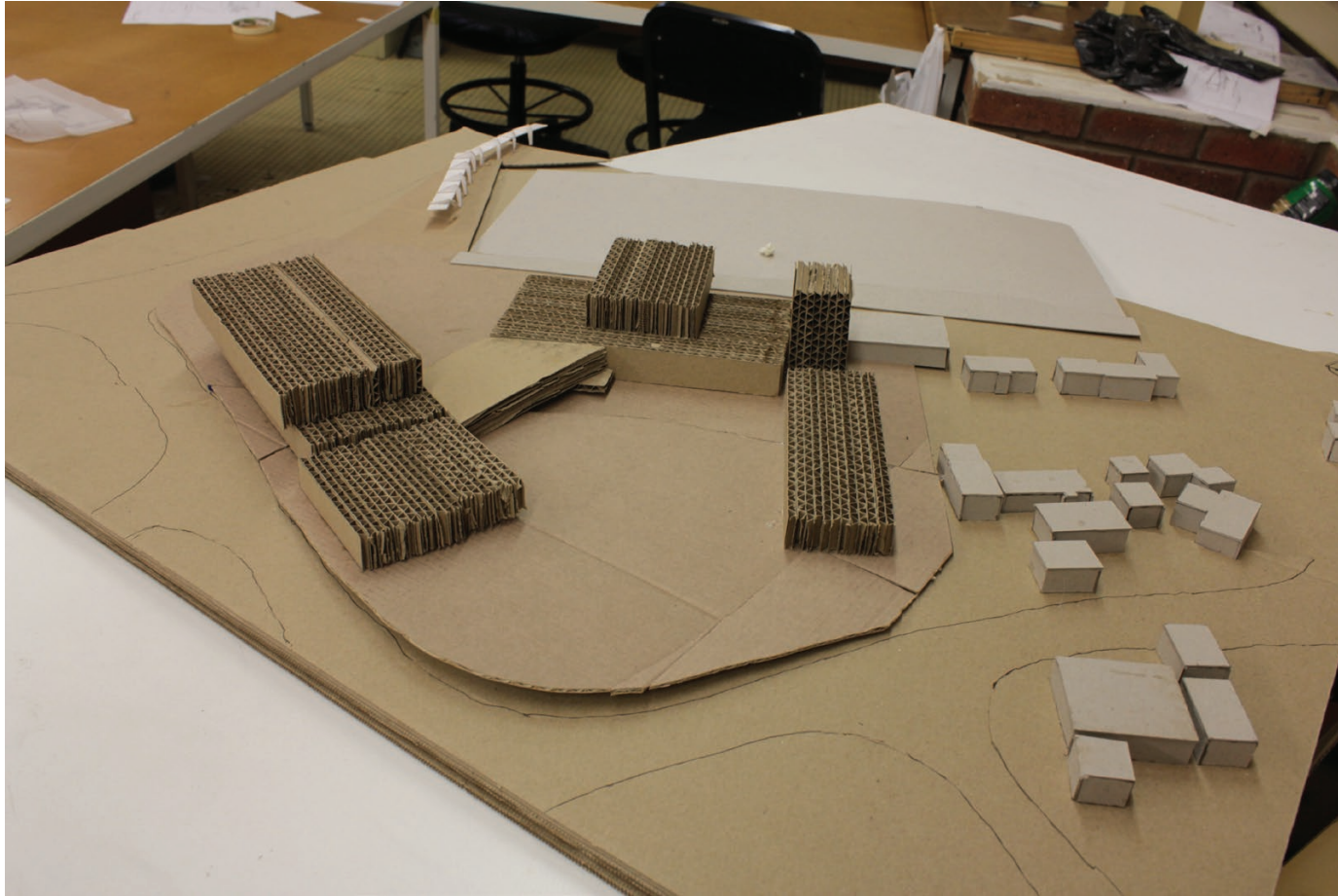


Figure 90: Massing model. (Author 2016)

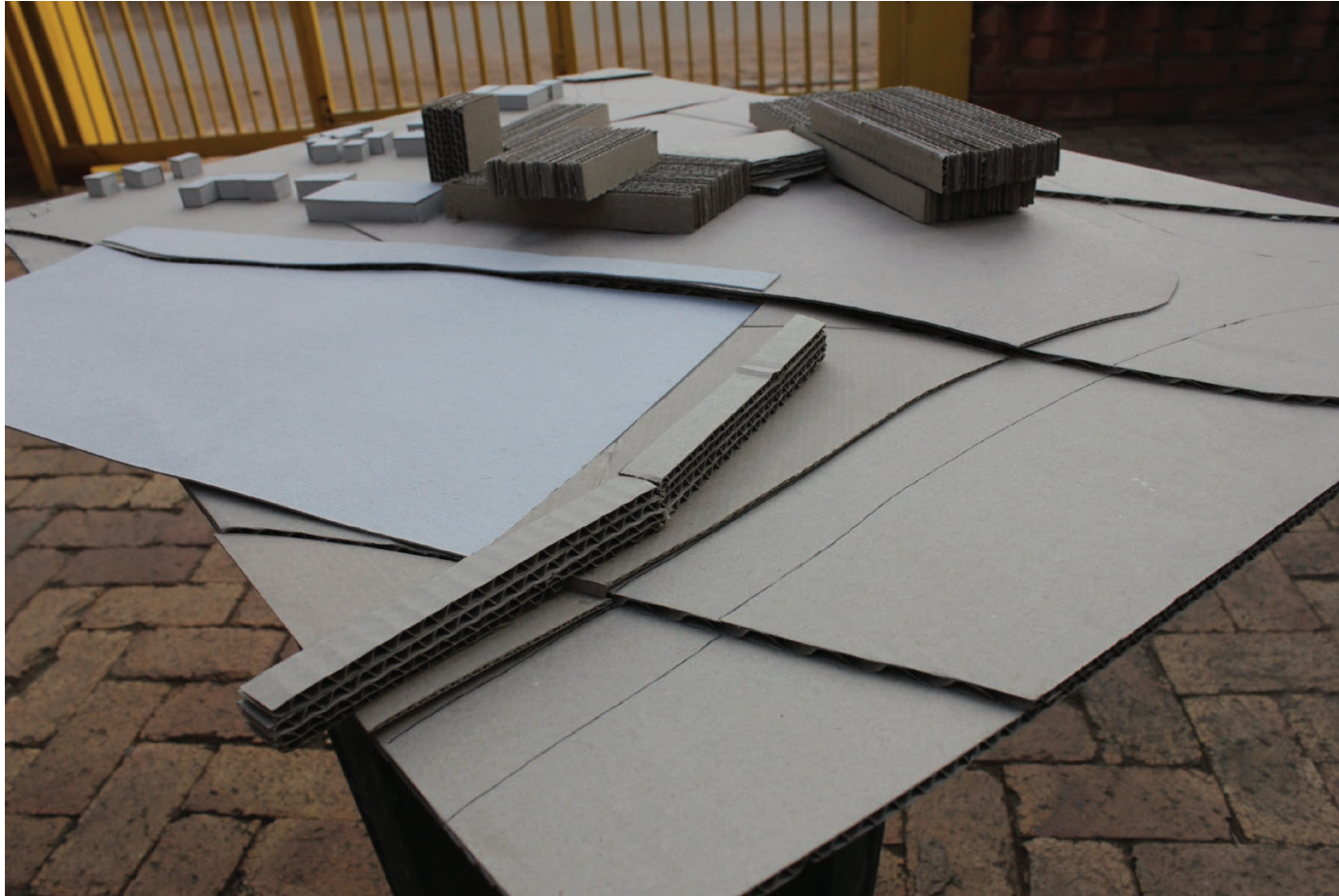


Figure 91: Massing model. (Author 2016)



Figure 92: Site Plan (Author 2016)



Figure 93: Ground floor plan. N.T.S (Author 2016).

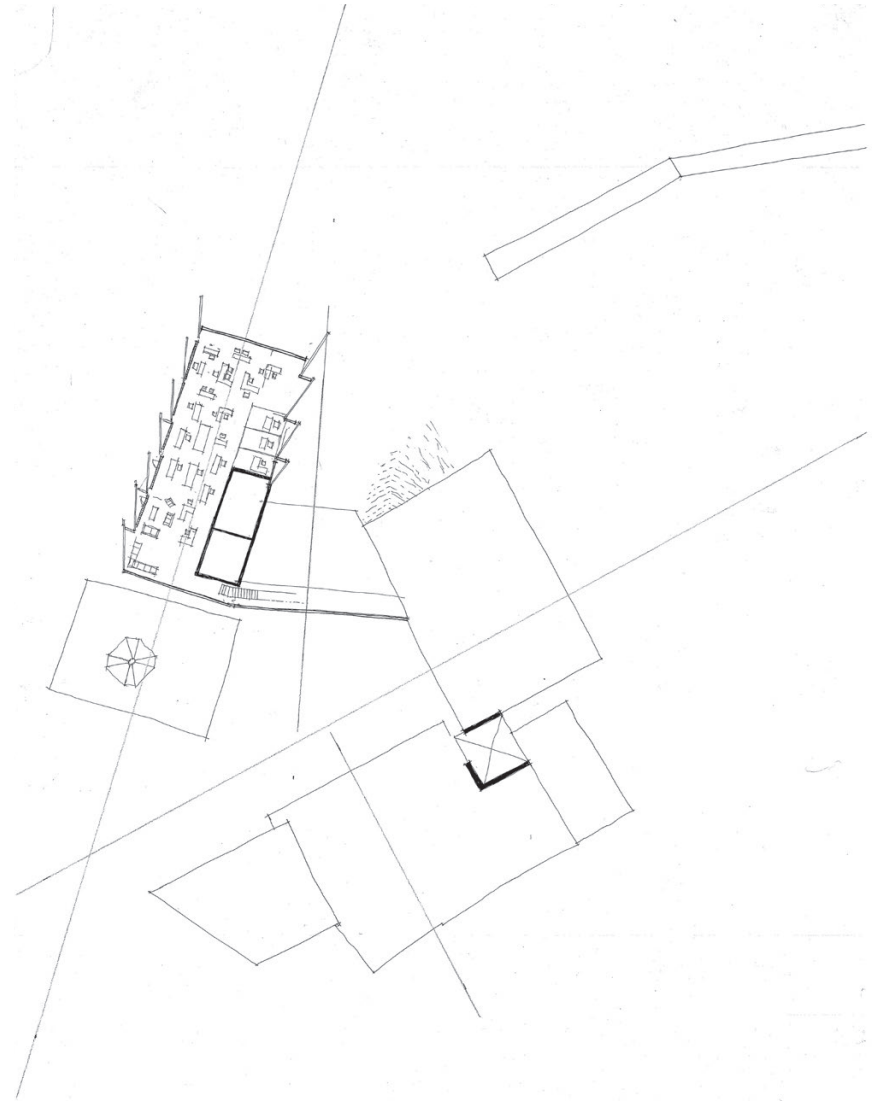


Figure 94: First floor plan (Author 2016).

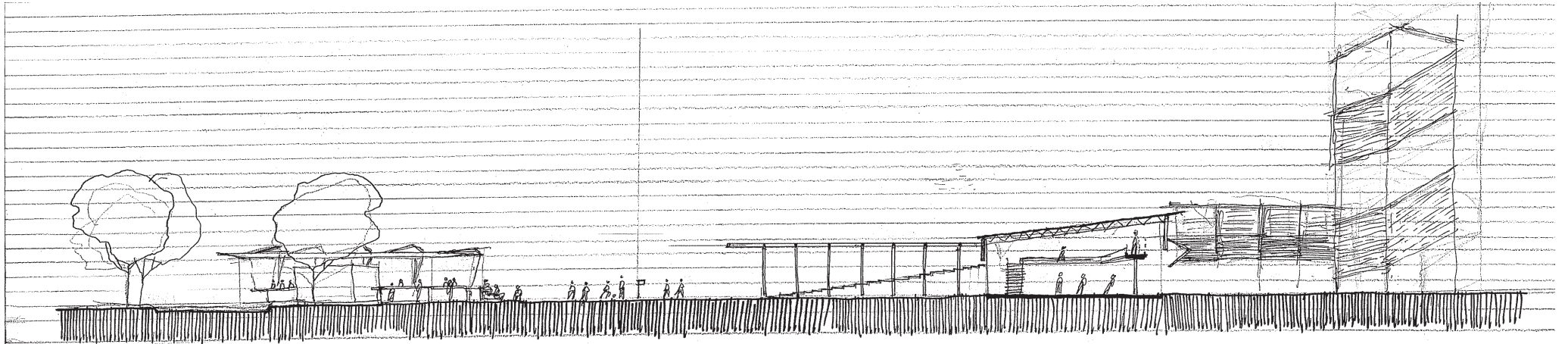


Figure 95: Section through the public spaces.(Author 2016).

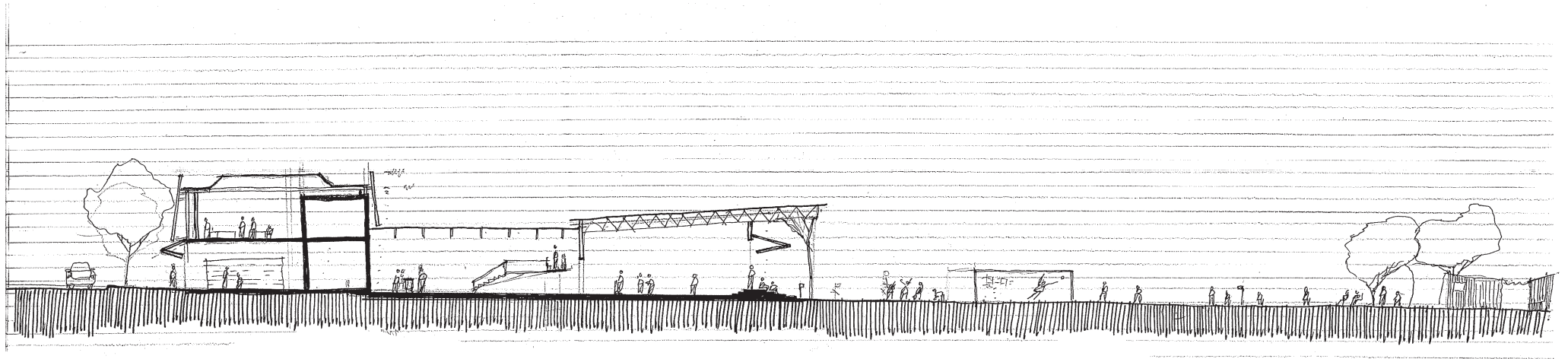


Figure 96: Section through the public spaces. (Author 2016).

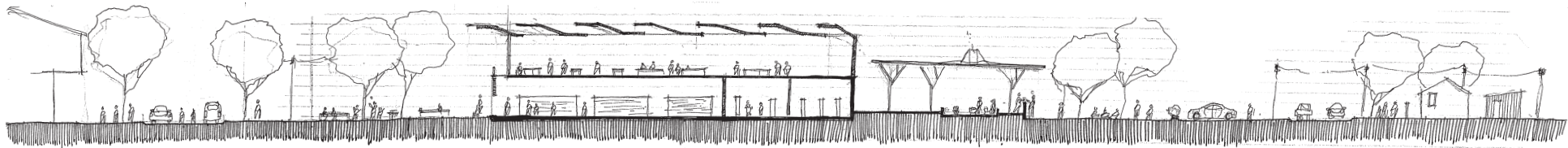


Figure 97: Sections through the building (Author 2016).

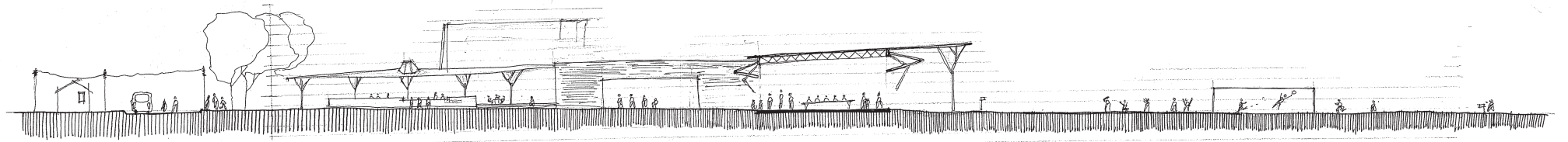


Figure 98: Sections through the building (Author 2016).

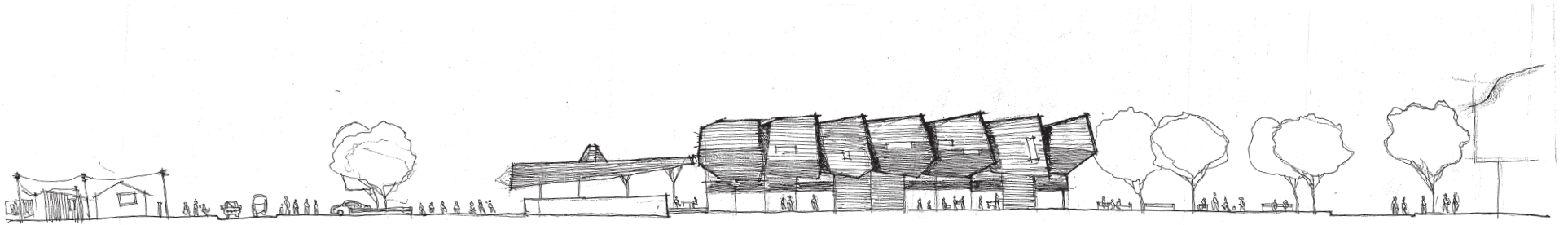


Figure 99: Elevations of building within context (Author 2016).

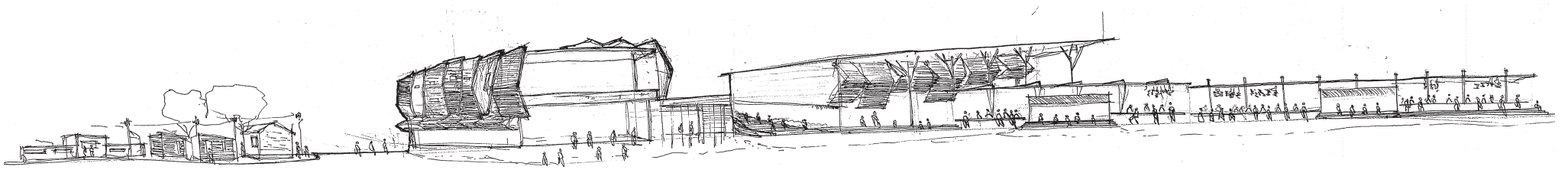


Figure 100: Elevations of building within context (Author 2016).

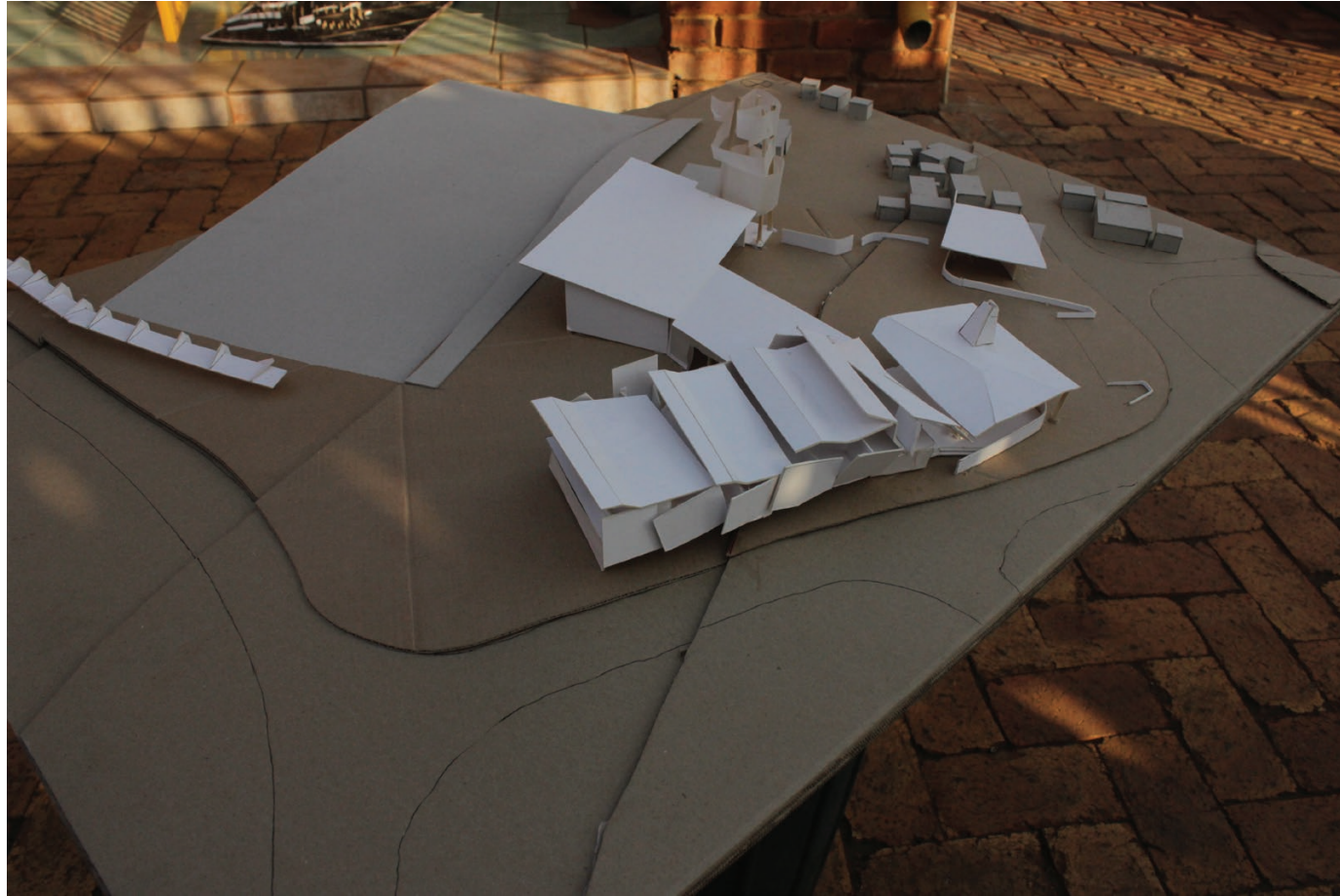


Figure 101: Marquette of building in the landscape. Aerial view (Author 2016).

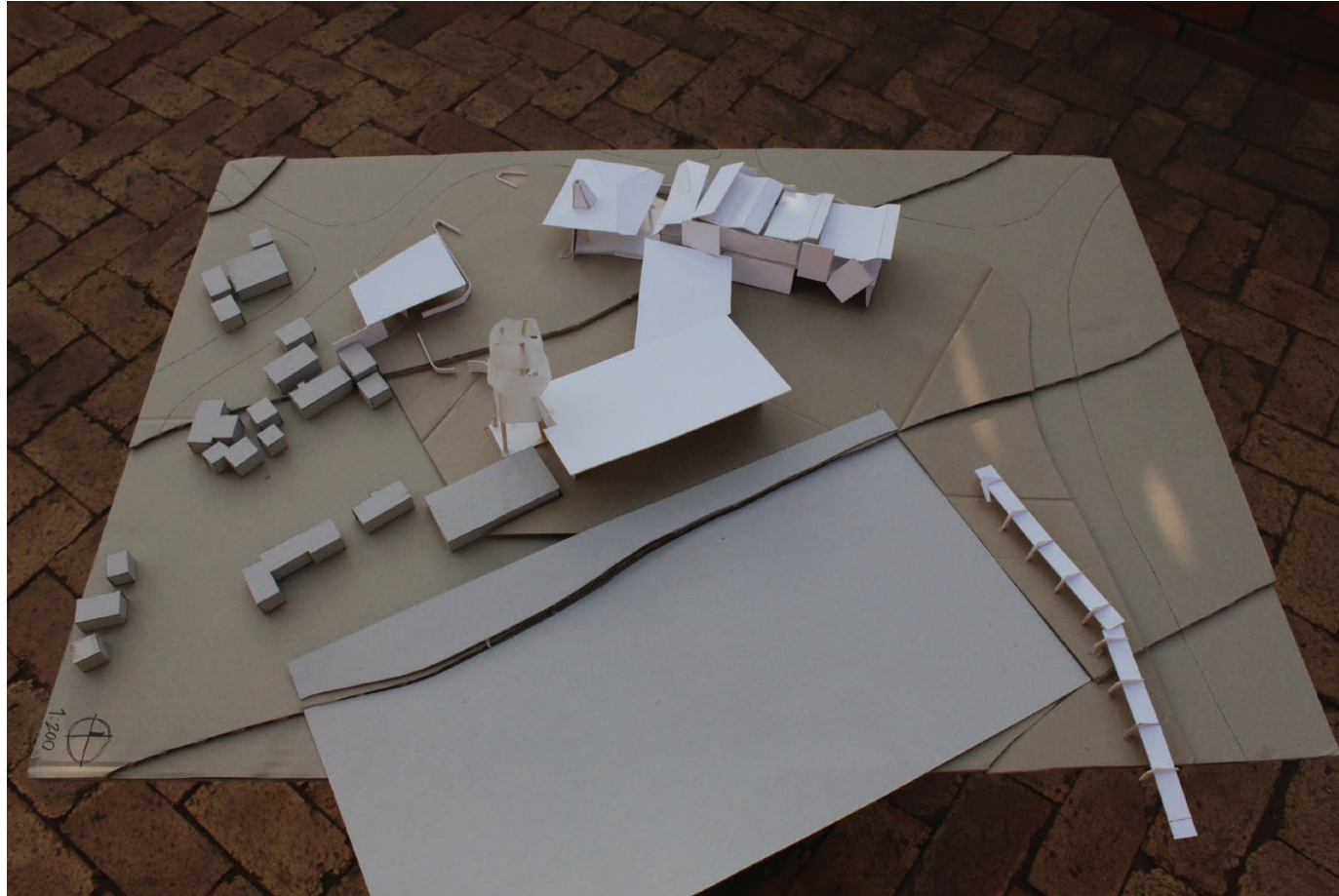


Figure 102: Marquette of building in the landscape. Aerial view from the soccer field (Author 2016).

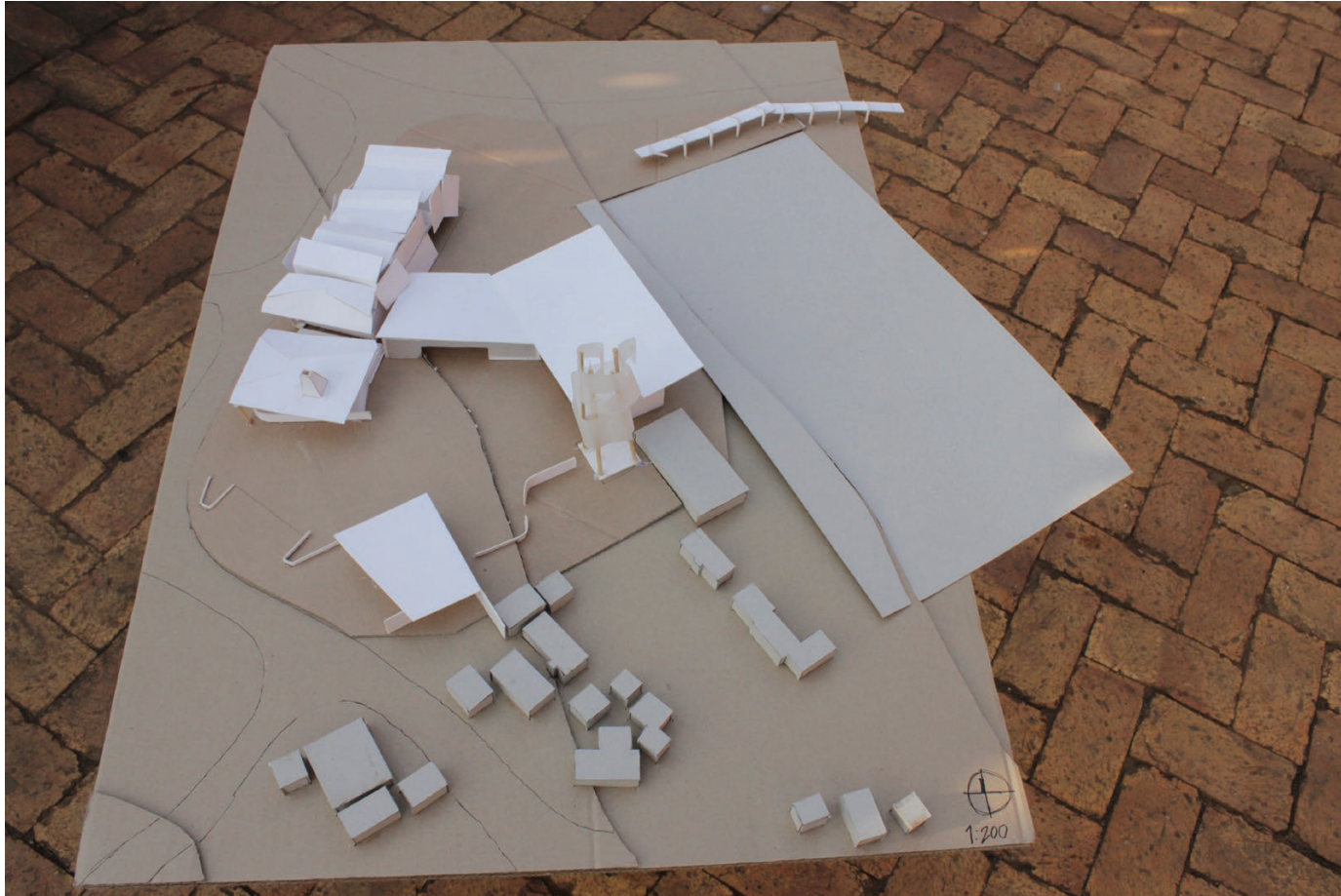


Figure 103: Marquette of building in the landscape. Aerial View (Author 2016).

The initial design achieved the following:

- Defining the street edges.
- Defining the 3 public spaces.
- The buildings defining the public spaces are addressing the programmes of the public through the buildings programmatic layout.

The design failed in the following ways:

- The scale of the building failed to address the design principle of negotiating between civic and residential scale.
- The language of building at this stage was not appropriate for the context. Through its architectural form and proposed materials.
- The space allocation proved too much for the programme and therefore had large uncontrolled spaces.

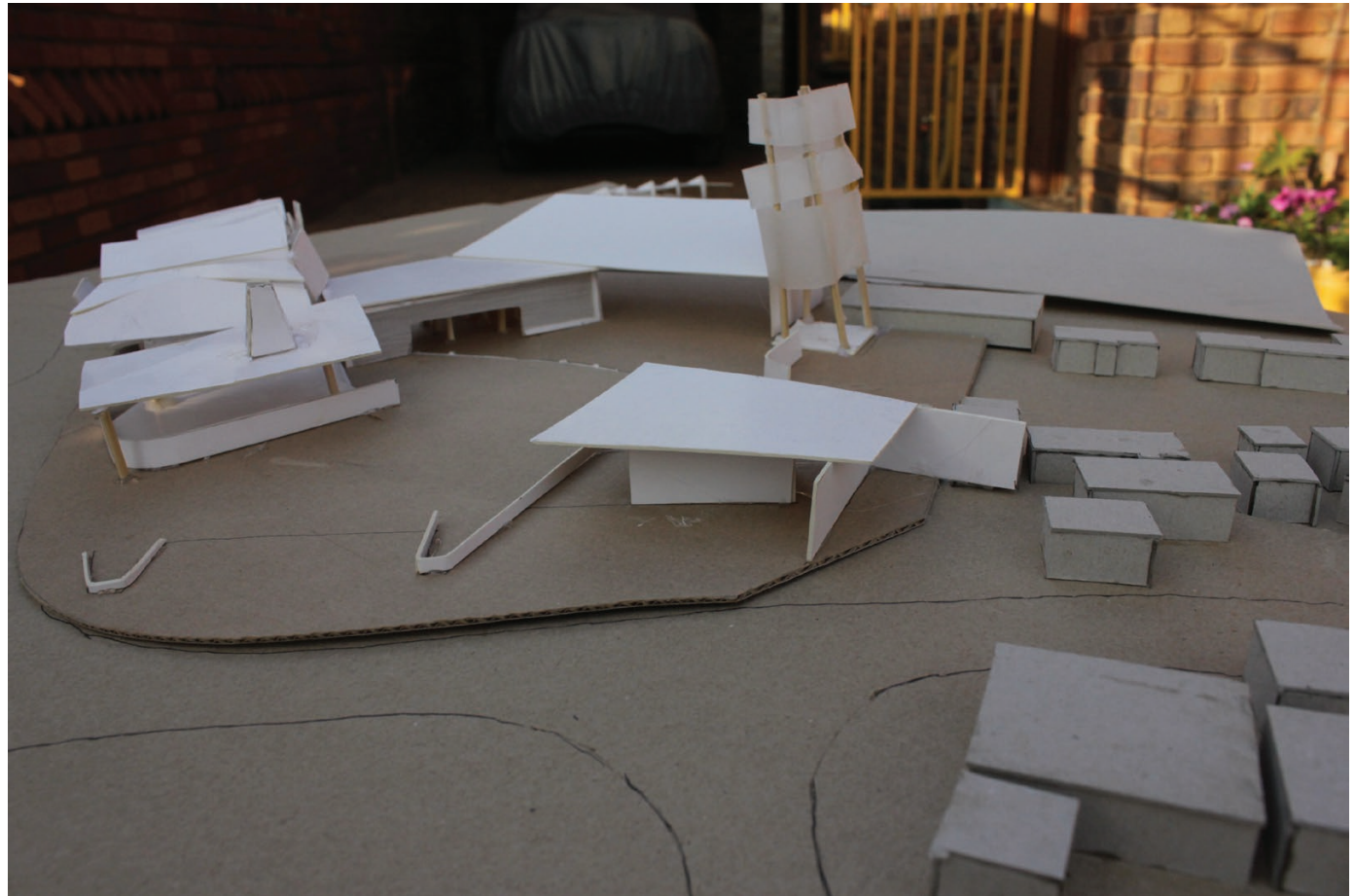


Figure 104: Marquette of building in the landscape. View from residential side of the building. (Author 2016).

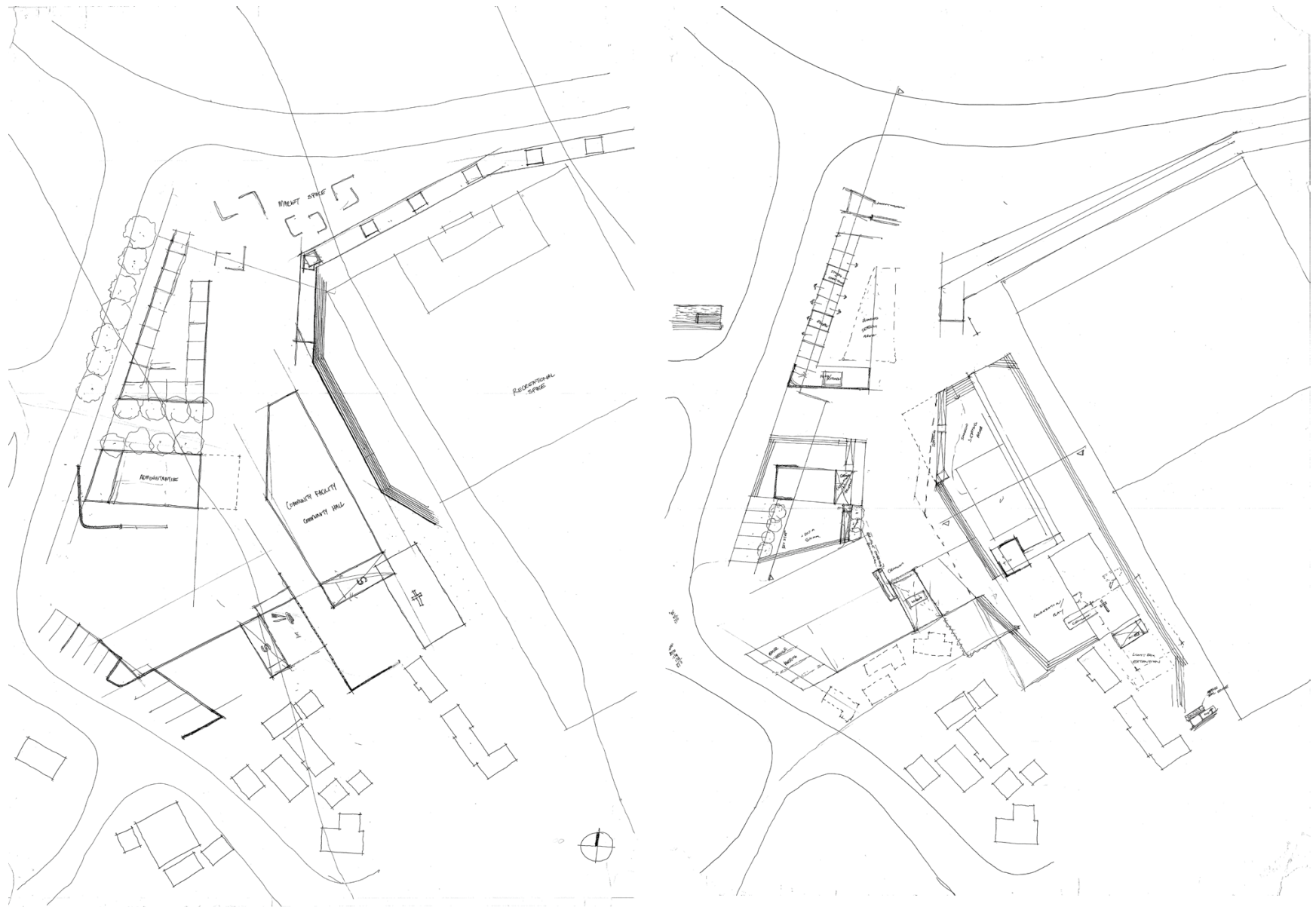


Figure 106: Site plan on the left and ground floor plan iteration on the right (Author 2016).

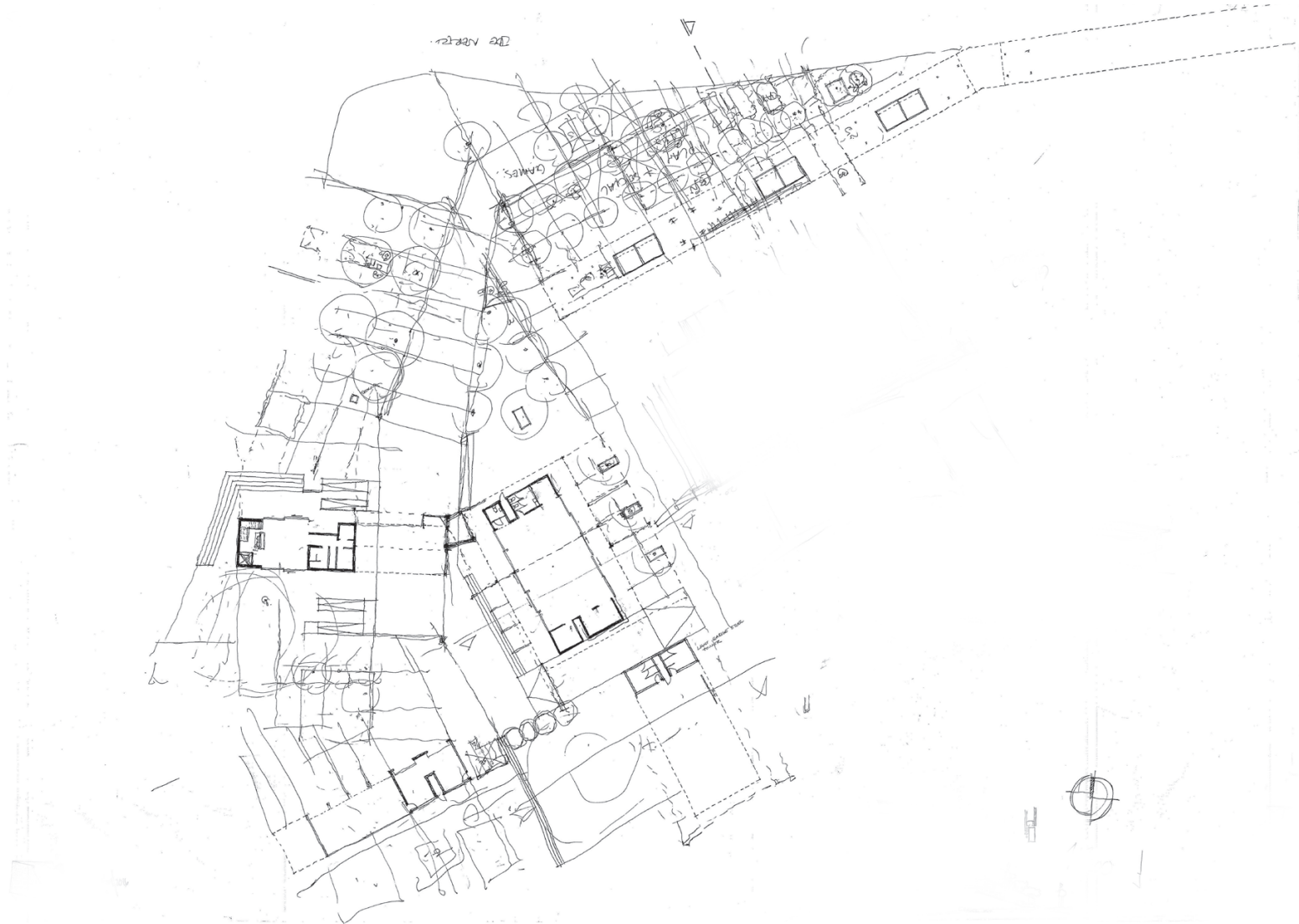


Figure 107: Investigating thresholds between the building and the landscape (Author 2016).

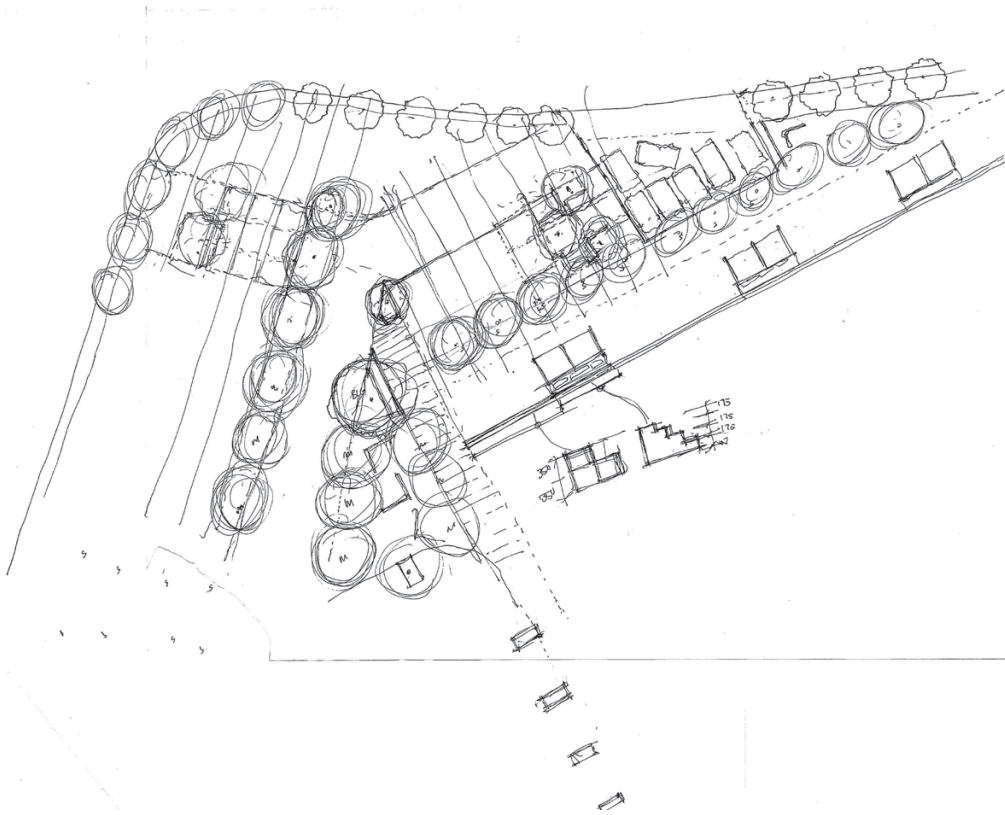


Figure 108: Redesigning the street edge of Hector Peterson Rd. and the thresholds to the market stalls (Author 2016).

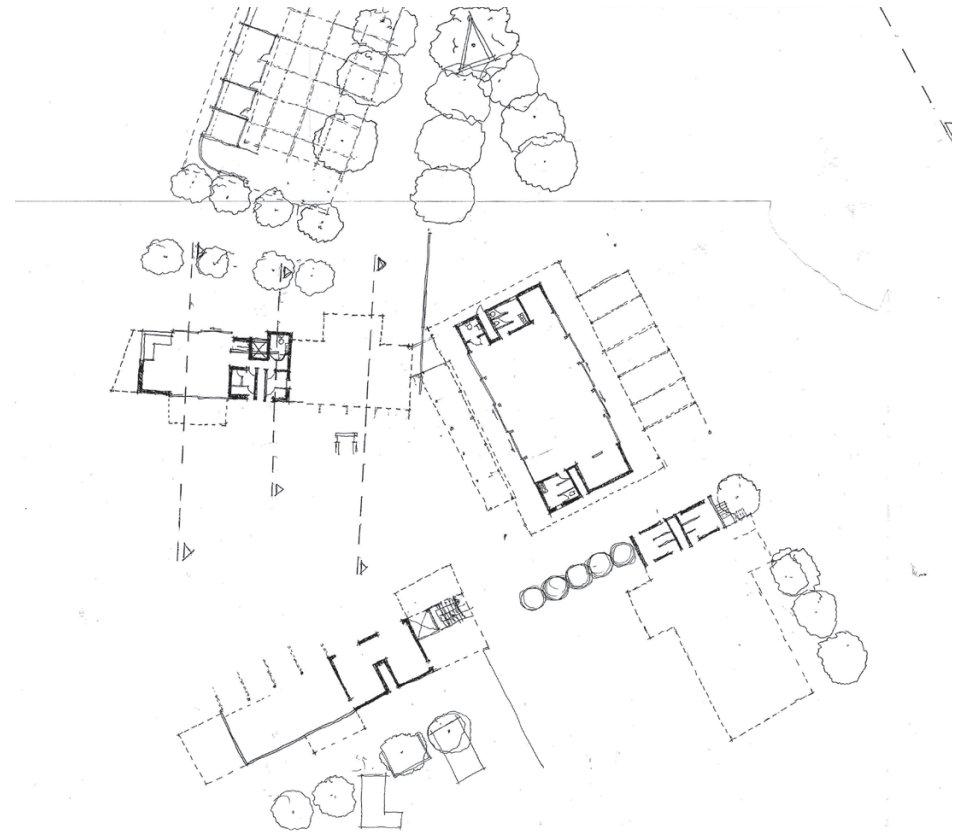


Figure 109: Sketch of landscape and roofs as thresholds. (Author 2016).

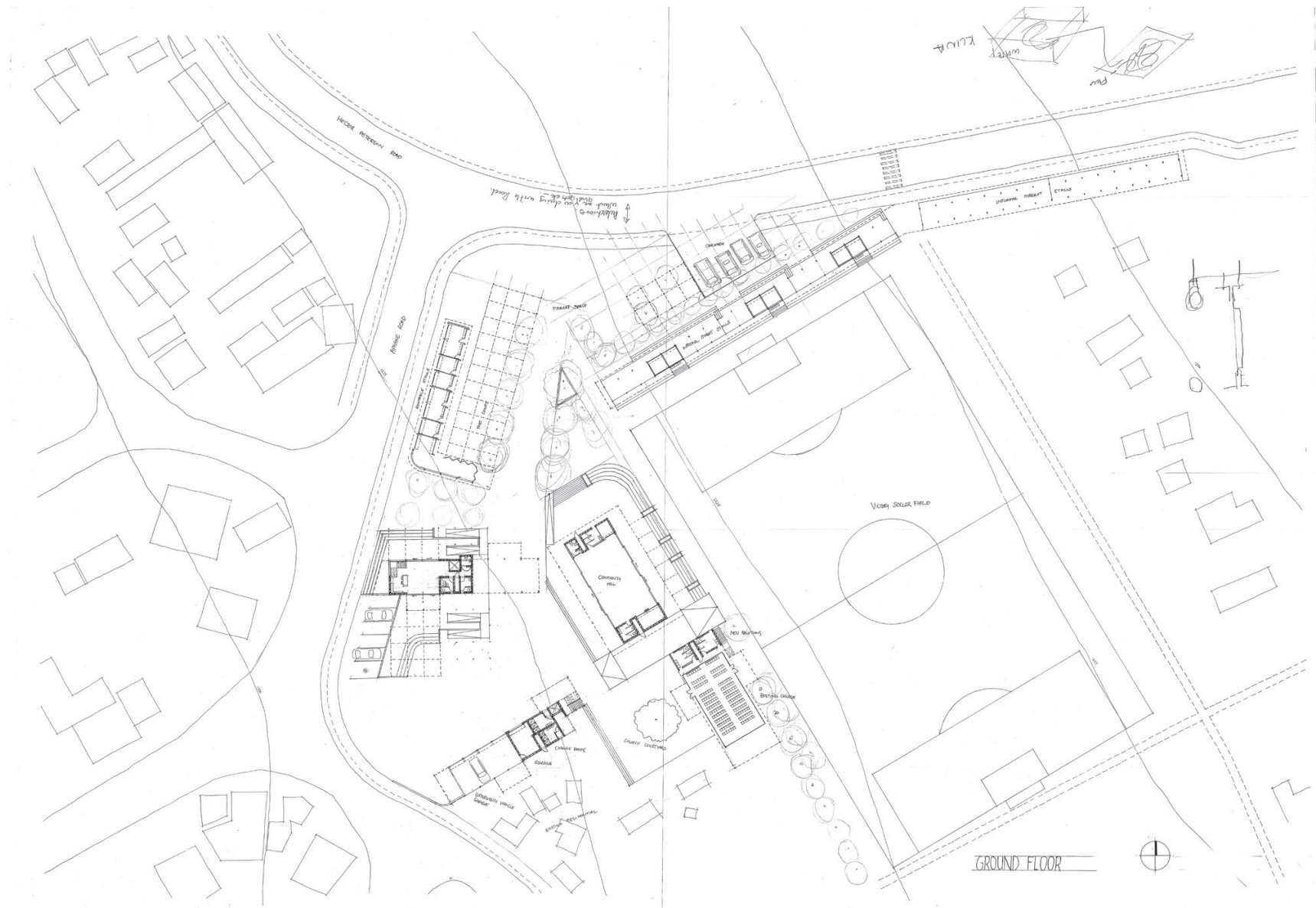


Figure 110: The iterated ground floor plan (Author 2016).

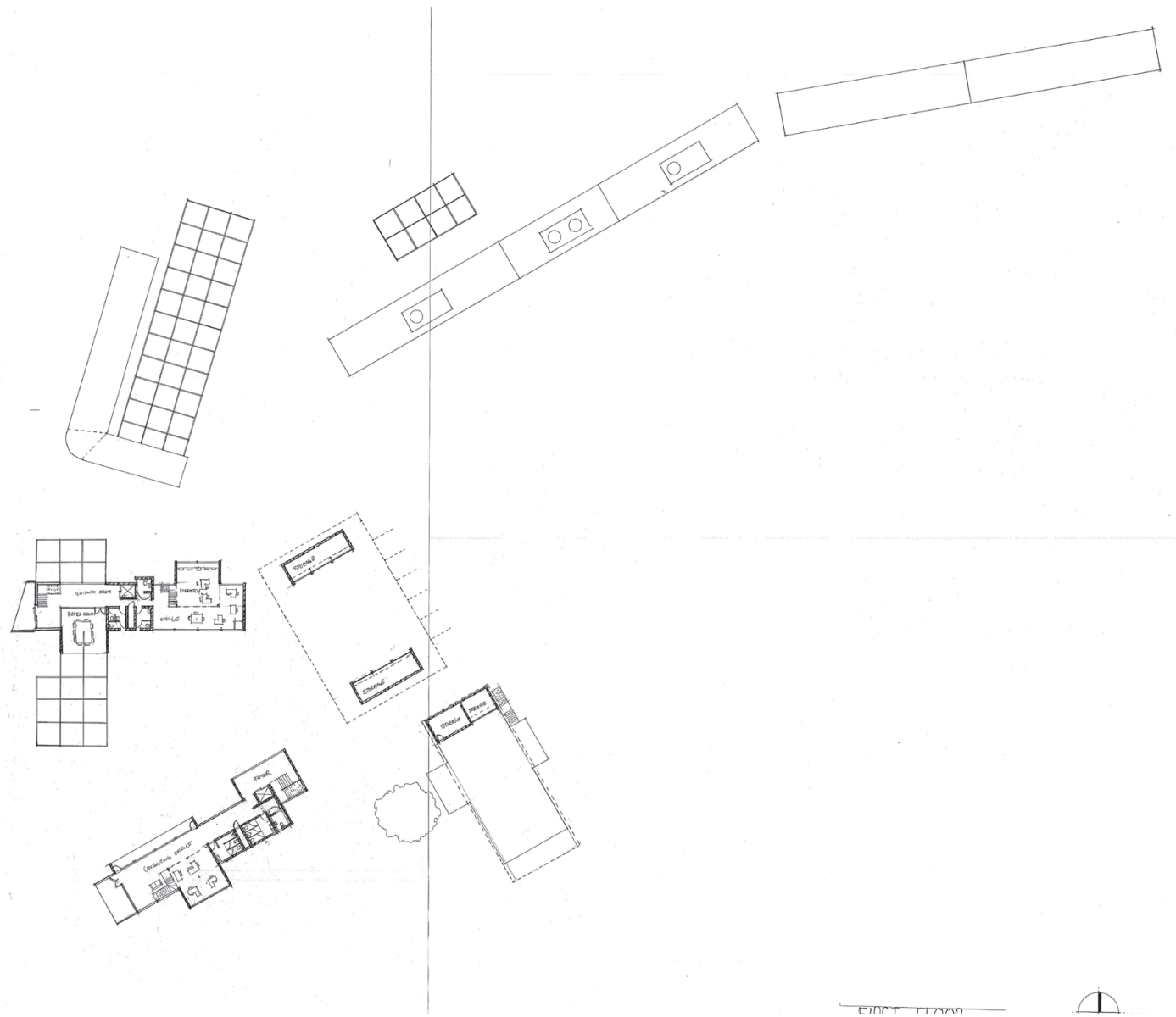


Figure 111: The iterated first floor plan (Author 2016).

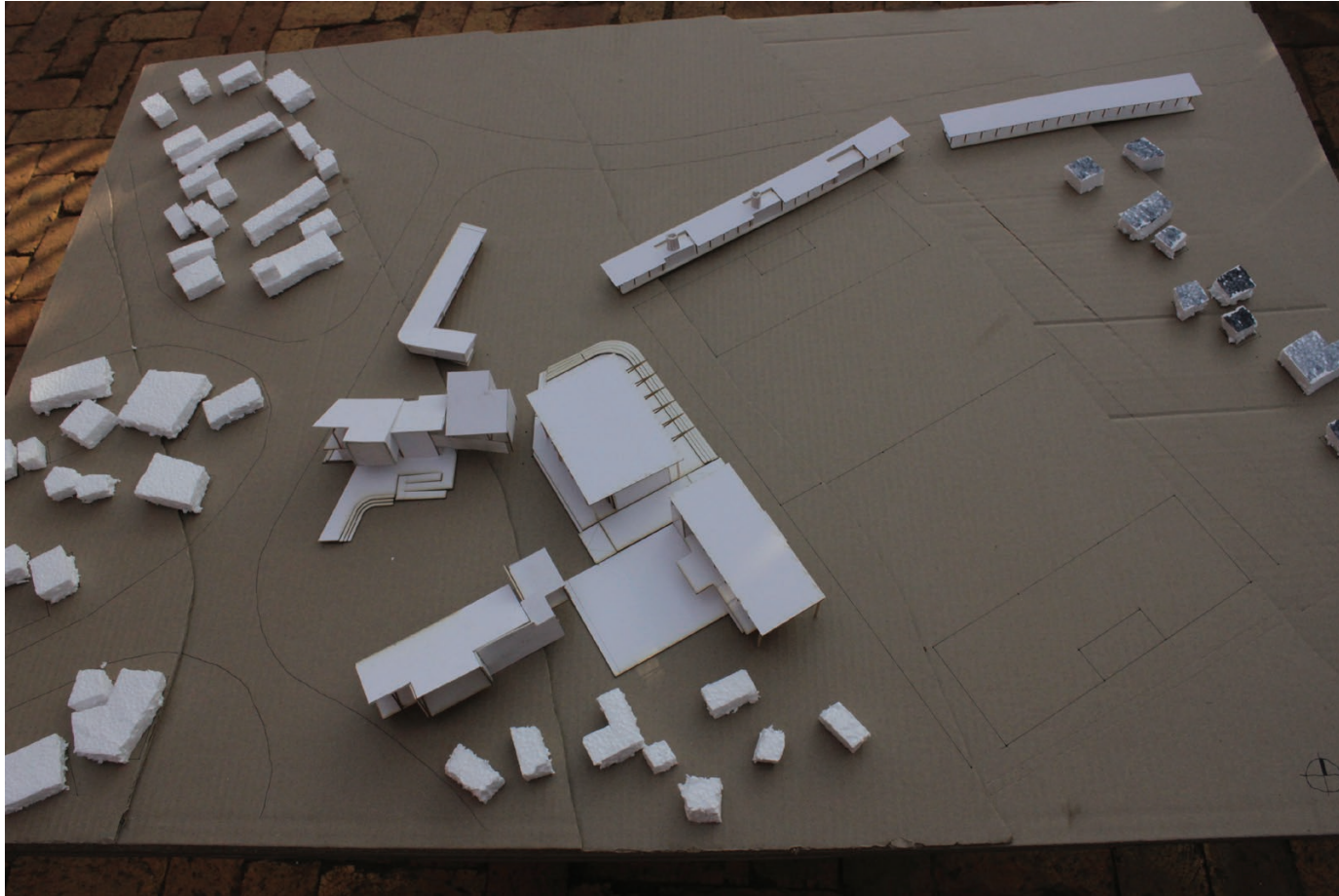


Figure 112:Marquette. Aerial View. The model shows the character of the architecture in relation to the space around it (Author 2016).

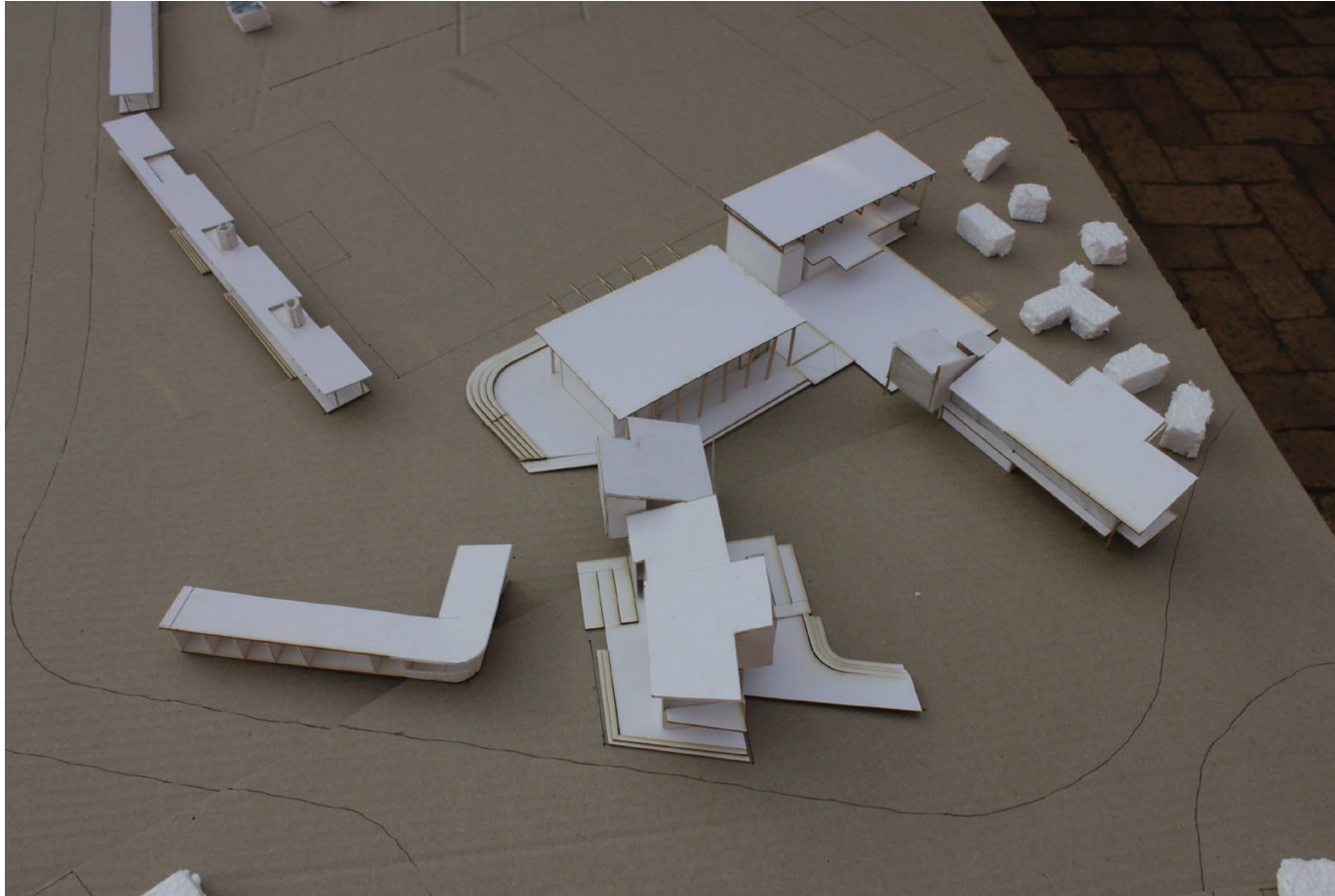


Figure 113:Marquette. Aerial View. The model shows the character of the architecture in relation to the space around it (Author 2016).



Figure 114:Marquette. Aerial view from the residential side of the site. The model shows the character of the architecture in relation to the space around it (Author 2016).

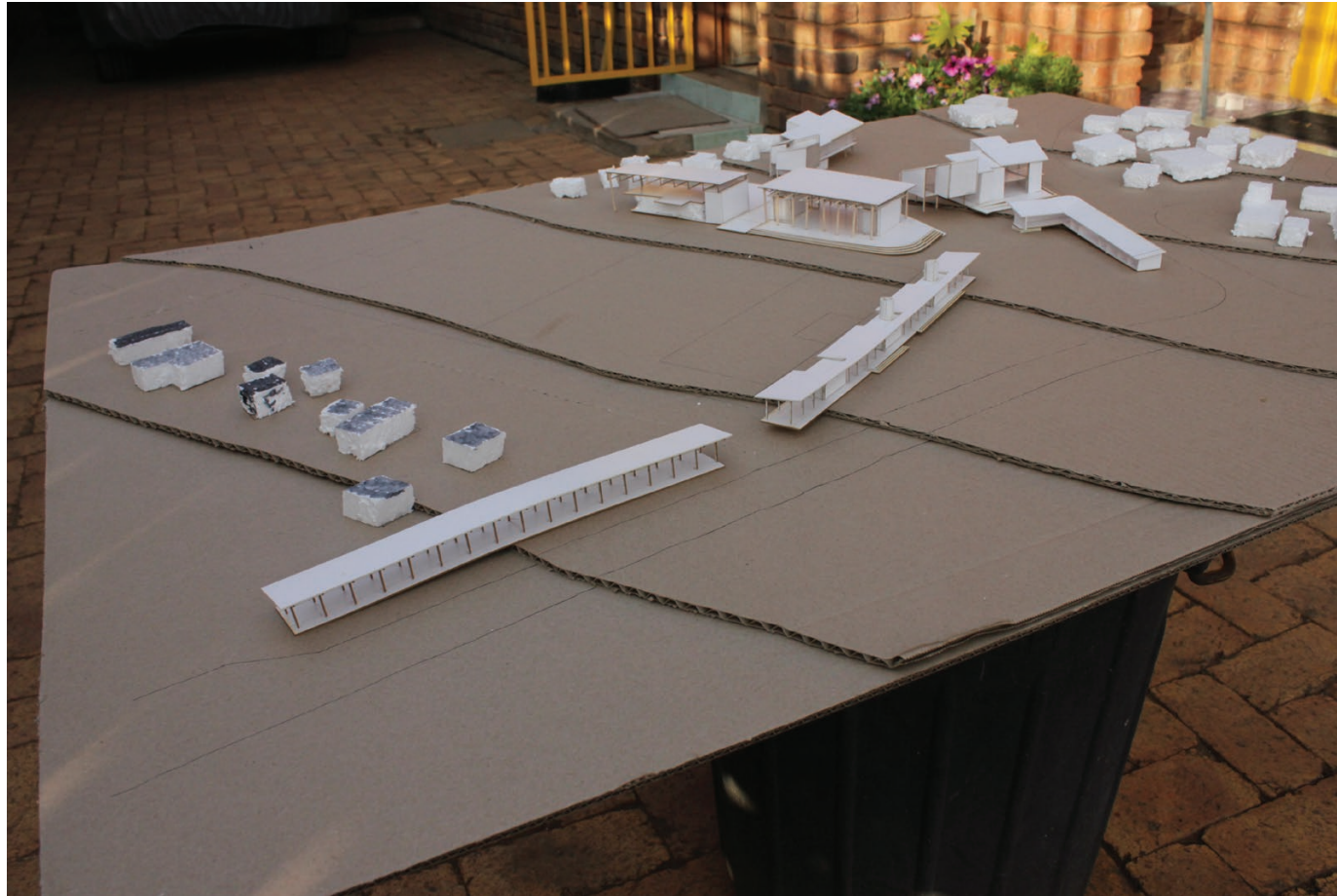


Figure 115:Marquette. View across Hector Peterson Road and the primary school. The model shows the character of the architecture in relation to the space around it (Author 2016).

The iteration of the initial design achieved the following:

- Defining the street edges.
- Defining the 3 public spaces.
- The buildings defining the public spaces are addressing the programmes of the public through the buildings programmatic layout.
- The buildings scale addresses the civic scale of the project but also the residential scale of the surrounding context.
- Thresholds between the building and the public space are created and they start a dialogue between the building and the landscape.
- The size / foot print of the building is more appropriate to the function of the project and the spatial requirements



Figure 116:Marquette. View from across the soccer field. The model shows the character of the architecture in relation to the space around it (Author 2016).

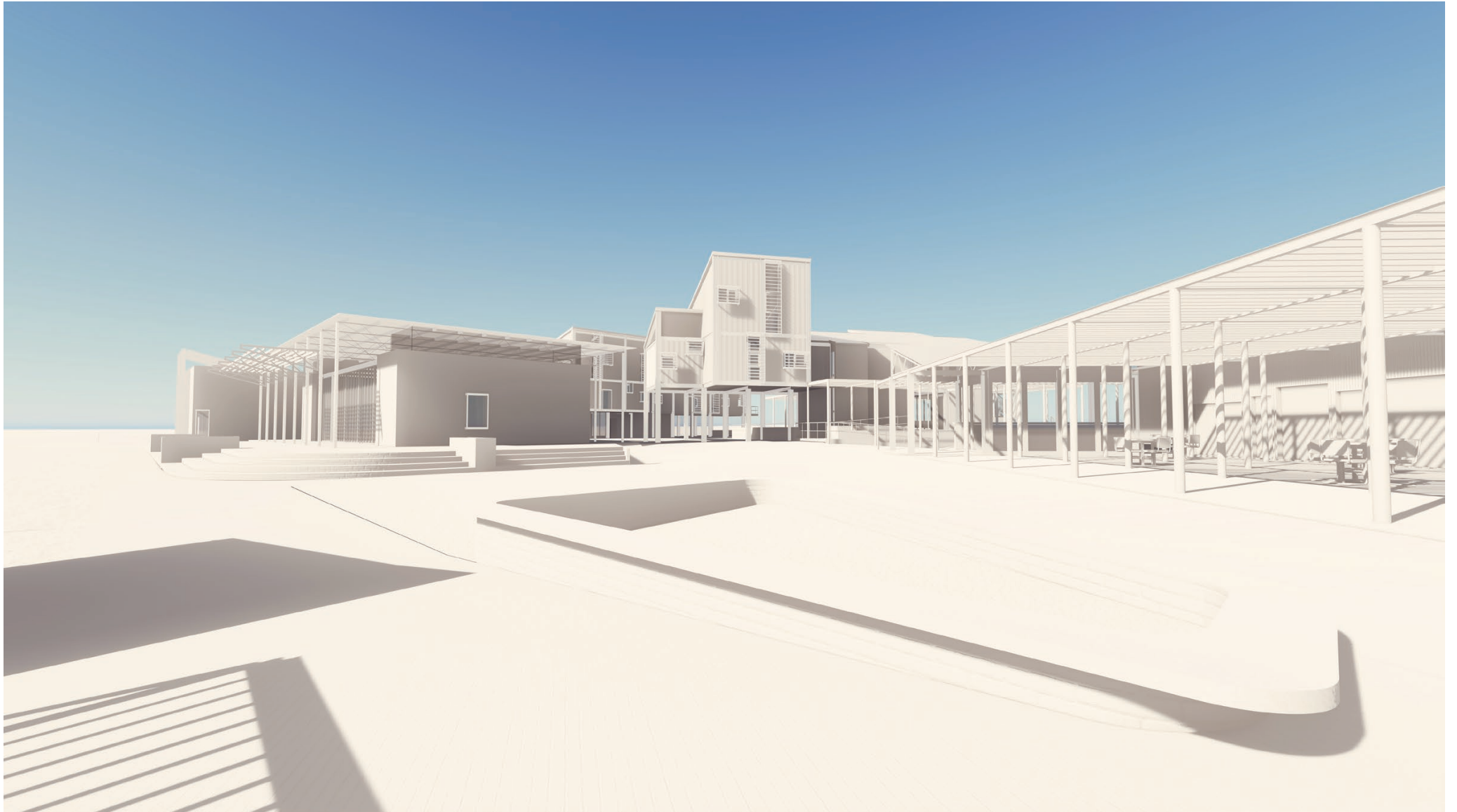


Figure 117:3D rendering as you enter from the Market space (Author 2016).

7.5 FINAL DESIGN

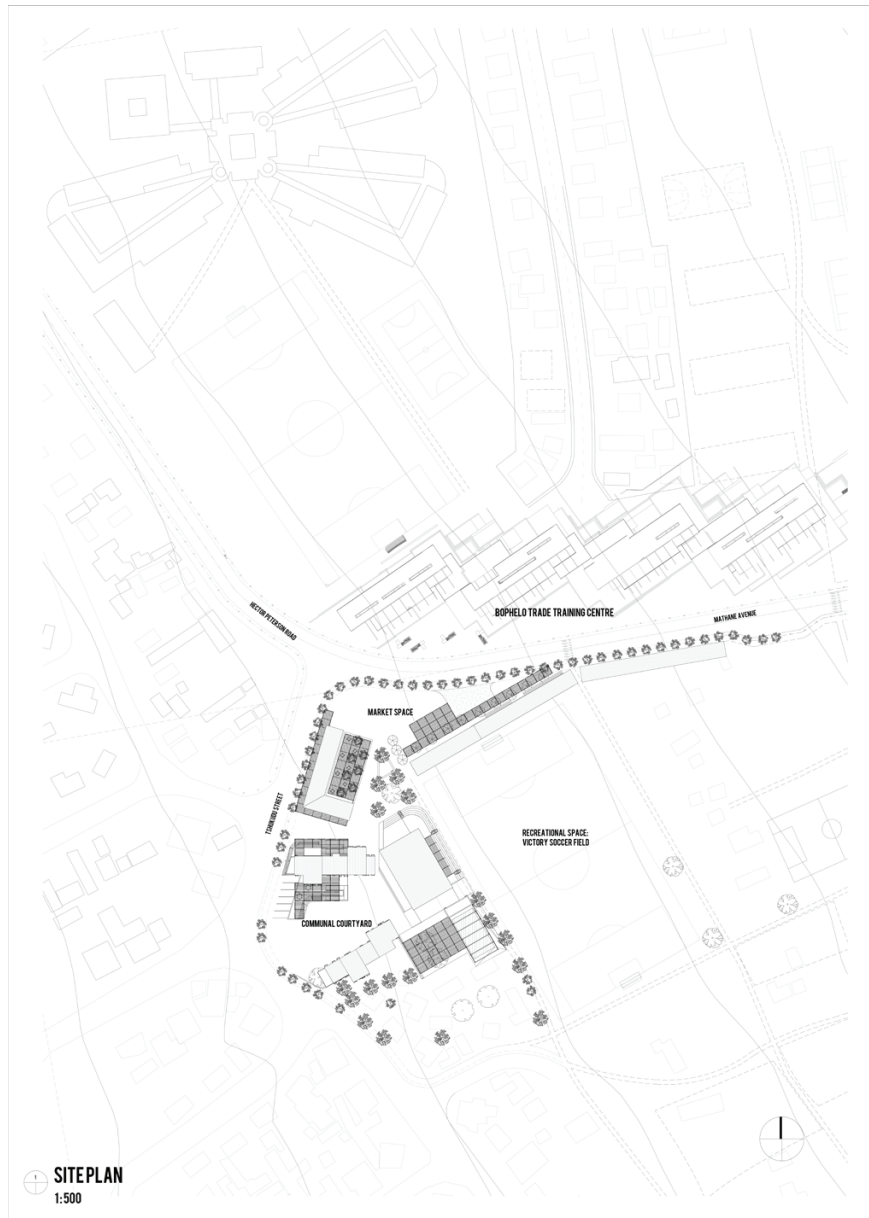


Figure 118: Site plan. 1:500 in presentation (Author 2016).



Figure 119:Ground floor plan . 1:200 in presentation. (Author 2016).

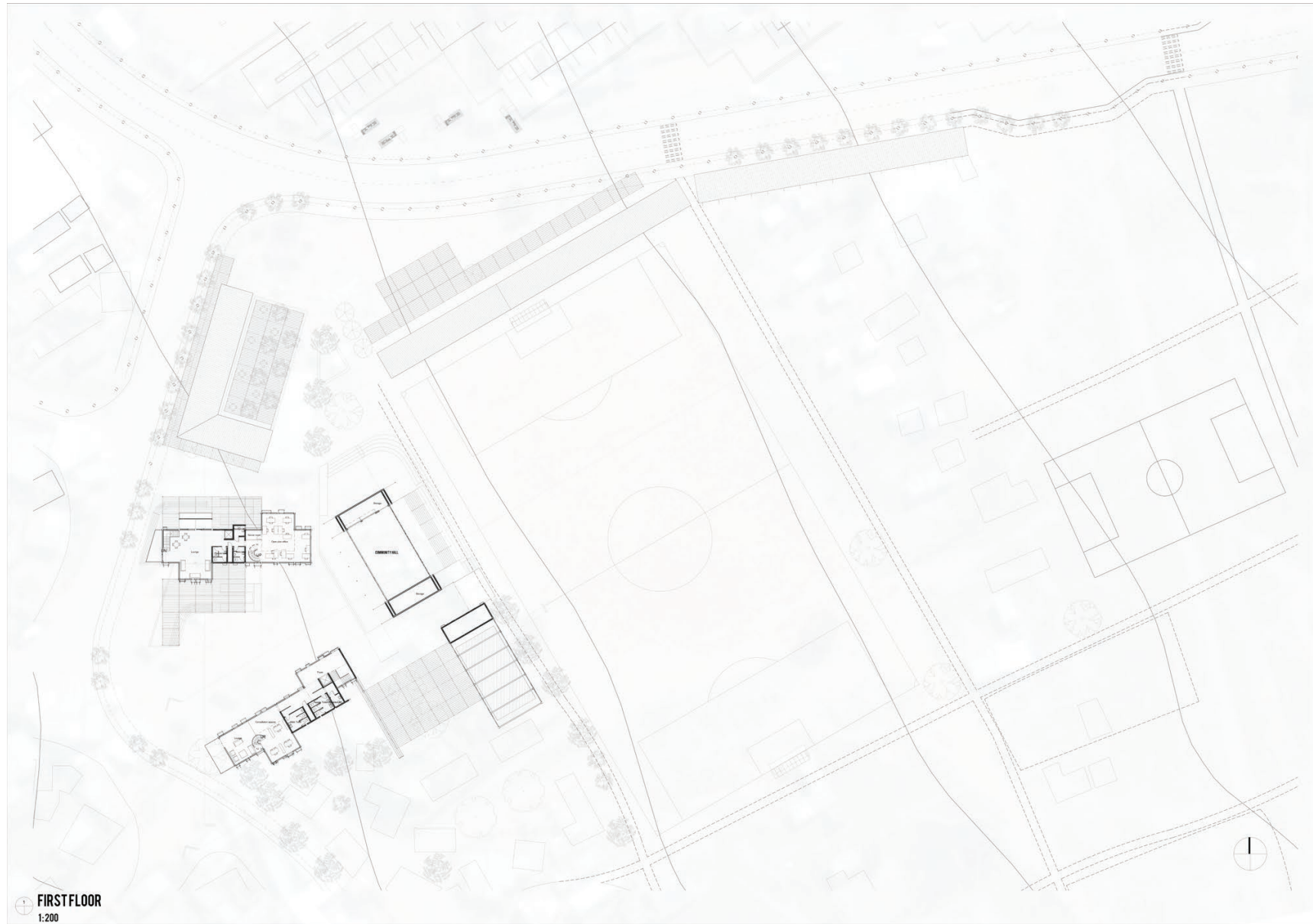


Figure 120: First floor plan. 1:200 in presentation (Author 2016).



Figure 121:3D rendering. View as you enter from the Market space (Author 2016).



Figure 122:Northern Street Elevation [Hector Peterson Road]. Clay rendering (Author 2016)



Figure 123:Northern Street Elevation [Hector Peterson Road] (Author 2016).



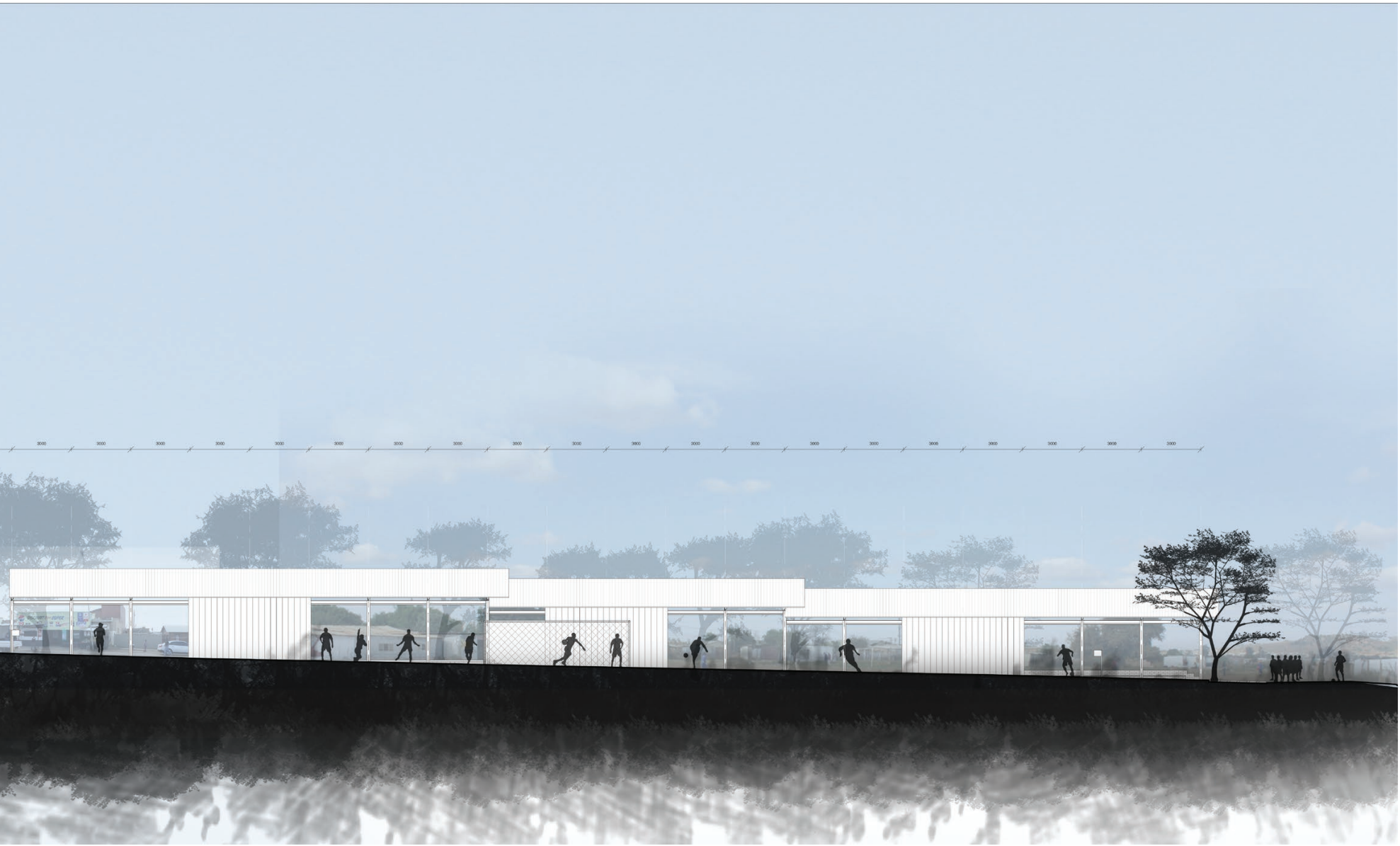
Figure 124: Western Street Elevation [Tshukudu Street]. Clay rendering (Author 2016)



Figure 125: Western Street Elevation [Tshukudu Street] (Author 2016).



Figure 126: Section through the Community Hall. 1:100 in the presentation (Author 2016).





SECTION C-C
1:100

Figure 127: Section through the Church and the courtyard. 1:100 in the presentation (Author 2016).

